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Non-disabled cases in a national survey

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ABSTRACT

Background. Lifetime and 12-month prevalence estimates of mental disorders consistently reported in large-scale community surveys have met with deserved scepticism. A crucial variable is the extent to which people who are considered cases are also disabled by their symptoms. In a national population survey, we hypothesized that an administratively significant proportion of persons with anxiety or depressive disorders according to ICD-10 and DSM-IV would report no disability.

Methods. Interviews were sought on a nationally representative sample of people aged 18 and over across Australia. The Composite International Diagnostic Interview on laptop (CIDI-A) was used by professional survey interviewers to identify persons meeting ICD-10 or DSM-IV criteria for anxiety or depressive disorders in the previous 4 weeks, together with self-reported data on associated disability and medical consultations for the same period.

Results. In an achieved sample of 10641 persons (response rate = 78%), no disability in daily life was reported by 28% of persons with an anxiety disorder and 15% with a depressive disorder by ICD-10 criteria; and by 20·4% and 13·9% respectively by DSM-IV. Non-disabled respondents had lower scores on two measures of psychological distress and markedly lower rates for having consulted a doctor for their symptoms.

Conclusion. The ICD-10 and DSM-IV criteria for anxiety and depressive disorders, when applied to the information on symptoms elicited by the CIDI-A, inadequately discriminate between people who are and are not disabled by their symptoms. There may be a group of highly symptomatic people in the general population who tolerate their symptoms and are not disabled by them.

INTRODUCTION

Large-scale community surveys of common mental disorders have consistently produced lifetime or 12-month prevalence estimates that many critics consider not to be credible (Srole *et al*. 1962; Robins & Regier, 1991; Kessler *et al*. 1994; Jenkins *et al*. 1997). These surveys all imply that a substantial proportion of the general population who complete a research interview are found to be cases according to the contemporary diagnostic criteria. Furthermore, these prevalence estimates do not allow for refusals, usually of the order of 20%, in whom the prevalence of symptoms may be higher (Clark *et al*. 1983; Kessler *et al*. 1995). The published values may therefore be underestimates.

Doubts have been voiced about the meaning of these findings (Parker, 1987; Henderson, 2000). It is possible that a proportion are brief episodes that resolve spontaneously. It is also possible that the cases of psychopathology identified by lay interviewers in large surveys are in some way different from cases encountered either in primary care or in mental health services. The nature of this difference remains unknown. Of particular concern is whether all the identified cases need treatment. Regier *et al*. (1998) examined the health policy implications of the prevalence estimates in the Epidemiologic Catchment Area Study and the National Comorbidity Study (NCS), seeing these as both high and discrepant. In the context of managed care

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and medical necessity, they said, '… it is doubtful that 28% or 29% of the population would be judged to need mental health treatment in a year'. Frances (1998) proposed that 'The methods used in existing studies probably all bias to the over-diagnosis of the milder disorders' while Spitzer (1998) suggested that future surveys should include data on 'impairment, disability and duration to better assess the need for treatment'.

The clinical significance criterion introduced to the Diagnostic and Statistical Manual, Fourth Edition (DSM-IV) (American Psychiatric Association, 1994) has the potential to reduce false positives both in clinical practice and in epidemiological surveys. It requires that an individual exhibit 'clinically significant distress *or* (our italics) impairment in social, occupational, or other important areas of functioning'. Spitzer & Wakefield (1999) have critically examined the clinical significance criterion, concluding that the thresholds it seeks are difficult to set. This applies to clinical significance, which requires a judgement, to distress, which may be a normal reaction and is not itself a disorder, and to the degree of impairment, which is not specified. In contrast to DSM-IV, the criteria for anxiety and depressive disorders in ICD-10 (World Health Organization, 1993) do not explicitly include clinical significance.

To investigate the validity of prevalence rates obtained in community surveys, we postulated that the high prevalence values that have caused concern may be partly due to the inclusion of persons who have the symptoms to be cases, but are minimally disabled. ICD-10 rates could be expected to be higher than those by DSM-IV criteria.

In 1997, a National Survey of Mental Health and Wellbeing was conducted in Australia. The aims were to estimate not only the 1-year and 1-month prevalence of mental and substance use disorders in the Australian population, but also the amount of disability associated with these and the self-reported use of health services. The survey has thereby provided an opportunity to examine the relationship between an ICD-10 or DSM-IV diagnosis of an anxiety or depressive disorder and impaired functioning in daily life. The methods and findings of the adult component of the National Survey have been reported in more detail elsewhere (McLennan, 1998; Andrews *et al.* 1999; Henderson *et al.* 2000).

METHOD

The sample

The National Survey was conducted throughout Australia in 1997 by the Australian Bureau of Statistics (ABS). Private dwellings were selected at random using a stratified multi-stage area sample which ensured that all adult persons within each State and Territory had a known chance of selection. Experienced ABS interviewers, specially trained for the survey, approached approximately 13600 dwellings. One person aged 18 years or over from each dwelling was then randomly chosen and personally interviewed, whenever possible in private. After the purpose of the interview and its Australia-wide coverage had been completely described to all respondents, their informed consent was obtained.

The interview

The interview typically took place in respondents' homes and was administered from laptop computers using the automated version of the Composite International Diagnostic Interview (Robins *et al.* 1988), the CIDI-A, with its full complement of probes. The reliability of the CIDI itself has been shown to be satisfactory (Wittchen, 1994), but its validity has not yet been fully assessed. The CIDI-A was developed by Peters & Andrews (1995) who reported it as having acceptable validity, at least for research on anxiety disorders. The CIDI-A covers the anxiety, depressive and substance use disorders defined in ICD-10 and DSM-IV. Six anxiety disorders were assessed: social phobia, agoraphobia, panic disorder, generalized anxiety disorder, obsessive–compulsive disorder and post-traumatic stress disorder. The depressive disorders were depressive episode (ICD-10), major depression (DSM-IV) and dysthymia. Substance use disorders were assessed and have been reported elsewhere (Hall *et al.* 1999).

In addition to the CIDI-A, the following measures were also included: the 12-item General Health Questionnaire (GHQ-12) (Goldberg, 1978); a similar 10-item scale for non-specific psychological symptoms developed for population studies by Kessler & Mroczek (1994) and

reverse scored so that higher scores indicate fewer symptoms; the 12 neuroticism items from the short-form of the Eysenck Personality Questionnaire-Revised (Eysenck *et al.* 1985) as a measure of vulnerability to anxiety and depression; and the Life Satisfaction Scale of Andrews & Withey (1976) in which people are asked how they feel about their 'life as a whole' and respond on a 7-point scale from 1 = delighted to 7 = terrible.

Four questions about disability were asked. In the early stage of the interview, the Short Form-12 (SF-12) (Ware *et al.* 1996; Gandek *et al.* 1998) was administered. Of its 12 items, two are focused on disability attributed to emotional problems. These ask: 'During the past 4 weeks, have you accomplished less than you would like as a result of any emotional problems, such as feeling depressed or anxious?'; and 'During the past 4 weeks, did you not do work or other regular activities as carefully as usual as a result of any emotional problems, such as feeling depressed or anxious?'. To use all of the items contributing to the SF-12 Mental Component Summary score would have conflated disability from any mental health problems with psychological symptoms. Furthermore, psychological symptoms were already extensively covered. The SF-12 Physical Component Summary score was used as a measure of physical health.

Next were two questions at the ends of both the CIDI-A anxiety and depression modules, specially related to these symptoms. The questions were the same as those used in the NCS. Persons who acknowledged having had anxiety or depression symptoms in the previous 4 weeks were asked; 'Beginning yesterday, and going back four weeks, how many days out of the past four weeks were you totally unable to work or carry out your normal activities because of problems like these?'. The second specific question was: 'Apart from that, how many days in the past four weeks were you able to work and carry out your normal activities, but had to cut down on what you did, or did not get as much done as usual, because of problems like these?'. Finally, information was collected about the use of health services, including the number of consultations with family physicians in the previous 4 weeks specifically for anxiety or depression.

Persons with an ICD-10 or DSM-IV diagnosis of an anxiety disorder in the previous 4 weeks were divided into those with and without disability related to these symptoms in that same period. The same was done for those with a diagnosis of depressive disorder. Having disability was defined as having had one or more days with at least partial functional impairment specifically attributed to an anxiety or depressive disorder and/or endorsement of either of the two disability items in the SF-12. Persons without disability were defined as those who answered negatively to all of the four above questions. This is a deliberately much more stringent definition than for having disability. The time period for diagnoses, for GHO-12 and Kessler–Mrozcek symptoms, for each of the four disability items, and for visits to a doctor referred to the previous 4 weeks in each case.

Statistical analysis

The sample was weighted to reflect the age, sex and geographical distribution of the Australian population. All analyses were carried out using STATA release 6 (Stata Corporation, 1999) which takes account of the differential sampling weights and complex survey design. Standard errors of prevalences were based on Jack-knife Repeated Replications. Groups of disabled and non-disabled cases were compared using an adjusted Wald test which allows testing of linear hypotheses following estimation of means or percentages.

RESULTS

Interviews were completed on 10641 people, representing a response rate of 78% after up to four call-backs.

Anxiety disorders

ICD-10

There were 682 persons who had a CIDI-A diagnosis of an anxiety disorder by ICD-10 criteria in the previous month, representing a weighted prevalence of 5·74% (95% CI: 5·26–6·22). Of these, 413 reported on the two questions specific to anxiety that they had had no disability arising from their symptoms, with not even one day of partially impaired social role functioning. But there were 221 of these who reported some impairment on the two SF-12 items. That, is 192

Table 1. *ICD-10 and DSM-IV anxiety disorders, past month. Table shows the estimated mean or % for the Australian population (standard errors of estimates shown in parentheses)*

		Diagnosis of anxiety disorder by ICD-10 or DSM-IV			
		Not disabled[a] *N* = 192 (ICD-10) N = *98* (*DSM-IV*)	Disabled[b] *N* = 490 (ICD-10) N = *383* (*DSM-IV*)	Comparison of disabled and non-disabled[c]	No diagnosis of anxiety[d] *N* = 10161 (ICD-10) N = *9959* (*DSM-IV*)
Sex (% male)	ICD-10	37·2 (4·0)	38·2 (2·6)	NS	49·9 (0·6)***
	DSM-IV	*41·2* (*5·7*)	*44·7* (*3·0*)	*NS*	*49·4* (*0·6*) *NS*
Mean age	ICD-10	40·0 (1·3)	43·6 (0·8)	*F* = 5·54*	44·2 (0·2)*
	DSM-IV	*38·5* (*1·7*)	*39·9* (*0·8*)	*NS*	*44·2* (*0·2*)*
Education (% with no higher qualifications)	ICD-10	55·4 (4·1)	59·0 (2·6)	NS	61·6 (0·6)***
	DSM-IV	*54·9* (*5·7*)	*59·3* (*2·9*)	*NS*	*51·7* (*0·6*)***
Marital status (% married/*de facto*)	ICD-10	57·1 (4·0)	55·2 (2·6)	NS	65·7 (0·5)***
	DSM-IV	*56·2* (*5·7*)	*51·3* (*3·0*)	*NS*	*65·6* (*0·5*)***
Children (% with no children)	ICD-10	54·9 (4·0)	51·0 (2·6)	NS	64·1 (0·5)**
	DSM-IV	*56·5* (*5·6*)	*58·8* (*2·9*)	*NS*	*63·0* (*0·5*)**
Employment (% employed full- or part-time)	ICD-10	63·0 (3·9)	46·8 (2·6)	*F* = 11·8***	64·1 (0·5)***
	DSM-IV	*65·8* (*5·3*)	*48·3* (*3·0*)	F = *8·4**	*63·8* (*0·5*)***
Mean GHQ score	ICD-10	1·4 (0·7)	4·4 (0·2)	*F* = 132***	0·81 (0·02)***
	DSM-IV	*1·8* (*0·3*)	*4·7* (*0·2*)	F = *69·9****	*0·8* (*0·02*)***
Mean Kessler & Mroczek score	ICD-10	42·7 (0·4)	34·3 (0·4)	*F* = 224***	46·4 (0·1)***
	DSM-IV	*42·0* (*0·5*)	*33·7* (*0·5*)	F = *132****	*46·2* (*0·1*)***
Mean neuroticism score	ICD-10	5·4 (0·3)	6·9 (0·2)	*F* = 24·9***	2·4 (0·03)***
	DSM-IV	*6·0* (*0·3*)	*7·3* (*0·2*)	F = *10·9****	*2·4* (*0·03*)***
Satisfaction with life (D-T scale)	ICD-10	3·3 (0·1)	4·2 (0·1)	*F* = 30·5***	2·7 (0·01)***
	DSM-IV	*3·3* (*0·2*)	*4·3* (*0·1*)	F = 57·3***	*2·7* (*0·01*)***
SF-12 Physical Summary score	ICD-10	46·2 (1·1)	43·8 (0·7)	*F* = *5·9**	49·2 (0·1)***
	DSM-IV	*47·0* (*1·1*)	*45·2* (*0·7*)	*NS*	*49·2* (*0·1*)***
Consulting doctor in past month because of anxiety, %	ICD-10	9·0 (2·3)	33·1 (2·4)	*F* = 51·0***	Not applicable
	DSM-IV	*16·5* (*4·1*)	*40·4* (*2·9*)	F = *22·6****	

Values for DSM-IV cases are shown in italics.

[a] No disability: no whole or partial days out of role due to disorder and no days of lowered role performance because of emotional problems such as anxiety or depression.

[b] Disability: one or more whole or partial days out of role due to disorder or one or more days of lowered role performance because of emotional problems such as anxiety or depression.

[c] Comparison of disabled and non-disabled cases made using the adjusted Wald test, which provides an *F* statistic with 1,10640 degrees of freedom.

[d] Comparison of the three groups: respondents without a diagnosis of depression, those with a diagnosis but no disability and those with a diagnosis and with disability made using the adjusted Wald test, which provides an *F* statistic with 2,10639 degrees of freedom, (NS, not significant; $*P < 0{\cdot}05$; $**P < 0{\cdot}01$; $***P < 0{\cdot}001$).

cases (28·2%) of the ICD-10 anxiety disorder reported no disability on any of the four questions. This is a weighted prevalence of 1·70% (95% CI: 1·43–1·96) so that the 1-month prevalence of persons with anxiety disorders associated with disability drops from 5·74% to 4·04% (95% CI: 3·64–4·45). When the anxiety disorders were considered separately, there were significant differences in the proportions who were non-disabled ($P < 0{\cdot}01$); panic disorder, 26%; generalized anxiety disorder 18%; obsessive–compulsive disorder 29%; social phobia 33%; post-traumatic stress disorder 35%.

DSM-IV

There were 481 persons who met DSM-IV criteria for a diagnosis of an anxiety disorder in the previous month, representing a weighted prevalence of 3·93% (95% CI: 3·53–4·33). Of these, 246 reported on the two questions specific to anxiety that they had had no disability arising from their symptoms, with not even one day of partly impaired social role functioning. But

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Table 2. *ICD-10 and DSM-IV depressive disorders, past month. Table shows the estimated mean or % for the Australian population (standard errors of estimates are shown in parentheses)*

		Diagnosis of depressive disorder by ICD-10 or DSM-IV			
		Not disabled[a] *N* = 70 (ICD-10) N = *63* (*DSM-IV*)	Disabled[b] *N* = 407 (ICD-10) N = *391* (*DSM-IV*)	Comparison of disabled and non-disabled[c]	No diagnosis of depression[d] *N* = 10187 (ICD-10) N = *10164* (*DSM-IV*)
Sex (% male)	ICD-10	32·6 (6·8)	38·6 (2·8)	NS	49·7 (0·6)***
	DSM-IV	*36·9* (*7·3*)	*39·4* (*2·9*)	*NS*	*49·6* (*0·6*)***
Mean age	ICD-10	41·4 (2·1)	42·1 (0·7)	NS	44·1 (0·2)*
	DSM-IV	*39·7* (*2·3*)	*42·6* (*0·8*)	*NS*	*44·1* (*0·2*)*
Education (% with no higher qualifications)	ICD-10	58·5 (7·0)	62·6 (2·7)	NS	51·6 (0·6)***
	DSM-IV	*53·2* (*7·4*)	*64·2* (*2·8*)	*NS*	*51·7* (*0·6*)***
Marital status (% married/*de facto*)	ICD-10	58·0 (6·7)	52·6 (2·8)	NS	65·6 (0·5)***
	DSM-IV	*52·4* (*7·4*)	*51·6* (*2·9*)	*NS*	*65·6* (*0·5*)***
Children (% with no children)	ICD-10	48·4 (6·9)	56·6 (2·8)	NS	63·0 (0·5)**
	DSM-IV	*53·7* (*7·3*)	*55·2* (*2·8*)	*NS*	*63·0* (*0·5*)**
Employment (% employed full- or part-time)	ICD-10	57·1 (6·9)	50·3 (2·8)	NS	63·8 (0·5)***
	DSM-IV	*61·1* (*7·2*)	*51·3* (*2·9*)	*NS*	*63·7* (*0·5*)***
Mean GHQ score	ICD-10	3·0 (0·5)	5·3 (0·2)	*F* = 18·3***	0·8 (0·02)***
	DSM-IV	*3·0* (*0·5*)	*5·4* (*0·2*)	F = *21·2****	*0·8* (*0·02*)***
Mean Kessler & Mroczek score	ICD-10	38·5 (1·0)	32·7 (0·4)	*F* = 29·6***	46·3 (0·05)***
	DSM-IV	*37·9* (*1·1*)	*32·4* (*0·4*)	F = *22·3****	*46·3* (*0·02*)***
Mean neuroticism score	ICD-10	6·0 (0·4)	7·0 (0·2)	*F* = 5·22*	2·4 (0·03)***
	DSM-IV	*6·4* (*0·4*)	*6·9* (*0·2*)	F = *1·23**	*2·4* (*0·03*)***
Satisfaction with life (D-T scale)	ICD-10	4·0 (0·2)	4·4 (0·1)	*F* = 4·47*	2·7 (0·01)***
	DSM-IV	*4·2* (*0·2*)	*4·5* (*0·1*)	*NS*	*2·7* (*0·01*)***
SF-12 Physical Summary score	ICD-10	49·1 (1·4)	44·0 (0·7)	*F* = 10·3***	49·2 (0·1)***
	DSM-IV	*49·3* (*1·2*)	*43·7* (*0·7*)	F = *15·4****	*49·2* (*0·1*)***
Consulting doctor in past month because of depression, %	ICD-10	13·6 (4·5)	49·1 (2·8)	*F* = 44·4***	Not applicable
	DSM-IV	*10·6* (*3·8*)	*49·5* (*2·9*)	F = *65·7****	

Values for DSM-IV cases are shown in italics.

[a] No disability: No whole or partial days out of role due to disorder and no days of lowered role performance because of emotional problems such as anxiety or depression.

[b] Disability: One or more whole or partial days out of role due to disorder or one or more days of lowered role performance because of emotional problems such as anxiety or depression.

[c] Comparison of disabled and non-disabled cases made using the adjusted Wald test, which provides an *F* statistic with 1,10640 degrees of freedom.

[d] Comparison of the three groups: respondents without a diagnosis of depression, those with a diagnosis but no disability and those with a diagnosis and with disability made using the adjusted Wald test, which provides an *F* statistic with 2,10639 degrees of freedom, (NS, not significant; $*P < 0{\cdot}05$; $**P < 0{\cdot}01$; $***P < 0{\cdot}001$).

there were 148 of these who reported some impairment on the two SF-12 items. That is, 98 cases (20·4%) of DSM-IV anxiety disorder reported no disability on any of the four questions. This is a weighted prevalence of 0·80% (95% CI: 0·62–0·98), so that the 1-month prevalence of persons with anxiety disorders associated with disability drops from 3·93% to 3·13% (95% CI: 2·78–3·49). When the anxiety disorders were considered separately, there were marginally significant differences in the proportions who were non-disabled ($P = 0{\cdot}05$); panic disorder, 13%; generalized anxiety disorder 13%; obsessive–compulsive disorder 27%; social phobia 18%; post-traumatic stress disorder 21%.

Comparison of disabled and non-disabled cases

The cases with and without disability from ICD-10 anxiety disorders, according to the four questions, are compared in Table 1. The values for DSM-IV cases are given in italics. Also shown are the mean scores for persons without

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anxiety disorders (last column). Cases and non-cases differed significantly on all variables. Cases with no disability, however, had mean GHQ-12, Kessler–Mroczek, neuroticism and life satisfaction scores indicating less psychological distress than the disabled cases. They were more often in employment and were much less likely to have consulted a family physician for anxiety symptoms in the previous 4 weeks.

Depressive disorders

ICD-10

There were 477 persons who met ICD-10 criteria for a depressive disorder in the previous month, a weighted prevalence of 3·81% (95% CI: 3·42–4·19). Of these, 201 reported on the two questions specific to depression that they had had no disability arising from their symptoms, with not even one day of partly impaired social role functioning. But there were 131 of these who reported some impairment on the two SF-12 items. That is, 70 cases (14·7%) of ICD-10 depressive disorder reported no disability on any of the four questions. This is a weighted prevalence of 0·60% (95% CI: 0·44–0·77) so that the 1-month prevalence of persons with depressive disorders associated with disability drops from 3·81 to 3·30%. If dysthymia were to be regarded as less severe than a depressive episode, it could be expected that there would be less disability among the cases of dysthymia. This was not found to be the case, since 9% of current dysthymia cases were free of disability compared with 18% of cases with a depressive episode, a non-significant difference ($P = 0·09$).

DSM-IV

There were 454 persons who met DSM-IV criteria for a depressive disorder in the previous month, a weighted prevalence of 3·57% (95% CI: 3·20–3·94). Of these, 186 reported on the two questions specific to depression that they had had no disability arising from their symptoms, with not even one day of partly impaired social role functioning. But there were 123 of these who reported some impairment on the two SF-12 items. That is, 63 cases (13·9%) of DSM-IV depressive disorder reported no disability on any of the four questions. This is a weighted prevalence of 0·51% (95% CI: 0·37–0·66), so that the 1-month prevalence of persons with depressive disorders associated with disability drops from 3·57% to 3·05%. If depressive episodes and dysthymia are considered separately, there is no significant difference in the proportions without disability.

Comparison of disabled and non-disabled cases

The cases with and without disability from ICD-10 depression, according to the four questions, are compared in Table 2. The values for DSM-IV cases are again shown in italics. Although both disabled and non-disabled cases differed significantly from non-cases on all variables, cases without disability differed from the disabled cases on the mean GHQ-12 and Kessler–Mrozcek scores, had better physical health and were much less likely to have consulted a family physician for depressive symptoms in the previous month. Unlike the anxiety cases, however, they did not differ on their level of employment, and differed little on the neuroticism scale or in their level of life satisfaction. Considering both diagnostic groups, there were 25% cases of ICD-10 anxiety and 14% of ICD-10 depressive disorder who had no distress on the GHQ-12.

DISCUSSION

Limitations

First, there is a distinct possibility that the 22% of persons who were not interviewed, or who did not complete the interview, may have differed systematically from the rest of the sample (Kessler *et al.* 1995). This would become particularly relevant if those not interviewed differed in the ratio of disabled to non-disabled cases of anxiety or depression. It is not possible to determine if such bias is indeed present. Secondly, there is a reciprocal situation where those who were successfully interviewed may have included chronic cases who happened to be having a good month with less disability than usual. Again, the data do not allow this to be explored. Thirdly, the reliability of the CIDI is now fairly securely established (Wittchen *et al.* 1989, 1991; Wittchen & Essau, 1993; Wittchen, 1994), but its validity in general population surveys in contrast to clinical samples remains incompletely assessed, despite its wide usage internationally. An issue of particular relevance to validity is the capacity of the CIDI-A to determine the amount of personal distress caused

by symptoms. Fourthly, it could be alleged that the reliability and validity of the symptom-specific questions about disability are themselves not well established. Some investigators may prefer not to restrict the SF-12 disability items to the two used here, which are those considered by the respondent as attributable to psychological problems. We chose to use only the two specific items to reduce the likelihood of confounding by other conditions.

Cases and disability

Twenty-eight per cent of ICD-10 cases of anxiety and 15% of depression report having no disability on two separate measures made at different points in the interview. For DSM-IV, the values are 20 and 14% respectively. By either set of criteria, these are substantial proportions and carry both administrative and methodological implications. The non-disabled cases are statistically significantly less symptomatic according to the GHQ-12 and Kessler–Mroczek scores. If the disability component of the clinical significance criterion were to be applied for administrative purposes, the 1-month prevalence by ICD-10 drops from 5·7 to 4·0% for anxiety disorders and from 3·8 to 3·3% for depression. The respective values for DSM-IV are from 3·9 to 3·1% for anxiety disorders and from 3·6 to 3·1% for depressive disorders. It should be noted that the criterion for being disabled in the present analysis was deliberately made less stringent than for being non-disabled. Raising the threshold for disability would further reduce these prevalence estimates.

The study demonstrates that the general population contains people who reach case level in symptoms of anxiety or depression in a large scale survey, but who report having little or no functional impairment. The following interpretations are offered.

1 The diagnostic criteria in ICD-10 and DSM-IV, including the clinical significance criterion in the latter, may not adequately determine severity. In the present data, the non-disabled are found to meet ICD-10 or DSM-IV criteria, but they may be milder cases. Indeed, the non-disabled do have fewer psychological symptoms on both the GHQ-12 and Kessler–Mroczek scales. For those with anxiety disorders, the non-disabled are more likely to be employed, are lower in the trait of neuroticism, and are more satisfied with their lives. Both the anxiety and depression non-disabled are much less likely to have consulted a physician in the previous month, which is congruent with their having had less subjective distress from their symptoms.

2 A related issue concerns not the diagnostic criteria, but the performance of the CIDI or CIDI-A in the field. It is possible that such fully-scripted instruments in the hands of lay interviewers lead to false positives because they do not allow the use of additional questions to confirm or reject the presence of clinically significant symptoms, as is done in the Schedule for Clinical Assessment in Neuropsychiatry (Wing *et al.* 1990). There, as in the original Present State Examination (Wing *et al.* 1974, page 142), the trained interviewer can rate a symptom as present only if it is beyond conscious control, is out of proportion to the circumstances, and is accompanied by an unpleasant affect. The criteria in ICD-10 and DSM-IV may be satisfactory in their own right, but inadequately operationalized in the text of the CIDI stems. As Brugha *et al.* (1999*a*, *b*) have emphasized, in such instruments there is no opportunity for clinical evaluation of responses before a symptom is coded present or absent. They found that a fully structured interview, the CIS-R (Lewis *et al.* 1992) produced a mean depression score of 4·6, in contrast to only 1·8 on the SCAN. This difference was completely eliminated when they scored as zero any depression symptom in respondents who had no 'overall impairment' in functioning. This finding is congruent with our own, although contrary to the findings of Kessler *et al.* (1998) for the CIDI.

3 A third interpretation is that symptoms, distress and disablement do not increase *pari passu*. Indeed, it is notable that there were 25% cases of ICD-10 anxiety and 14% of ICD-10 depressive disorder who had no distress on the GHQ-12. For the majority of non-disabled cases, however, it is possible that they do have distressing symptoms but also have personality resources that enable them to continue to function. This is not a new proposition. Mayo (1969) and Foulds & Bedford (1977) began to investigate what they called 'non-complaining neurotics'. It could be proposed that the non-disabled cases identified here were less emotionally reactive in personality or more stoical, and

thereby less likely to be either distressed or disabled by a given level of symptoms. This implies that in the general population, there may be significant numbers of highly symptomatic persons who tolerate their symptoms, who continue to function and who are not high consumers of services for their mental health. This is similar to the observation of Bebbington *et al*. (2000) that two-thirds of persons in the highest symptom group in the UK National Survey reported having no difficulties with everyday activities. The UK and Australian findings together carry considerable significance and call for explanation. A complementary interpretation is that the non-disabled cases were able to function because of psychotropic medication. The national survey did not include data on this.

The present study shows that when the ICD-10 and DSM-IV criteria are applied to interview data obtained by the CIDI-A, the latter identifies both people who are and are not disabled by their case-level symptoms. Whether the non-disabled should, nevertheless, be accepted as cases may depend on the purpose in hand. The distinction is of importance for deciding on allocation of resources for some form of intervention. Kessler (2000, pp. 59–84) has argued that 'There is no necessary relationship between level of need and appropriateness of intervention'. Instead, an intervention should be considered appropriate if, and only if, its expected benefits clearly exceed the sum of its direct costs and expected risks (Brook *et al*. 1986). In this economic framework, which is unfamiliar to the clinician, the level of current disability is relegated to a subsidiary position.

Despite such arguments, it is highly desirable to have a clearer understanding of the psychiatric morbidity found in population surveys. The inclusion of non-disabled cases, if this is not wanted, could be overcome by stiffening the criteria, as proposed by Spitzer & Wakefield (1999) for DSM-IV. But even if such stricter criteria were developed, there are remaining concerns about the validity of the information on symptoms obtained by the CIDI and other fully-scripted interviews in population surveys (Brugha *et al*. 1999*a*, *b*). Meanwhile, we suggest that the quest for criteria to dichotomize a population crudely into cases and non-cases should be complemented by a dimensional strategy in which both symptoms and disability are measured as continua. The measures of symptoms, moreover, should be clinically meaningful. Where the cut-offs are placed will then be determined by the purpose of the study.

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