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'Subthreshold' mental disorders

A review and synthesis of studies on minor depression and other 'brand names'

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Background Subthreshold conditions (i.e. not meeting full diagnostic criteria for mental disorders in DSM–IV or ICD–10) are prevalent and associated with significant costs and disability. Observed more in primary care and community populations than in speciality settings, varying conceptualisations have been applied to define these conditions.

Aims To examine definitional issues for subthreshold forms of depression (e.g. minor depression) and to suggest future directions for research and nosology in psychiatry and primary care.

Method A Medline search was conducted. The relevant articles were reviewed with regard to specific categories of information.

Results Studies applied a myriad of names and definitions for subthreshold depression with varying duration, symptom thresholds and exclusions. Prevalence rates also vary depending upon the definitions, settings and populations researched.

Conclusions Future research needs to apply methodological and intellectual rigour and systematically consider a broader clinical and nosological context. In addition, collaboration between psychiatry and primary care on research and clinical issues is needed.

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The DSM–III (American Psychiatric Association, 1980) system introduced a new paradigm for establishing diagnoses in psychiatry by utilising objective, operationalised criteria with specific thresholds. Greater reliability in diagnosis was achieved, as was improved communication among researchers and clinicians regarding whether an individual had a mental disorder or, in epidemiological terms, was a 'case'. The primary focus of DSM–III was on populations presenting for treatment in mental health speciality settings. Questions have repeatedly been raised as to whether the specifically delineated disorders in DSM–III, DSM–IV (American Psychiatric Association, 1994) and ICD–10 Diagnostic Criteria for Research (DCR) (World Health Organization, 1993) capture the full spectrum of psychopathology in the general population and primary care settings, as well as in the speciality mental health sector (DeGruy & Pincus, 1996).

Aware of limitations in coverage, DSM and ICD–10 systems include atypical conditions or those not meeting full criteria for a specific mental disorder in 'not otherwise specified' categories. None the less, there have been continual calls for the addition of other new 'disorders'. During the DSM–IV process, over 150 different new disorders were proposed, with varying levels of evidence supporting their addition to the classification (Pincus *et al*, 1992).

We review recent literature on forms of subthreshold or minor depression and examine how they have been defined, the methods used to evaluate and assess these conditions and the results of those studies. Subthreshold depression is particularly important because of the prevalence, clinical significance and cost of these disorders. Studies have demonstrated the potential prevalence of depressive symptoms in various combinations of as much as 24% of the population (Horwarth *et al*, 1992). Not only are the numbers of individuals with subthreshold depressive syndromes quite large, but the degree of morbidity and functional impairment is also extensive. Wells *et al* (1992) found that while the degree of impairment is somewhat less than that associated with major depression, it is quite comparable to that of other medical conditions (DeGruy & Pincus, 1996). In addition, individuals who do not meet the full criteria for major depressive disorder manifest high rates of service utilisation and medical care costs (Johnson *et al*, 1992). Finally, the characterisation of minor forms of depression provides an opportunity to identify individuals potentially at risk for more severe forms of the disorder and to develop interventions that might prevent more extensive morbidity.

These conditions have not been a major focus within the speciality mental health community because most individuals with these conditions present to primary care providers, or seek no treatment, rather than seeing speciality mental health clinicians. In fact, a continuing problem in the relationship between primary care and speciality mental health care is that each group is often looking at different parts of the 'elephant' of mental morbidity. Primary care physicians see much more in the way of subthreshold conditions, whereas speciality physicians see the more severe end of the spectrum. Some attempts to break down these barriers have been developed, such as the DSM–IV Primary Care Version (American Psychiatric Association, 1996) and the ICD–10 Chapter V Primary Care Version (World Health Organization, 1996). However, both primary care versions are based on the DSM–IV and the ICD–10 DCR, respectively, and do not fully capture all the issues that are important in primary care, including the focus on subthreshold conditions. An increased focus in this area may help to link better the primary care and mental health communities in research and clinical care.

DEFINITIONS

Subthreshold conditions are contained in DSM–IV and ICD–10, albeit not always specifically delineated (i.e. depression, not otherwise specified). The definition of mental disorder in DSM–IV, however, requires that there be clinically significant impairment or distress. To highlight the importance of considering this issue, the criteria sets for most disorders include a clinical significance criterion (usually

worded "... causes clinically significant distress *or* impairment in social, occupational or other important areas of functioning"). This criterion helps to establish the threshold for the diagnosis of a disorder in situations in which the symptomatic presentation by itself (particularly in its milder forms) is not inherently pathological and may be encountered in individuals for whom a diagnosis of 'mental disorder' would be inappropriate (Frances, 1998).

We conceptualised 'subthreshold' depression as conditions that do not meet (i.e. fall below) the full descriptive criteria for a specific disorder (e.g. in major depressive disorder, having fewer than five out of nine symptoms) but meet the 'clinical significance' criterion for DSM–IV (i.e. have clinically significant distress or impairment associated with them). This is distinguished from what might be termed 'subclinical' conditions, in which individuals may manifest symptoms of a mental disorder but the symptoms do not have clinically significant distress or impairment. In the DSM–IV classification, individuals with subthreshold conditions, as defined above, would be placed within the corresponding 'not otherwise specified' (NOS) category. For example, DSM–IV Appendix B (conditions suggested to encourage research) includes a number of subthreshold conditions that would be included under the Depressive Disorder NOS category (e.g. minor depressive disorder and recurrent brief depression). Minor depressive disorder is defined as the presence of at least two but fewer than five depressive symptoms, including depressed mood or loss of interest, during the same two-week period with no history of major depressive episode or dysthymic disorder (American Psychiatric Association, 1994), whereas recurrent brief depressive disorder is defined as the presence of a depressed mood or loss of interest with at least four out of eight depressive symptoms and impairment in occupational activities lasting less than two weeks in duration reoccurring at least monthly over the course of one year (American Psychiatric Association, 1994). The primary differences between these two definitions occur in the number of symptoms needed for a diagnosis and in the duration of those symptoms. Subclinical conditions would *not* be placed in NOS categories but instead would be categorised as other conditions that may be the focus of clinical attention (often termed 'V-codes') or simply listed using symptom codes (e.g. 780.9 Sadness).

Within the ICD–10 DCR, depressive episodes are defined by symptom thresholds and are delineated to describe mild, moderate and severe depressive episodes and do not include a clinical significance criterion. The ICD–10 DCR mild depressive disorder has a symptom threshold of at least two or three symptoms different from that for other levels of severity. This lower symptom threshold may create a blurring of the boundary between major depressive disorder and a subthreshold condition as defined in DSM–IV (e.g. the NOS variant of minor depression in DSM–IV Appendix B). There is no symptom threshold or clinical significance criterion within ICD–10 DCR for the unspecified depression categories. The ICD–10 DCR does include both brief recurrent depression and mixed anxiety depression, but no criteria are specified for the latter.

METHOD

To provide an illustrative sample of recent literature, a Medline search of the literature published between January 1991 and December 1995 using the index terms 'diagnosis of subthreshold mental disorders', 'minor depression', 'mixed anxiety depression' and 'recurrent brief depression/depressive disorder' was conducted. Relevant references from these papers were also considered.

Although our review of the literature identified papers in which bereavement, adjustment disorder, depressive personality disorder and dysthymic disorder had been studied, we did not include these in our review unless the study also examined one of the forms of subthreshold depression noted above.

This process yielded 36 references that considered the characteristics and defining features of individuals with a subthreshold or 'minor' depressive condition. We summarised the *definition* that each study used for the subthreshold condition(s) in terms of the criteria used to describe the condition, the minimum duration of symptoms, whether or not impairment was required as an entry criterion and what other conditions or stressors that might potentially explain the symptoms seen were ruled out. The *mechanics* of how these studies were structured was considered in terms of the number and source of subjects, comparison groups, study design and reliability assessment. Finally, the studies' *findings* with regard to the prevalence, course and impairment associated with the conditions studied were examined.

LITERATURE REVIEW RESULTS

Study definitions: symptom sets and thresholds

As Table 1 shows, many different definitions and names are associated with these conditions. In several instances different symptom sets have been given the same name and different names have been given to the same symptom set. For example, minor depression (also termed 'minor depressive disorder' or 'minor depression with and without mood disturbance') was defined a total of nine different ways, with three sets of studies sharing definitions. Five different definitions were provided for subthreshold depression (also termed 'subthreshold depressive disorder', 'sub-syndromal depression' and 'subsyndromal symptomatic depression'). Depressive symptoms (also called 'subthreshold depressive symptoms' and 'depression symptoms only') were defined in three different ways, with two studies using one definition. Mixed anxiety–depression was defined in four different ways, again with two studies sharing a definition. Two papers describing depression NOS used two different definitions. Two different symptom lists were used for recurrent brief depression (RBD) (also called 'brief depression', 'subthreshold recurrent brief depression' and 'recurrent brief depression – seasonal'). Eight studies used Angst's criteria whereas one study used ICD–10 DCR.

The minimum number of symptoms required for a diagnosis of one of the subthreshold conditions ranged anywhere from one to six, although the most common minimum was two (or five for RBD). In more than half of the studies, depressed mood and often anhedonia were required for a diagnosis. Some studies used screening questionnaires to determine the presence of a subthreshold condition: the Beck Depression Inventory (Miranda & Munoz, 1994), the Center for Epidemiologic Studies Depression Screening Questionnaire (Coulehan *et al*, 1990), the Hamilton Rating Scales for Depression and Anxiety (Tollefson *et al*, 1993) and the Inventory to Diagnose Depression (Jaffe *et al*, 1994; Mino *et al*, 1994; Froom *et al*, 1995) were each used.

Table 1 Names and definitions of subthreshold depression

Name	Threshold	Symptom set	Duration
Minor depression (Katon *et al*, 1994) (Hance *et al*, 1996)	Two or more symptoms, not including depressed mood or anhedonia	DSM major depressive episode	2 weeks
Minor depression (Keller *et al*, 1995)	Depressed mood and two other symptoms	DSM major depressive episode or DSM dysthymia	1 month
Minor depression (Maier *et al*, 1992)	Depressed mood with at least two but fewer than four other symptoms	RDC minor depressive disorder	2 weeks
Minor depression (Oxman *et al*, 1990) (Skodol *et al*, 1994)	Two or more symptoms and does not meet criteria for major depression	RDC minor depression	2 weeks (Skodal *et al*) None (Oxman *et al*)
Minor depression (Chochinov *et al*, 1994)	Two or more symptoms and SADS score >3 but <5	RDC minor depression with four somatic symptoms that might be caused by subject's illness replaced with: (a) depressed appearance (b) social withdrawal (c) brooding, self-pity/pessimism (d) lack of reactivity to pleasurable situations	None
Minor depression (Jaffe *et al*, 1994)	A score of at least 1 or 2 on questions dealing with depressed mood or at least 2 on questions dealing with anhedonia plus a score of at least 2 in one additional symptom category and does not meet criteria for major depression	The Inventory to Diagnose Depression	2 weeks
Minor depression (Froom *et al*, 1995)	A score of at least 2 in depressed mood or at least 3 in loss of interest or pleasure, plus a score of at least 2 in one additional group. Must not meet criteria for major depression	The Inventory to Diagnose Depression	2 weeks
Minor depression (Mino *et al*, 1994)	A score of 1 or more for depressed mood or 2 or more for at least one additional symptom	The Inventory to Diagnose Depression	>2 weeks
Minor depression (Miranda & Munoz, 1994)	Depressive symptoms and absence of major depression/ dysthymia and Beck scores between 16 and 23	Beck Depression Inventory	None
Minor depression with mood disturbance (Broadhead *et al*, 1990)	Depressed mood or anhedonia and any other symptoms	DSM major depressive episode	None
Minor depression without mood disturbance (Broadhead *et al*, 1990)	One or more symptoms of depression, not including depressed mood or anhedonia and does not meet criteria for major depression or dysthymia	DSM major depressive episode	None
Subsyndromal depression (Williams *et al*, 1995)	Depressed mood or anhedonia and one to three other symptoms	DSM major depressive episode	None
Subsyndromal symptomatic depression (Judd *et al*, 1994)	Two or more symptoms of depression and does not meet criteria for major depression/dysthymia	DSM major depressive episode	Most of all of over 2 weeks
Subthreshold depression (Simon & Von Korff, 1995)	Depressed mood or dysthymia and two or three other symptoms	DSM major depressive episode	None
Subthreshold depression (Sherbourne *et al*, 1994)	Depressed mood and exceeding cut-off score on scale but: no lifetime diagnosis of DSM major depression or dysthymia; no episode of major depression or dysthymia in the last year; and no current remission (eight or more weeks with two or fewer symptoms)	A brief depression symptom scale developed as part of the Medical Outcomes Study	2 weeks

(continued)

Table 1 *(continued)*

Name	Threshold	Symptom set	Duration
Subthreshold depressive disorder (Wittchen & Essau, 1993)	Depressed mood or anhedonia and three other symptoms and does not meet criteria for major depression/dysthymia	DSM major depressive episode	None
Subthreshold brief depression (Maier *et al*, 1994*a*,*b*)	Depressed mood or loss of interest or pleasure and at least four other symptoms	DSM major depressive disorder	<2 weeks (1994*a*) Episodes of ⩽2 weeks per month over 6 months (1994*b*)
Brief depression (Montgomery *et al*, 1990)	Depressed mood or loss of interest or pleasure and at least four other symptoms with subthreshold duration of symptoms	DSM major depressive disorder	<2 weeks
Recurrent brief depression (Angst, 1990) (Angst *et al*, 1990) (Staner *et al*, 1992) (Weiller *et al*, 1994*a*)	Depressed mood or loss of interest or pleasure and at least four of eight other symptoms	DSM major depressive disorder	<2 weeks per episode and 1–2 episodes per month per year (Angst) <1 week per month per year (Weiller) <2 weeks (Staner)
Recurrent brief depression, seasonal (Kasper *et al*, 1992, 1994)	Depressed mood or loss of interest or pleasure and at least four other symptoms with subthreshold duration of symptoms	DSM major depressive disorder	<2 weeks per month in autumn and winter
Recurrent brief depression (Weiller *et al*, 1994*b*)	Depressive episodes	ICD–10 recurrent brief depression	<2 weeks
Mixed anxiety–depression (Roy-Byrne *et al*, 1994) (Zinbarg *et al*, 1994)	None noted	DSM depression NOS	None
Subthreshold mixed anxiety disorder (Wittchen & Essau, 1993)	Depressed mood or loss of interest or pleasure and three other symptoms and: non-severe panic attacks; fewer than three attacks; 1–3 attack symptoms; and non-severe phobias	DSM major depressive episode	None
Major depression with anxiety symptoms (Tollefson *et al*, 1993)	Depressed mood or loss of interest or pleasure and at least four other symptoms and a score of 12 or more on the Hamilton Rating Scale for Anxiety	DSM major depressive episode	2 weeks
DSM–III–R depression NOS (Tudor & Zaharia, 1994)	None noted	DSM depression NOS	None
DSM–III–R depression NOS (Winter *et al*, 1991)	Either depressive mood or anhedonia and does not meet criteria for mood disorder	DSM depression NOS	None
Depression symptoms only (Coulehan *et al*, 1990)	A score of 27 or higher on the CES–D, but no diagnosis of major depression	Center for Epidemiologic Studies Depression (CES–D) Screening	None
Depressive symptoms (Horwarth *et al*, 1992)	Two depressive symptoms, but does not meet criteria for major depression	DSM major depressive episode	2 weeks
Depressive symptoms (Johnson *et al*, 1992)	Two or more symptoms and does not meet criteria for major depression or dysthymia	DSM major depressive episode	None
Subthreshold depressive symptoms (Olfson *et al*, 1996)	Does not meet criteria for major depression	Depressed mood or anhedonia	⩾2 weeks

Duration

Thirteen studies reported no required duration of symptoms. Of those that did report a duration criterion, 11 required two weeks of symptoms. These 11 included different symptom sets and had varying names. One study required 10 days of symptoms and one required symptoms of one month's duration.

Seven studies examining forms of brief recurrent depression reported less than two weeks' duration of symptoms, but varied in the symptom sets and requirements for recurrence. One of these studies used a definition of RBD (RBD 'frequent') that allowed for the recurrence of symptoms "frequently but not every month in the past year". One study required episodes of less than two weeks' duration occurring monthly throughout the autumn and winter

for the symptom set RBD. In an additional study, episodes (defined as RBD) occurred monthly over a year's time but were of less than one week's duration.

Impairment

Twenty-five of the 36 studies surveyed did not include an impairment criterion in their definition of the featured subthreshold condition, or did not report it if included. The remaining 11 studies required any or some combination of the following: treatment-seeking behaviour, clinically significant distress, psychosocial impairment, impairment in occupation or social functioning or general functioning or subjective distress as measured by the General Health Questionnaire (Weiller *et al*, 1994*a*,*b*).

Exclusions

Table 2 shows which and how often other diagnoses were ruled out before subjects could be given a diagnosis. Only two studies considered the potential role of a stressor in the depressive symptoms seen and these specifically examined patients suffering from coronary heart disease and cancer.

Other study characteristics

The settings in which data were collected included primary care settings, mental health settings, in-patient and mixed settings as well as community-based epidemiological studies with subject sizes ranging from 25 to 18 571. Few studies (other than treatment studies) followed patients longitudinally and little information was available on the course of their conditions. Only two studies reported a statistic for the reliability of diagnostic criteria. Table 3 presents the prevalence rates found for different symptom sets in a variety of populations for those studies that reported a prevalence statistic. Prevalence rates were highly variable across the various definitions and settings. Twenty-one of 30 studies did not provide information on impairment associated with these conditions.

DISCUSSION

We set out to review the current literature on subthreshold or minor depression by examining how this concept has been defined, how these conditions have been evaluated and assessed and what these studies found. On the whole we found that there is a myriad of definitions for subthreshold conditions, with varying durations and symptom thresholds. The results of these studies found prevalence rates that varied with the setting and populations studied. Few studies reported information on the course of the conditions and almost two-thirds of the studies did not provide information on level of impairment. These results, as well as the assessment tools used in these studies, raise questions that may be helpful in structuring future research.

Clinical heterogeneity

In most of the studies that we reviewed, investigators evaluated patients using some type of standardised assessment instrument. Although there are obviously important advantages to these approaches, failure to consider systematically the specific clinical/nosological issues limits the translation of research findings across studies and to clinical practice. For example, given the variations in patient presentation, clinicians could reasonably ask themselves about the assessment of subthreshold depression in these studies:

(a) Was there sufficient enquiry as to whether all of the symptoms of major depressive disorder were assessed in an appropriate way?

(b) Might the patients have some degree of fluctuation in the occurrence of symptoms that were not fully recalled in the presence of the assessor?

(c) Was a longitudinal assessment built in that would reflect whether or not there had previously been a major depressive episode and indicate whether the episode was in partial remission? Has the individual had a recurrent form of major depression and is the individual experiencing a partial relapse?

(d) Were other disorders that have similar symptoms considered and ruled out, such as depressive personality disorder, dysthymic disorder, bereavement or adjustment disorder? Was the context of these symptoms fully considered,

Table 2 The diagnoses ruled out, how often and by which studies before deciding on the correct diagnosis

Diagnoses ruled out	How often	Studies
Lifetime mood disorder	4	Judd et *al*, 1994; Sherbourne et *al*, 1994 (includes current mood); Keller et *al*, 1995; Hance et *al*, 1996
Current mood disorder	14	Broadhead et *al*, 1990; Winter et *al*, 1991; Horwarth et *al*, 1992; Johnson et *al*, 1992; Wittchen & Essau, 1993; Miranda & Munoz, 1994; Roy-Byrne et *al*, 1994; Skodol et *al*, 1994; Tudor & Zaharia, 1994; Weiller et *al*, 1994*b*; Zinbarg et *al*, 1994; Stein et *al*, 1995; Williams et *al*, 1995; Hance et *al*, 1996
Axis I disorder	12	Broadhead et *al*, 1990; Horwarth et *al*, 1992; Tollefson et *al*, 1993; Judd et *al*, 1994; Miranda & Munoz, 1994; Roy-Byrne et *al*, 1994; Skodol et *al*, 1994; Zinbarg et *al*, 1994; Keller et *al*, 1995; Stein et *al*, 1995; Williams et *al*, 1995; Hance et *al*, 1996
Axis II disorder (personality disorders)	0	
Axis III disorder (general medical conditions)	9	Broadhead et *al*, 1990; Horwarth et *al*, 1992; Staner et *al*, 1992; Tollefson et *al*, 1993; Judd et *al*, 1994; Roy-Byrne et *al*, 1994; Zinbarg et *al*, 1994; Keller et *al*, 1995; Williams et *al*, 1995
Axis I/II and axis III combined	7	Broadhead et *al*, 1990; Horwarth et *al*, 1992; Judd et *al*, 1994; Roy-Byrne et *al*, 1994; Zinbarg et *al*, 1994; Keller et *al*, 1995; Williams et *al*, 1995

Table 3 Prevalence of symptom sets

Symptom set	Sample/population	Prevalence
Minor depression	Community	2.2% (Skodol *et al*, 1994)
Minor depression	Primary care	5.4–15.6% (Froom *et al*, 1995)
Minor depression	DSM–IV field trial	4% met criteria in past 6 months (Keller *et al*, 1995)
Minor depression	DSM–IV field trial	6% met criteria at some point in life (Keller *et al*, 1995)
Minor depression	General medical	17% (Hance *et al*, 1996)
Minor depression	General medical	12.3% (Chochinov *et al*, 1994)
Minor depression with mood disturbance	Epidemiological	5.9% (Broadhead *et al*, 1990)
Minor depression without mood disturbance	Epidemiological	23.4% (Broadhead *et al*, 1990)
Minor depressive disorder	Community	3.6% (Oxman *et al*, 1990)
Episodic minor depressive disorder	Community	52.6% of elderly patients (Oxman *et al*, 1990)
Subsyndromal symptomatic depression	Community	8.4% (Judd *et al*, 1994)
Depressive symptoms	Community	23.1% (Johnson *et al*, 1992) 24% (Horwarth *et al*, 1992)
Depressive symptoms	Primary care clinic	9.1% (Olfson *et al*, 1996)
Recurrent brief depression	Primary care	4.5–9.9% (Weiller *et al*, 1994*a*,*b*; Maier *et al*, 1994*a*)
Recurrent brief depression	Community	7.2% (Angst *et al*, 1990)
Subthreshold depressive disorder	In-patient	2.4% (Wittchen & Essau, 1993)
Subthreshold mixed anxiety–depression	In-patient	0.8% (Wittchen & Essau, 1993)
Mixed anxiety–depression	Psychiatric setting	11.7% (Zinbarg *et al*, 1994)
Mixed anxiety–depression	Primary care	5.1% (Roy-Byrne *et al*, 1994)
Mixed anxiety–depression	Primary care	6.6% (Zinbarg *et al*, 1994)

that is, were the symptoms occurring in connection with another mental disorder or severe social, economic or occupational problems or in relation to a significant general medical condition?

(e) Is the phenomenological term used in the study the best way to fully characterise the syndrome? For example, were these subthreshold depressive symptoms occurring alongside significant anxiety symptoms (i.e. mixed anxiety–depression or somatisation symptoms) that in some other countries might be characterised as neurasthenia?

(f) Was any attempt made to characterise the significance and pervasiveness of those symptoms with regard to their effects on the patients' lives (i.e. do the symptoms cause 'clinically significant impairment')?

(g) To what extent might these symptoms be normal mood fluctuations, given a broader understanding of the patient's experience?

Recommendations for future studies

To explicate these clinical issues such that they can be investigated systematically and empirically, the next generation of studies needs to pay more attention to methodological and intellectual rigour as well as consideration of the place of these subthreshold conditions in the context of broader clinical and nosological issues. Fascination with the development of new disorders and the use of objective criteria and new assessment instruments allows for increased precision in psychiatric assessment. However, by simply breaking down syndromes into more elemental subsets of criteria, there may be an accelerated trend towards medicalising and pathologising conditions that may be within the normal spectrum. In addition, the profusion of different approaches for categorising these subthreshold conditions pursued by different groups of investigators, often with small, subtle differences, creates an added and perhaps unnecessary complexity to the system. This rush to identify a named syndrome often fails to provide a more holistic assessment of individual patients. Finally, the varying approaches to defining and studying these conditions may inhibit cross-talk across the primary care/speciality barrier. Most of these studies were conducted within the speciality sector or in the primary care sector by primary care-based investigators or psychiatric-based investigators. Very few involved inter-disciplinary collaboration or the collection of samples from multiple settings.

The following recommendations can thus be made:

(a) Halt the rush to brand names. Investigators should be examining these syndromes with a broad perspective, not with the intent of promoting a single specific conceptualisation of these conditions. At a minimum, data collection should allow the mapping of the specific syndromes with other ways of conceptualising these conditions, as well as an assessment of the broader context (e.g. the presence of general medical conditions, stressors, etc.)

(b) Investigators should systematically assess an array of key variables as part of the definition of these conditions. Specifically, they should include: symptom thresholds; duration of symptoms; impairment in psychosocial, occupational and social functioning; course; family history; and comorbidity with other mental disorders and general medical conditions.

(c) It is critically important that longitudinal designs be promoted. Little is known about the natural history and course of these conditions. Are they self-limited, risk factors for more severe conditions, or do they present a stable course? Furthermore, virtually nothing is known about the effects of treatment, both psychosocial and psychopharmacological. Clinical epidemiological, longitudinal natural history or treatment studies (that involve placebo control and perhaps untreated control as well) should adhere to the same principles for

comprehensive, systematic assessment and the descriptions noted above.

(d) Expand the use of multivariate methods such as latent class (Hudziak *et al*, 1998) and cluster analysis (Sugar *et al*, 1998).

Future nosological considerations

There are also several specific nosological changes that might be considered for future diagnostic classifications. First, the category of adjustment disorder could be eliminated. Instead, an alternative conceptualisation would be to maintain a 'subthreshold' category within each of the major phenomenological groups of the DSM–IV or ICD–10 DCR (e.g. anxiety disorders, depression, cognitive, somatoform, etc.) and then permit subtyping in relationship to the presence of a stressor. This is similar to the approach taken for brief psychotic disorder in DSM–IV. Consideration should also be given to formalising specific objective approaches for assessing the clinical significance of these symptoms (e.g. including a requirement for some obvious evidence of impairment or utilisation of healthcare services in order to consider these syndromes as disorders). Such an approach would prevent labelling broad populations of individuals in the community who may not see themselves as suffering from a mental disorder (and who neither seek treatment nor are impaired). Finally, we need to have a better name for 'subthreshold' conditions and 'minor depression'. Each of these names carries the implications of triviality and lack of importance. Other terms that might be considered include 'limited depression', 'subdepression' and 'boundary depression'. Alternatively, another approach, similar to that taken by the World Health Organization Principal Investigators of Dysthymia in Neurological Disorders, could be to expand the concept of dysthymia beyond that of 'chronic mild depression' to incorporate acute, subchronic and chronic forms (World Health Organization, 1997).

This review should not be taken as a critique of the *concept* of subthreshold conditions or minor depression. In fact, we support the notion that subthreshold conditions are important public health problems and that nature has not necessarily been cleaved at five out of a set of nine depression symptoms. Nor should it be inferred that mixed states do not occur (i.e. mixed anxiety and depression). It suggests, however, that a great deal more research is needed to understand better the boundaries across the range of sub- and suprathreshold conditions and normality.

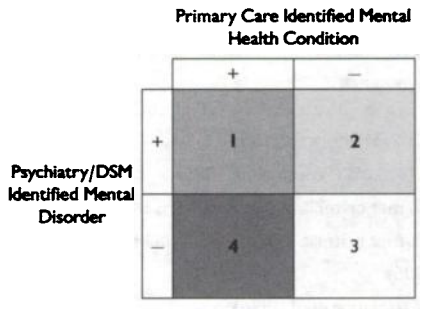

Fig. 1 Agreement and disagreement between primary care and psychiatry with regard to the presence of a mental disorder/mental health condition.

Primary care and psychiatry

Further research is needed to help illuminate the boundary between primary care and psychiatry. As illustrated in Fig. 1, primary care physicians and mental health clinicians (or the mental health diagnostic systems, e.g. DSM–IV and ICD–10 DCR Chapter 5) agree with the presence or absence of diagnosis in cells 1 and 3, but there are also clear discrepancies that are indicated in the orthogonal cells. A series of studies indicate that primary care physicians often fail to recognise major depression and other conditions (Kirmayer *et al*, 1993; Regier *et al*, 1993) identified by specialist approaches (i.e. cell 2). There remains some dispute about whether this is a failure to recognise, a failure of the patient to acknowledge (Klinkman, 1997) or whether these conditions are recognised but simply not noted in the chart (Rost *et al*, 1994). In addition, there are clearly a number of mental disorders, conditions and other psychosocial factors that primary care physicians think are very important but are not well articulated in the psychiatric nosology and are often not a major consideration of mental health specialists (i.e. cell 4). These would be explored more systematically with the suggestions described in this paper.

Hovering between two clichés

These suggestions in some ways move the field away from an approach of 'letting a thousand flowers bloom'. However, this review seems to indicate that such a *laissez-faire* approach has resulted in a 'tower of Babel' with regard to understanding the nature of these conditions, which is supported by relatively weak research evidence. Hopefully, by the time the next revisions of DSM–IV and ICD–10 DCR classifications are initiated, a broader, more systematic and well-documented empirical base will be available for making nosological decisions.

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CLINICAL IMPLICATIONS

- Better conceptualisation and clarity of definitions of 'subthreshold conditions' in research and clinical work is necessary to establish a consistent evidence base.
- Defining and recognising subthreshold conditions, specifically subthreshold depression, may allow for better identification of the individuals who are at risk for more severe forms of depression.
- Careful, longitudinal evaluation of these subthreshold symptoms, with attention to differential diagnosis and comorbidity, is needed.

LIMITATIONS

- Formally identifying criteria and quantifying these symptoms for a specific subthreshold condition may further the trend to pathologise conditions that may be within the normal spectrum.
- The majority of studies reviewed used standardised assessment instruments to assess the condition. Such assessments often do not provide clinically detailed and comprehensive information about the symptoms and context.
- This review does not explore the validity of subthreshold conditions as mental disorders or their treatment implications.

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