Psychiatric Diagnosis and Chronic Pain: DSM-III-R and Beyond

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Abstract
An overview of the psychiatric disorders that seem to be of most importance in evaluating and treating chronic pain patients is presented. Data are reviewed on the prevalence of DSM-III psychiatric diagnoses in patients with chronic pain. Special attention is paid to psychiatric disorders and clinical issues that have been relatively neglected in discussions of chronic pain, and unresolved questions that could be addressed in future research are identified. J Pain Symptom Manag 1988;3:87-98.

Key Words
Chronic pain, psychiatric diagnosis, DSM-III-R

It would be difficult to find a discussion of chronic pain that neglected to include some consideration of the role of psychological and psychiatric influences in the origin and maintenance of this prevalent disorder. The observation that chronic pain patients are often psychologically distressed has been amply demonstrated not only by clinical experience but also by the results of numerous studies. Much less clear is the elementary but vexing question of cause versus consequence — does emotional distress or psychiatric disorder cause an experience of chronic pain, or does the stress of living with chronic pain become psychologically disabling?

It is unlikely that one of these sequences is true and the other false. Rather, each one must sometimes be true, but for different patients and most often in varying combinations. Adding to the complexity are those patients who have a psychiatric disorder and a chronic pain syndrome that are unrelated to each other — it is important to remember, for example, that an individual with a history of somatization may also have a painful pseudoarthrosis. For the present, the only methods that have the potential to begin to unravel these complex relationships are longitudinal studies — ideally prospective, more feasibly retrospective — supplemented by research on family history and on promising biological markers of psychiatric disorder (eg, sleep architecture in depression; response to lactate infusion in panic disorder). With only a few exceptions, such data on chronic pain patients have not yet been collected. In discussing chronic pain and psychiatric diagnosis, we are therefore limited to describing their co-occurrence — those diagnoses that seem to be of particular relevance in chronic pain patients — and we will be unable to conclude much about when it is that one syndrome is likely to be the antecedent and the other is likely to be the consequence.

In this article we will present an overview of the psychiatric diagnoses that seem to be of most importance in evaluating and treating chronic pain patients. Rather than attempting to be comprehensive, we will emphasize diagnoses and issues that have been relatively neglected in the clinical literature as well as in research on chronic pain. The recently revised diagnostic manual of the American Psychiatric
Association, DSM-III-R, will serve as the framework for this review. There have been several recent reports of DSM-III diagnostic assessments in chronic pain patients, and these have provided some preliminary information about the frequencies of various psychiatric diagnoses in this population. But in considering the results of these studies, one must remember that there are great differences among samples of chronic pain patients. This variability undoubtedly contributes to the inconsistencies in the results of the studies we have examined, so that making any comparisons or generalizations is, at best, a problematic undertaking.

**Axis I Disorders**

The distinction in DSM-III-R between clinical syndromes and personality (and developmental) disorders, respectively referred to as Axis I and Axis II diagnoses, is based on Axis II disorders having an onset in childhood or adolescence and a generally stable persistence into adult life. Although it can be argued that there are instances in which the basis of this distinction is unclear, the separation of clinical syndromes from personality disorders has been valuable in both clinical evaluation and research.

Among the Axis I disorders that do not appear to be overrepresented in populations of chronic pain patients are schizophrenia, delusional disorder, and bipolar affective disorder. Organic mental disorders may sometimes be present; one recent study reported that 11% of 127 women chronic pain patients suffered from dementia. More common are the substance use disorders; not surprisingly, a substantial number of chronic pain patients (estimates vary from 15% to over 40%) are dependent on or abuse alcohol, opioids, or sedatives. Although it seems probable that this abuse often develops as a consequence of the analgesic properties of these drugs, future research will also need to investigate the possibility that the development of chronic pain is more likely in individuals who already abuse alcohol or drugs.

**Mood Disorders**

The relationship between chronic pain and depression has received a great deal of attention. Although some authors have argued that depression may be rare in chronic pain patients, most have found that a substantial percentage of chronic pain patients are depressed. The actual percentages reported have varied quite widely, which must certainly be a result of differing diagnostic criteria for depression as well as differences in the characteristics of the pain patient samples that were studied. When explicit diagnostic criteria have been used, the variability among studies is somewhat less, but still ranges from 23% to 68% for major depression.

Even though these figures begin to clarify just how substantial is the proportion of chronic pain patients that suffer from depression, they do not address the differences in the types of mood disorder that can be found. Within the category of major depression, DSM-III-R specifies criteria for a melancholic subtype. The melancholic type of major depression, also commonly known as endogenous depression, is characterized by such vegetative symptoms as early morning awakening, significant anorexia or weight loss, depression regularly worse in the morning, and psychomotor retardation or agitation. Pervasive loss of interest or pleasure in virtually all activities (anhedonia) and a lack of reactivity of mood to usually pleasurable stimuli are very often present, and have in some approaches been considered pathognomonic of this type of depression. These symptoms are particularly important in the assessment of major depression in patients with medical complaints, because vegetative symptoms of depression such as fatigue, insomnia, and loss of appetite are sometimes caused by physical illness. What may be especially important about melancholic depression is its good response to somatic interventions (eg, tricyclic antidepressants). Indeed, by including this as one of the indicators of the melancholic subtype, DSM-III-R makes it difficult (although not impossible) to study the differential response of melancholic depression to somatic antidepressant therapy. There is no information regarding the percentage of pain patients that suffer from this type of depression, but it can be expected that the response of such patients to antidepressant medication would be especially favorable, given that such treatment can be beneficial in chronic pain.
Sufficient consensus exists regarding the validity and importance of the melancholic type of major depression for it to have been included in DSM-III-R. There is, however, another type of major depression which is not explicitly included in DSM-III-R and about which there is greater controversy. These are the atypical depressions, which have been divided into two broad types — those depressions accompanied by anxiety, phobic avoidance, tension, and pain and those depressions characterized by atypical vegetative symptoms, for example, hypersomnia, increased appetite, and weight gain (although the term atypical depression was included in DSM-III, this was a residual category for depressions not meeting criteria otherwise specified).

There can be little question that such syndromes are often characteristic of chronic pain patients. But it is not known how common such atypical depressions are in chronic pain patients as compared to more typical major depressions. Perhaps more importantly, it is also not clear to what extent these two types of depressions differ from each other in clinically significant ways. There is some evidence that atypical, anxious depressions may be particularly responsive to MAO inhibitors, a class of antidepressant medication that has been infrequently studied in chronic pain patients. It is possible that a significant number of chronic pain patients suffer from atypical depressions; if future research continues to demonstrate the differential response of these depressions to MAO inhibitors, then these antidepressants may soon supplement the tricyclics as an important component in the treatment of chronic pain. Until recently, however, it had remained unclear whether antidepressants exert their beneficial effect in chronic pain by means of analgesic mechanisms or by virtue of their antidepressant properties. But several studies have begun to provide evidence that tricyclic antidepressants can be effective in chronic pain patients who are not depressed, which suggests that these medications may have analgesic properties (possibly serotonin mediated). For this reason, any choice between tricyclic antidepressants and MAO inhibitors must weigh their antidepressant properties and their presumed analgesic effects.

The depressive disorders we have discussed to this point have all been included among the major depressions. The other type of mood disorder that is prevalent among chronic pain patients is dysthymia, a disorder characterized by depressed mood for at least two years during which the individual is not free of depressive symptoms for more than two months. Dysthymia differs from major depression with respect to its greater duration and its lesser severity. The diagnosis is not made if a diagnosis of major depression can be made during the minimum two-year period of dysthymic disorder. Once called depressive neurosis, the disorder may be quite common in the general population and may be characteristic of 7% to 23% of chronic pain patients.

Various attempts have been made to define a subgroup of patients with dysthymia or mild depression that may be especially responsive to antidepressant medication, but there are as yet no well-validated criteria. As has been suggested for major depression, within the mild depressions there may also be a differential response of some patients to MAO inhibitors versus tricyclic antidepressants. Hysteroid (or rejection-sensitive) dysphoria may be one such condition. Although controversial, not included in DSM-III-R, and probably not very common, this chronic atypical depression, when it presents with chronic pain, may have important clinical implications.

Another type of disorder that involves disturbances in mood is adjustment disorder with depressed mood or with mixed emotional features. Apparently quite common in chronic pain patients — estimates vary from 10% to 28% — these disorders occur within three months of the onset of an identifiable stress and involve the development of symptoms of depression or depression and anxiety in excess of what would normally be expected. Given the stressful nature of the illnesses, operations, and accidents that can lead to the development of chronic pain, and the often stressful nature of chronic pain itself, most chronic pain patients probably satisfy the criterion for this disorder that a stressful event is the precipitant. Because of this, it is not surprising that a diagnosis of adjustment disorder is warranted in a substantial number of pain patients.

**Anxiety Disorders**

Many patients with chronic pain suffer from symptoms of anxiety. These can be cognitive
symptoms of excessive worry or apprehensive expectation as well as somatic symptoms such as muscle tension, palpitations, shortness of breath, restlessness, and insomnia. Among the anxiety disorders described in DSM-III-R, generalized anxiety disorder and adjustment disorder with anxious mood appear to be the most prevalent in chronic pain patients; one study has reported that 15% of pain patients meet criteria for generalized anxiety disorder, and 43% meet criteria for adjustment disorder with anxious mood. These figures must be viewed with caution, however, given the complete lack of these two diagnoses in two other series of chronic pain patients diagnosed with DSM-III. It seems possible that the well-known association of symptoms of anxiety with depressive disorders may partially account for this discrepancy, if patients with symptoms of both anxiety and depression were diagnosed differently in the different studies.

It has recently been noted that as many as 10% of chronic pain patients may suffer from a post-traumatic stress disorder. In these patients, a very stressful event (eg, motor vehicle accident) is followed by recurrent, intrusive recollections and/or distressing dreams of the event and by the development of a chronic pain syndrome. The pain that the patient experiences is often directly associated with the trauma; for example, paresthesias and burning pain occurring in an arm that received a severe electric shock in a patient with intrusive images and avoidance of objects associated with the shock. The recurrent intrusive recollections that are so characteristic of this disorder and the patient's experience of pain may each lead to exacerbations of the other, with images of the event causing increases in pain, and pain provoking intrusive images. Such cycles, particularly if associated with significant avoidance of stimuli associated with the trauma, may be quite refractory to treatment unless the therapy is directed toward the resolution of the stress disorder.

As appears true of post-traumatic stress disorder, it seems very likely that the importance of panic disorder in the evaluation of chronic pain patients has also not been adequately appreciated. The limited data available on the prevalence of panic disorder in patients with chronic pain are inconsistent. One study found 11% of pain patients meeting DSM-III criteria for panic disorder, with an additional 5% experiencing panic attacks but not of sufficient frequency to satisfy the criteria. The results from other studies of DSM-III diagnoses do not support such a high prevalence. It is very likely, however, that the prevalence of panic disorder in pain patients will be found to be greater in studies using the revised DSM-III-R criteria. This is so because a diagnosis of major depression in DSM-III precluded a diagnosis of panic disorder, whereas this exclusion criterion has been deleted from DSM-III-R. A recent retrospective study of 55 patients with panic disorder referred for psychiatric consultation found that 81% had a presenting pain complaint, which provides additional evidence of the importance of panic disorder in the evaluation of chronic pain patients. Symptoms of panic disorder include chest pain, abdominal distress, and paresthesias; headache, back pain, and abdominal pain are also common. Panic disorder is often associated with the development of agoraphobia, and the decrease in activity that follows may well promote additional pain. Patients with recurrent panic attacks of insufficient frequency to meet DSM-III criteria are similar to patients satisfying the criteria, suggesting that there may be subtle presentations of panic disorder and chronic pain that would be difficult to recognize. Because the efficacy of imipramine and MAO inhibitors in the treatment of panic disorder is well accepted, it is especially important in the evaluation of chronic pain patients for the clinician to be alert to the existence of discrete periods of intense fear, anxiety, and discomfort (these may last as long as several hours but are more typically of shorter duration).

Curiously, only three cases of obsessive-compulsive disorder have been reported in recent studies of DSM-III psychiatric diagnoses in chronic pain patients. This anxiety disorder had been thought to be relatively rare, but recent epidemiological research suggests that it affects about 9.5% of the population, making it more common than panic disorder and somewhat less common than dysthymia. It is possible that this disorder is especially rare in pain patients, but it is not clear why this should be so. What seems more likely to us is that a significant number of patients have an experience of chronic pain that is composed of obsessions and compulsions that they try to suppress or
neutralize. The obsessions take the form of persistent, intrusive thoughts or images of pain, and the compulsions consist of repetitive behaviors — for example, rubbing, limping, guarding, or groaning — performed in response to these thoughts and images. Although such a constellation of symptoms is of course very common in pain patients, these thoughts and behaviors do not have the senseless or unrealistic quality of classic obsessions and compulsions and have therefore not been considered characteristic of this disorder. Nevertheless, the psychological functions that these pain behaviors serve may well be the same as those served by obsessive-compulsive phenomena; for some patients, ruminations about pain may not be importantly different from the experience of any other ego-alien thoughts, impulses, fears, or images.

The relationship between obsessive-compulsive disorder and the other anxiety disorders and the mood disorders remains to be established. There is evidence, however, that clomipramine, a tricyclic antidepressant, may have specific antiobsessional effects that are at least partially independent of its antidepressant properties. If the experience of chronic pain does, on occasion, share an essential similarity with obsessive-compulsive disorder, then this antidepressant may be of particular value in the treatment of some chronic pain patients.

**Somatoform Disorders**

Because the essential features of somatoform disorders are physical symptoms suggesting physical disorders for which there are no organic findings, it is not surprising that these disorders are common in patients with chronic pain. Four disorders are most relevant in the evaluation of chronic pain patients. These are somatization disorder (Briquet's syndrome), hypochondriasis, conversion disorder, and somatoform pain disorder (psychogenic pain disorder in DSM-III). As many as 16% to 53% of pain patients have received a diagnosis of somatoform disorders in recent studies, but these figures obscure a great deal of inconsistency with respect to the specific type of somatoform disorder diagnosed. In one study, 38% of patients satisfied criteria for conversion disorder and only 0.3% met criteria for psychogenic pain, whereas in another study, 32% satisfied criteria for psychogenic pain disorder and only 2% met criteria for conversion. Although not as common and not varying as dramatically among studies, hypochondriasis and somatization disorder are also associated with chronic pain and make differential diagnosis of the somatoform disorders difficult.

In somatization disorder, the individual suffers from recurrent somatic complaints affecting multiple systems, with no demonstrable organic pathology or with a complaint grossly in excess of what would be expected when there is pathology; these symptoms may include but are not limited to abdominal pain, vomiting, pain in extremities, shortness of breath, burning sensations in genitals or rectum, and painful menstruation. The individual with somatization disorder is preoccupied with symptoms; in hypochondriasis, there is a fear of having a serious disease based on an interpretation of physical sensations as evidence of illness.

Such preoccupations with symptoms and fears of illness characterize very many chronic pain patients, but it is only a smaller number who meet strict DSM-III-R criteria for these disorders. The 13 different symptoms required for a diagnosis of somatization disorder preclude diagnosis of a patient suffering from fewer but multiple complaints. Similarly, for a DSM-III-R diagnosis of hypochondriasis the individual must have a fear of having a serious disease, but this criterion disregards the large number of patients who are preoccupied with a conviction that there is much more wrong with them than their physicians have been able to determine. There is no easy solution to the problem of how to characterize such chronic pain patients. It is possible that individuals with these "subclinical" or "subsyndromal" variants of somatization disorder and hypochondriasis are more similar than not to those who can be diagnosed with the full syndromes, and it seems likely that there is greater heterogeneity among these patients than is now reflected in DSM-III-R. A continuum of somatization that is familial and that may be associated with other disorders is supported by evidence that the relatives of patients with somatization disorder and hypochondriasis are more similar than not to those who can be diagnosed with the full syndromes, and it seems likely that there is greater heterogeneity among these patients than is now reflected in DSM-III-R. A continuum of somatization that is familial and that may be associated with other disorders is supported by evidence that the relatives of patients with somatization disorders have more "complicated medical histories" (defined by chronic somatic complaints without obvious major medical illness) and are more likely to suffer from alcoholism and antisocial personality. The prevalence of alcoholism in studies of pain patients and their
relatives is consistent with this, as is the report from one study that 19% of a sample of pain patients were diagnosed with conduct disorder or antisocial personality.

The applicability of diagnoses of conversion disorder and somatoform pain disorder (psychogenic pain disorder in DSM-III) to chronic pain patients has not been adequately resolved. The former diagnosis requires a loss or alteration in physical functioning suggesting a physical disorder (as well as psychological factors judged to be of etiological relevance); the criteria for the latter diagnosis simply entail a preoccupation with pain for at least six months in the absence of organic pathology or grossly in excess of what would be expected from the physical findings (an additional criterion of etiologically relevant psychological factors was included in DSM-III but has been deleted from DSM-III-R). Although the criteria for these two disorders might appear straightforward, results from recent research demonstrate that they are not. One study reported that only 0.3% of a sample of 283 chronic pain patients met criteria for psychogenic pain disorder because, as suggested by the authors, 85% of the patients were found to have physical findings consistent with a diagnosis of myofascial syndrome. But it is not clear if a determination was made whether the complaint of pain exceeded what would be expected from the physical findings. If this was done, it is surprising that a larger percentage of patients suffering from myofascial pain did not also meet criteria for psychogenic pain, since it is commonly thought that many patients presenting at chronic pain clinics are more disabled by their pain than is warranted by the findings (and it could be expected that this would be especially true of those with soft tissue pathology).

The same study found that 38% of the sample met criteria for conversion disorder as a result of non-anatomical sensory findings (anesthesias and paresthesias). Although the authors do emphasize that the assessment of what are non-dermatomal sensory findings may need to be reexamined in light of recent research, it is noteworthy that in this large sample of chronic pain patients only one individual received a diagnosis of psychogenic pain, but 107 met criteria for conversion disorder. The conclusion would seem to be inescapable that the role of chronic pain in DSM-III-R as reflected in the criteria for somatoform pain disorder is still in need of further revision. The two changes in the criteria that took place from DSM III to DSM III-R appear to be steps in the direction of further clarity, that is, deleting the criterion that psychological factors play a role in the etiology of the pain complaint and changing the name from psychogenic pain disorder, with all its implications of pain that "isn't real," to somatoform pain disorder.

Although not considered one of the somatoform disorders, the diagnosis of psychological factors affecting physical condition is made when psychological factors are temporally related to the onset or exacerbation of a physical condition with a demonstrable or known organic component. It is a common observation that chronic pain, regardless of the extent of the organic involvement, is often exacerbated by stress. In view of the definition of psychological factors affecting physical condition, it is therefore surprising that only one study has reported this diagnosis in chronic pain patients, with 19% of patients meeting the criteria.

**Factitious Disorders and Malingering**

In factitious disorder with physical symptoms (Munchausen's syndrome) the individual intentionally produces physical symptoms. These symptoms may be fabricated, self-inflicted, or an exaggeration of a preexisting physical condition; the criteria also include a psychological need to assume the sick role as evidenced by the lack of any incentive for the production of the physical symptoms. In malingering, which is not considered attributable to a mental disorder in DSM-III-R, there is also an intentional production of false symptoms. But malingering differs from factitious disorder in that the goal is usually apparent and the individual is able to control the production of the symptoms depending on whether they are useful in obtaining extrinsic incentives or not. Given the spirited discussions of these two conditions, it may come as a surprise to readers that only one study has reported DSM-III diagnoses of factitious disorder in chronic pain patients and that only 2% of patients received the diagnosis.

It has been suggested that conversion, factitious disorder, and malingering can be placed on a continuum of disease simulation ranging from unawareness to awareness of falsification.
of physical symptoms. It may be more accurate, however, to view these disorders as reflecting the interaction of two processes — unconscious and conscious etiological influences combined with unconscious and conscious production of symptoms by the patient. In such an approach, conversion disorder would be characterized by both unconscious etiology and production of symptoms, factitious disorder by a relatively unconscious etiology (a presumed need to assume the sick role) and the conscious production of symptoms, and malingering by conscious causes (extrinsic incentives) and conscious feigning of illness. Consideration of the mix of unconscious motives and conscious elements in these disorders is likely to be helpful in clinical evaluation, if for no other reason than that it encourages the clinician to be sensitive to issues other than "secondary gain." Although chronic pain patients can undoubtedly be influenced by financial compensation, altered patterns of family responsibilities, avoidance of unpleasant work situations, or increased availability of support and attention, an exclusive emphasis on such factors is simplistic and can be detrimental to optimal patient care.

The suspicion that some patients with chronic pain may be intentionally producing their pain stems from a number of sources. One is the not infrequent difficulty in finding a physical basis that adequately explains the complaint of pain. Another is the involvement of many patients in compensation and disability claims as well as in litigation stemming from accidents or alleged malpractice. It has been suggested that chronic pain patients who are receiving benefits or suing report greater levels of pain and distress and are less likely to respond to treatment because of their presumed incentive to maintain their pain. Recent research, however, has not consistently supported such claims, and current thinking emphasizes the beneficial effects of treatment and rehabilitation of chronic pain patients regardless of whether they are receiving benefits or are suing.

**Axis II Disorders**

It is beyond the scope of this article to examine carefully the complex and largely unstudied relationships between chronic pain and the personality disorders defined in DSM-III-R. Personality disorders have been examined in several studies of DSM-III diagnoses in individuals with chronic pain, and it has been found that 18% to 59% of patients receive a personality disorder diagnosis. However, the weak interrater reliability for diagnoses of these disorders and the often limited details regarding the diagnostic process provided in these reports make any interpretation of these studies tentative.

The personality disorders are grouped into three clusters in DSM-III-R. Individuals with antisocial, borderline, histrionic, and narcissistic personality disorders appear erratic, flamboyant, dramatic, or overly emotional. These disorders are quite commonly found associated with chronic pain, with 15% to 23% of patients receiving one of these diagnoses. Also relatively common in chronic pain patients are dependent, avoidant, obsessive-compulsive and passive-aggressive personality disorders. These disorders are characterized by behavior that appears anxious or fearful and are found in 12% to 39% of patients. The remaining cluster consists of paranoid, schizotypal, and schizoid personality disorders. These disorders — characterized by odd or unusual beliefs or behavior — are the least common personality disorders in chronic pain patients, and only 2% to 7% are so diagnosed.

In view of the often dramatic inconsistencies among the results of DSM-III studies of chronic pain patients, it is noteworthy that two studies agree that dependent and histrionic personality disorders are the most common personality disorder diagnoses in these patients. There has been a lengthy history of attempts to describe the relationship between histrionic personality and conversion and somatization disorders. Indeed, the term hysteria has traditionally been used for both a neurosis and a personality style, and it is only recently that this distinction has been highlighted by the use of different diagnostic terms. This distinction is an important one, given the common but erroneous assumption that conversion symptoms and histrionic personality are always closely associated with each other.

Because both Axis I and Axis II disorders are commonly associated with chronic pain, these patients may be an especially rich resource for research examining the relationship between personality disorders and the develop-
opment of different symptoms and clinical syndromes. The nature of the relationship between histrionic personality disorder and the somatoform disorders is one obvious place to begin. Likewise, it can be speculated that dependent personality disorder and the mood disorders may be associated. Both are well-represented in chronic pain patients, and although it is plausible that dependency is often a consequence of chronic pain, there is some evidence that it may also be one of the characterological predispositions to mood disorder.

Discussion

The most compelling conclusion of the preceding review is that a number of different psychiatric disorders are found in chronic pain patients. This conclusion, as simple and as obvious as it may appear, is very important. It has recently been argued that chronic pain is a variant of affective disorder (in other terminology, a masked depression, depressive equivalent, or affective spectrum disorder). The literature reviewed in this article suggests otherwise. Chronic pain is associated with a variety of psychiatric disorders, rather than uniformly being associated with depression.

This conclusion is also supported by a program of research on biological markers of depression in chronic pain patients. In these studies, only those chronic pain patients with diagnoses of major depression had the abnormal patterns of response on the dexamethasone suppression test and the thyrotrophin releasing hormone stimulation test that are associated with major depression in psychiatric patients. That a higher incidence of major depression was found in the relatives of chronic pain patients with depression than was found in the relatives of those without depression is also consistent with the conclusion that it is only some chronic pain patients who suffer from a mood disorder. But these data cannot clarify whether depression (or any other psychiatric disorder for that matter), when it does occur, predisposes the individual to the development of a chronic pain syndrome, results in a more chronic pain syndrome (one which is therefore over-represented in patient populations), or develops as a consequence of chronic pain, perhaps especially in those so predisposed.

One important issue that we have avoided in this review is the question of the joint occurrence of two or more Axis I or Axis II disorders. Although DSM-III contained diagnostic hierarchies of Axis I diagnoses, some of these have been removed from DSM-III-R due to their uncertain validity. Because the studies reviewed in this article made use of DSM-III conventions, it is likely that the percentages we have reported would be different with DSM-III-R diagnoses in those instances where these diagnostic hierarchies have been changed. Even where DSM-III provided for two or more diagnoses, as, for example, in the case of an individual receiving both Axis I and Axis II diagnoses, few detailed data are available with respect to the pairs (and larger combinations) of disorders that are found in pain patients. A comprehensive examination of psychiatric disorders in chronic pain patients would include such information, which is as necessary in treatment planning as it is in questions of etiology.

Although we have emphasized that the psychiatric disorders associated with chronic pain are heterogeneous and may occur in various combinations, we have not discussed another important source of heterogeneity in chronic pain patients. This is the great heterogeneity in the types of chronic pain syndromes that characterize pain patients. Until recently, little effort was made to systematize the diagnoses of chronic pain syndromes. A promising beginning has been made in the classification of chronic pain syndromes, and the diagnoses of pain syndromes may eventually become as reliable as the diagnoses of their psychiatric concomitants. Until such time, it is probably accurate to say that we can describe the psychiatric disorders that accompany pain syndromes with greater precision than we can specify the pain syndromes themselves.

The great complexity of chronic pain — a diversity of pain syndromes accompanied by a variety of psychiatric disorders — argues for the value of the multimodal (and multidisciplinary) approach that is currently the standard of care for chronic pain patients. Treatment of the psychiatric disorders that are associated with chronic pain is a vital component of this multidisciplinary approach, but numerous other factors that play a role in the maintenance of chronic pain must also be addressed. These include any organic pathology that is present as
well as the chronic illness behavior, physical inactivity and disability, narcotic analgesic abuse, family pathology, and occupational impairment that are characteristic of so many pain patients. These are the attitudes and behaviors that constitute a chronic pain syndrome, and they become "functionally autonomous" patterns of dysfunction that persist even when appropriate pharmacological or psychotherapeutic treatment is directed at whatever underlying psychiatric disorder may be present. Chronic pain syndromes have persisted, by definition, for at least six months; it is likely that single treatments aimed simply at the alleviation of the experience of pain in these patients have already been tried, with negligible lasting beneficial effect.

There is a growing consensus that an adequate understanding of chronic pain can only be achieved by means of a multidimensional approach. There is less agreement, however, regarding the dimensions that would need to be included in such an approach. We would like to conclude this article by drawing attention to two aspects of chronic pain that are at the interface of personality and psychopathology and that we believe are essential components of a comprehensive model of this complex disorder. The first, easier to conceptualize than to assess, is a dimension (or spectrum) of somatization. It is apparent that there are marked differences among individuals in the degree to which they are preoccupied with the functioning of their bodies. This can be thought of as a selective "bias" in the processing of information which can manifest itself in the way an individual anticipates, attends to, and remembers physical sensations, symptoms of illness, and fears of disease. Although this dimension of somatization plays an important role in all of the somatoform disorders described in DSM-III-R, it seems unlikely that the current criteria accurately distinguish separate disorders from each other and from milder but related conditions. The somatoform disorders all share a "somatizing cognitive bias," but whether they differ quantitatively in the extent of this bias and/or qualitatively in the manner in which somatization is expressed is unclear and will need to be explored in future research.

A related question that must also be considered in a comprehensive approach to chronic pain is the role of "subclinical" or "subsyndromal" variants of psychiatric disorder. Many pain patients have some of the characteristics of mood, anxiety, panic, somatoform, and personality disorders, but do not meet DSM-III-R criteria for number, frequency, duration, or intensity of symptoms. Clinically, such mild disorders should be carefully assessed because some of these patients will respond to treatments that have proven effective for the complete syndromes. But with respect to research, an even more important issue is whether these syndromes are attenuated psychiatric disorders or are more properly considered within normal limits of personality. This will be a difficult question to resolve, but it is very relevant to the development of chronic pain. The careers of a great many pain patients originate in an unfortunate juxtaposition of mild organic pathology and mild psychiatric disorder, are promoted by psychological vulnerability and social and occupational dysfunction, and culminate in pervasive suffering and disability.

Acknowledgment

The first author thanks Michael J. Gitlin, M.D., for wide-ranging discussions that stimulated and hopefully sharpened his interests in many of the issues addressed in this article.

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