

ARTICLE

The classification of mental disorder: a simpler system for DSM–V and ICD–11[†]

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[†]For a commentary on this article see pp. 20–22, this issue.

SUMMARY

This article proposes a simplification to the chapter structure of current classifications of mental disorder, which cause unnecessary estimates of 'comorbidity' and pay major attention to symptom similarity as a criterion for deciding on groupings. A simpler system, taking account of recent developments in aetiology, is proposed. There is at present no simple solution to the problems posed by the structure of our classification, but the advantages as well as the shortcomings of changing our approach to diagnosis are discussed.

DECLARATION OF INTEREST

None.

At a time when both major classifications of mental disorders (the World Health Organization's ICD and the American Psychiatric Association's DSM) are being reviewed, it is timely to ask whether the overall structure of the classifications conforms to what we are learning about mental disorders from research since the last time they were revised. Might it not be possible to group mental disorders into a smaller number of categories based on our accumulating knowledge of aetiology?

With each successive revision of both the major classifications, more and more separate categories are added, but existing ones are seldom removed. So a second, unrelated problem is to ask whether we should allow each classification to become more complex by the addition of new disorders to a list that those outside the mental health professions find Byzantine in its complexity.

Classificatory models

Defenders of the strict categorical model argue that mental disorders can be divided into a set of separate disorders that are mutually exclusive yet jointly exhaustive. Unfortunately, this apparently simple requirement is impossible to achieve, since there is great overlap between the various syndromes of disorder (see, for example, Kessler 1996, 2005). There are three possible solutions

to this problem: hierarchical categories, multiple 'comorbid' categories and dimensions of disorder.

The first model arranges disorders in a hierarchy, with organic disorders at the top, then the major psychoses, with 'neuroses' and personality disorders at the bottom, and assigns a sick individual to the highest level achieved. At each higher level it is possible for lower-order diagnoses to be present – thus bipolar disorder and schizophrenia trump disorders such as depressive episode and panic disorder, whereas organic symptoms trump the psychoses (Wing 1974; Foulds 1976). This model depends on a clear distinction between psychoses and neuroses, and cannot deal with the fact that lower-order symptoms are not always present.

The hierarchical system began to be modified in the revised version of DSM–III (DSM–III–R, 1987) and was largely abandoned in DSM–IV (1994), where the prevailing conventional wisdom is to make multiple categorical diagnoses. The DSM system is arranged in 16 chapters (Box 1), and the ICD system in 10 (Box 2), with symptom similarity being the main criterion for each chapter. The downside of this model is that there is no upper limit to the number of possible categories: sometimes an additional symptom triggers the new concept – so flashbacks following a traumatic event distinguish post-traumatic stress disorder (PTSD) from anxious depression, despite the fact that they also share the same basic set of symptoms. Separate categories can also be justified on different apparent aetiologies (puerperal depression) or differing degrees of chronicity (dysthymia). Both official classifications therefore get larger as time goes on.

The third alternative holds that mental disorders are intrinsically dimensional, and argues that attempts to carve categories out of symptom-space are inevitably exercises in drawing lines in fog. There are two major problems with this approach – there is no agreement about the number of dimensions that are necessary and, for any dimension, it is necessary to define a point where there are advantages in offering a treatment – and when this has been done, a line has indeed been drawn in the fog.

BOX 1 The chapters of DSM-IV

- 1 Disorders usually first diagnosed in infancy, childhood, or adolescence
- 2 Delirium, dementia, and amnesic and other cognitive disorders
- 3 Mental disorders due to a general medical condition not elsewhere classified
- 4 Substance-related disorders
- 5 Schizophrenia and other psychotic disorders
- 6 Mood disorders
- 7 Anxiety disorders
- 8 Somatoform disorders
- 9 Factitious disorders
- 10 Dissociative disorders
- 11 Sexual and gender identity disorders
- 12 Eating disorders
- 13 Sleep disorders
- 14 Impulse-control disorders not elsewhere classified
- 15 Adjustment disorders
- 16 Personality disorders

(American Psychiatric Association 1994)

How might the classifications become more rational?

In the past 15 years enormous progress has been made in understanding the genetics of mental disorders and the environmental factors that promote gene expression, in documenting abnormalities of brain function, in epidemiology and in gaining further insights into abnormal development. The aim of this article is to ask

BOX 2 The chapters of ICD-10

- 1 Organic, including symptomatic, mental disorders
- 2 Mental and behavioural disorders due to psychoactive substance use
- 3 Schizophrenia, schizotypal and delusional disorders
- 4 Mood [affective] disorders
- 5 Neurotic, stress-related and somatoform disorders
- 6 Behavioural syndromes associated with physiological disturbances and physical factors
- 7 Disorders of adult personality and behaviour
- 8 Mental retardation
- 9 Disorders of psychological development
- 10 Behavioural and emotional disorders with onset usually occurring in childhood and adolescence

(World Health Organization 1992)

whether these advances might not impose some natural limits on the nature of the system, so that instead of becoming progressively more complex, a simpler classification might emerge.

A simpler alternative

The Task Force responsible for recommending modifications to the DSM system has recently set forth 11 aetiologically related criteria which might be satisfied before a new category is permitted:

- genetic factors
- familiarity
- early environmental adversity
- temperamental antecedents
- neural substrates
- biomarkers
- cognitive and emotional processing
- differences and similarities in symptomatology
- comorbidity
- course
- treatment.

We have used these criteria to put forward a simplified model for classification, by noting larger groups of disorders that are actually quite similar when examined using these 11 criteria (Andrews 2009a). Thus, we proposed that the 16 chapters of the DSM, and the 10 chapters of the ICD, can probably usefully be thought of in a smaller number of large groups:

- neurocognitive disorders
- neurodevelopmental disorders
- psychoses
- emotional disorders
- externalising disorders.

There is a further group, disorders of bodily function (for example, eating, sleep and sexual disorders) for which current research knowledge is not sufficient to make firm recommendations; nor have we considered personality disorders except to draw attention to the importance of certain personality disorders in determining vulnerability to the last two groups.

Some of these groups – such as neurocognitive disorders (Sachdev 2009) and disorders of bodily function – are already familiar to us; others – such as neurodevelopmental disorders (Andrews 2009b) and psychoses (Carpenter 2009) – contain some new bedfellows. However, the other two – externalising disorders (Krueger 2009) and emotional disorders (Goldberg 2009a) – are substantially new. These latter groups pay major attention to the personality types that are more susceptible to these large groups of disorders, and to the patterns of comorbidity revealed by epidemiological surveys (for example, Kessler 1996; Vollebergh 2001; Andrews 2008).

Externalising disorders comprise alcohol and drug dependence, antisocial personality disorder and conduct disorder, and are distinguished by the central role of disinhibitory personality in them. This personality type is also sometimes referred to as being low in 'constraint'. Shared biomarkers, comorbidity and course offer additional evidence for a valid cluster of externalising disorders (Krueger 2009).

Emotional (or internalising) disorders form the largest group of common mental disorders, consisting of states with increased levels of anxiety, depression, fear and somatic symptoms. They include generalised anxiety disorder, unipolar depression, panic disorder, phobic disorders, obsessional states, dysthymic disorders, neurasthenia, post-traumatic stress disorder and somatoform disorders. Depressive, anxious and somatoform symptoms occur together in general medical settings and share many common features (Löwe 2008; Goldberg 2009a).

Emotional disorders have strong similarities in terms of temperamental antecedents (neuroticism or negative affect) and comorbidity, and there are many shared symptoms. The genes for generalised anxiety and major depressive disorder are the same, and substantially overlap with those for the fear disorders. There are also strong similarities in overall course and in response to treatment. There is incomplete evidence for somatoform disorders and for neurasthenia, but this is not because there is contrary evidence – it is because the necessary research appears not to have been done.

Within both externalising and emotional disorders, there are undoubted differences between the various categories defined in the ICD and the DSM. Watson *et al* (1995) showed that although there are symptoms specific to both anxiety and depression, the non-specific symptoms they share account for a larger proportion of the total variance, and this common factor is identified as negative affect. Thus, there are undoubtedly features specific to particular diagnoses, but the large common factor of negative affect implies that it is unreasonable to have these disorders in separate chapters of the official classifications. It is these temperamental similarities that unite the fear disorders on the one hand, and the anxious misery disorders on the other.

Shortcomings of these proposals

These changes can only be thought of as a first step in reorganising the overall structure of our classification. The coverage of the proposals is incomplete, as the research data that might support a more comprehensive system do not yet

exist. Thus, 'neurasthenia' is a common diagnosis in many parts of the world but, probably because the DSM system no longer recognises it, little is known about its familiarity, any importance of adverse early environment or its neural substrate. Similarly, little appears to be known about the familiarity or neural substrate of somatoform disorders. It is also possible that future research will add further complexity to the relationships between personality structure and susceptibility to particular syndromes of mental disorder.

There are problems in depriving child psychiatry of a fully comprehensive diagnostic system by assigning conduct disorder to externalising disorders, and anxiety disorders to the emotional (internalising) disorders. Childhood disorders may indeed manifest themselves differently at different ages: for example, prepubertal anxiety may be followed by an episode of adolescent depression, as the adolescent confronts major problems in peer popularity, educational achievement or sexual choice. Nor is there always a linear relationship between childhood problems and adult disorder; conduct problems at 7–9 years of age may be associated with increased risk for antisocial personality disorder and crime in early adulthood (21–25 years of age), but also with adverse sexual and partner relationships (including domestic violence), early parenthood, and increased risks of substance use, mood and anxiety disorders and suicidal acts (Fergusson 2005). In the Dunedin study, for example, conduct problems at ages 11–15 were associated with increased risk for all psychiatric disorders at age 26, including internalising problems, schizophreniform disorders and mania, in addition to broadly externalising phenomena such as substance misuse (Kim-Cohen 2003).

The reassignment of bipolar disorder to the psychotic disorders causes problems for experts in mood disorders, and there are indeed arguments for considering that the Kraepelinian distinction between schizophrenia and bipolar disorder should be recognised by having bipolar disorders as a separate cluster (I discuss this in more detail in Goldberg 2009b).

Advantages of these proposals

There are real advantages to compensate for these shortcomings. The present proposals take major account of the part that personality variables play in determining vulnerability to particular mental disorders. The practice of looking at personality disorders as yet another sort of categorical disorder to be added to the diagnostic paella obscures this important point. If one considers the desirable future of classifications of mental disorder, there

are undoubted advantages in grouping clusters of disorders not merely in terms of symptom similarity, but taking account of advances in our evolving scientific knowledge of the aetiology of groups of disorders, which go beyond the narrower groups recognised at present.

Failure to note that a depressed patient is morbidly anxious may result in not prescribing the optimal psychotropic, not offering the optimal form of cognitive-behavioural therapy or, most important of all, not giving reassurance for symptoms that are troubling the patient but are ignored by the clinician because they are not part of the category being diagnosed. Failure to note that a depressed patient has somatic symptoms may cause clinicians to neglect to give the patient any explanation of the symptoms that are sometimes alarming them most of all. The only downside in recording 'anxious depression' or 'depression with somatic symptoms' rather than just 'depression' is that the clinician needs to assess these symptoms – but this should be something that conscientious clinicians do anyway. The present DSM classification puts major depression, anxiety disorders and somatoform disorders in three different chapters, whereas the ICD has them in two, necessitating multiple 'comorbid' diagnoses. The reason for this is by no means clear, and such diagnostic rules are often ignored. For hospital specialists and general practitioners, a revised classification would simplify an otherwise confusing system, and encourage clinicians to assess anxious and depressive symptoms whenever they are faced with a patient with other psychological symptoms or with unexplained somatic symptoms.

The dimensional alternative

Multidimensional models have been around in psychiatry for many years. In the area of common mental disorders, scales such as the Symptom Checklist (SCL-90; Derogatis 1976) provide a profile of scores on a number of scales thought relevant to these disorders. Modern equivalents are also available, such as the Psychiatric Diagnostic Screening Questionnaire (Zimmerman 2001). Both of these are self-report inventories, aimed at providing clinicians with a range of scores that may assist them in assessing the patient before them. The latter scale tends to use 'top-down' items derived from key symptoms in categorical DSM diagnostic criteria, and is aimed at traditional indicators relevant to screening tests, such as sensitivity and negative predictive value.

However, these are examples of pencil-and-paper tests that essentially try to present a system of categories in dimensional clothing. Those

considering introducing dimensional measures to the DSM have more ambitious aims. At its simplest, they wish to produce simple, multi-point dimensional scales for widely distributed symptoms such as anxious mood, disturbed sleep, substance misuse, and suicidal thoughts and acts, and to have these rated for every patient seen.

A more ambitious alternative is to encourage clinicians to take account of the essentially dimensional nature of categorical diagnoses, so that cases of a particular disorder can be thought of as falling on a dimension ranging from no symptoms of that disorder present, through sub-threshold symptoms, to mild, moderate and severe degrees of a categorical diagnosis being present. The distinction between these grades of severity is mainly based on symptom counts. The ICD-10 comes close to doing this already in the case of depressive episode, but the DSM takes an all-or-nothing, 'you're either depressed or you're not', approach. Even with relatively simple disorders such as depression, this fails to take account of the importance of the anxiety symptoms that commonly accompany depressive symptoms, so that a separate assessment may need to be made of these symptoms as well – and one could easily continue and include other common symptom complexes, such as excessive concern with bodily functions, panic and obsessional symptoms.

With more complex disorders such as schizophrenia, numerous dimensions may need to be postulated to take account of the possible range of psychotic experience such as hallucinations, delusions, disorganisation, negative symptoms, impaired cognition, depression and mania. These dimensions would be in addition to the common symptoms which have to be rated for all disorders. If such dimensions were actually to form part of a future classification, the daily work of a clinician would be enormously increased for an arguable advantage, and the slide into endlessness would have begun in earnest.

There is clearly a distinction to be made between allowing what were simple, all-or-nothing categories to become dimensional concepts and attempts to capture the complexity of mental disorders with a huge, multidimensional net.

In practice of course, different clinicians need different sets of dimensions in order to make sense of their daily work. The set required by a hospital specialist or a general practitioner is not the same as that needed by an adult psychiatrist, and neither are the same as that needed by a child psychiatrist. This is not to suggest that there is an unmanageable number of possible dimensions – merely that for any given clinician, the problem is finite.

MCQ answers

1	2	3	4	5
a f	a f	a f	a f	a t
b f	b f	b t	b f	b f
c f	c f	c f	c t	c f
d t	d f	d f	d f	d f
e f	e t	e f	e f	e f

Simple description of main problems, or multiple categories?

Karl Jaspers (1923) argued that there are three fundamental groups of mental disorders: known somatic disorders with psychic accompaniments and the major psychoses are examples of ‘disease entities’; but in addition to these there are the *psychopathien* or personality disorders, which comprise abnormal personalities and the neuroses. In this last group Jaspers argued that ‘there is no sharp line to be drawn between the types nor is there a decisive borderline between what is healthy and what is not. A diagnosis remains typological and multi-dimensional... including a delineation of the kind of personality’ (Jaspers 1963 reprint: p. 611).

Jaspers seems to me to have got it almost exactly right. Clinical psychologists have for some time been tolerated as they take a ‘pick and mix’ approach to anxiety diagnoses, referring to such combinations as ‘agoraphobia with panic’, ‘generalised anxiety with social phobia’ or ‘specific phobias with panic’. Psychiatrists have been oddly reluctant to follow them, so that combinations such as ‘anxious depression’, ‘anxiety with somatic symptoms’, ‘depression with panic attacks’ or ‘somatic symptoms and pain problems’ are dealt with by diagnosing multiple categories. This approach assumes that several quite different disorders (comorbidity) have started simultaneously. A simple descriptive approach which notes the patient’s principal symptoms is a way of admitting that there is great overlap between common symptoms, and that combinations of the ‘pure’ categories are very common. For example, Löwe *et al* (2008) report that 6.6% of 2091 attenders in primary care clinics had a probable diagnosis of depression according to the PHQ-9 test, but of these only 25.7% were above threshold for depression alone – the remainder were also above threshold on tests for generalised anxiety and somatic symptoms.

The present proposals take account of the fact that superficially dissimilar disorders may have common aetiological roots, so that to some extent they may respond to similar therapeutic strategies. This is not to deny the undoubted differences between different disorders when seen in their pure form, unaccompanied by symptoms of other disorders. But a preparedness to also recognise that the range of a patient’s leading symptoms may go beyond the narrow confines of a single category may suggest different therapeutic approaches as well.

The present practice of rigid categories and counts of different ‘comorbid’ diagnoses in the same patient produces two major problems for nosologists: the

assertion that the patient has the misfortune to have several different disorders present simultaneously, and the frequent use of the ‘not otherwise specified’ pseudo-category to take account of disorders that just fail to meet the diagnostic threshold. Both of these problems could be solved by the simple expedient of describing the patient’s main problems in simple descriptive terms.

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MCOs

1 Our next classification of mental illness should:

- a be mutually exclusive and jointly exhaustive
- b abandon categories and adopt a fixed set of dimensions
- c be arranged so that diagnoses are hierarchical
- d accept that no single model is wholly satisfactory
- e continue to allow 'not otherwise specified'.

2 Advantages of having only six chapters would be that:

- a all known mental disorders would be accommodated
- b a similar set of aetiological factors would be used for each chapter
- c our knowledge of aetiology is quite sufficient to allow it
- d mental disorders are fairly stable throughout life

- e the notion of 'comorbidity' would be partially addressed.

3 Disadvantages of having only six chapters would be that:

- a the relationship of personality type to illness is ignored
- b many will oppose having bipolar disorder and depressive episode in different chapters
- c it will allow some comorbid disorders to appear in the same chapter
- d child psychiatrists will no longer have their own chapter
- e we could no longer have different treatments for different disorders within a given chapter.

4 Regarding dimensional models of disorder:

- a similar dimensions apply to a wide range of disorders
- b enough is already known to be sure which dimensions are needed

- c these would allow a range of severities of each disorder to be recognised, including those that are 'subthreshold'
- d 'top-down' dimensions are almost the same as 'bottom-up' dimensions
- e there is general agreement about how to construct dimensional scales.

5 A simple description of main symptoms within the emotional disorders would:

- a cause clinicians to ask about a greater range of symptoms than they do at present
- b simplify management decisions
- c be no different from allowing multiple comorbid diagnoses
- d be the same as the system advocated by Karl Jaspers
- e be applicable to all the other chapters.