Soc Psychiatry Psychiatr Epidemiol (1999) 34: 53–59

ORIGINAL PAPER

I. Sandanger · T. Moum · G. Ingebrigtsen · T. Sørensen
O.S. Dalgard · D. Bruusgaard

The meaning and significance of caseness: the Hopkins Symptom Checklist-25 and the Composite International Diagnostic Interview II

Accepted: 4 June 1998

Abstract In previous analyses of data from the present general population study we found that screening of anxiety and depression symptoms by the Hopkins Symptom Checklist-25 (HSCL-25) and diagnostic classification by the Composite International Diagnostic Interview (CIDI) identified the same amount of cases, but agreed in only half of them. In this paper we compared and validated the screening cases with the classificatory cases by the use of medication, loss of functioning and help seeking (illness indicators). We thought that the CIDI cases would have more illness indicators, because they reflected diagnoses, ''true illness'', in contrast to the HSCL-25, which was a more unspecific measure of distress. The HSCL-25 and the illness indicators data were collected in a stage I random individual population sample above 18 years during 1989–1991 ($N = 1879$, response rate 74%), the CIDI data were collected in a selected stage II, ($N = 606$, response rate 77%). The stage II data were weighted to represent the population sample. Screening cases by the HSCL-25 had significantly more illness indicators than diagnostic cases by the CIDI. Cases agreed upon with both instruments had the most illness indicators, cases agreed upon only by the CIDI had the least. Diagnoses give information about help eventually needed, the HSCL-25 distress measure expresses more the urgency with which it is needed. The choice between the HSCL-25 and the CIDI would depend on the aim and the resources of the study. If evaluation of needs is involved, using an instrument picking up both classification and distress would be the best choice. Given our positive experience with interviewing with the CIDI, a CIDI improved to be more sensitive to how much distress a certain diagnosis exerts on the individual would be a good choice.

I. Sandanger (✉) · D. Bruusgaard
Institute of General Practice and Community Medicine,
Department of Social Insurance Medicine,
University of Oslo, PO 1130 Blindern
0317 Oslo, Norway

T. Moum
Department of Behavioural Sciences in Medicine,
University of Oslo, PO 1110 Blindern
0317 Oslo, Norway

G. Ingebrigtsen
Psychiatric Centre,
Lofoten Hospital,
Nordland County, 8372 Gravdal
Norway

T. Sørensen
Psychiatric Institute,
University of Oslo, Ullevål Hospital
0407 Oslo, Norway

O.S. Dalgard
National Institute of Public Health, PO 4404 Torshov
0403 Oslo,
Norway

Introduction

We previously found that screening and diagnostic procedures identified the same number of cases, but agreed in only half of them (Sandanger et al. 1998). This comparison was done using the Hopkins Symptom Checklist 25 (HSCL-25) as the screener (Derogatis et al. 1974; Hesbacher et al. 1980) and the Composite International Diagnostic Interview (CIDI) to assess diagnoses (Robins et al. 1988, 1994). Our aim was to find which of the two methods was best for identification of cases in an epidemiological population study. Because epidemiology is used for the planning of health services and health insurance budgets, a ''case'' implies a demand of resources in terms of professionals and money. Number of population cases compared to persons in treatment has been used to estimate undermet and overmet needs of services (Kessler et al. 1994; Lin et al. 1997), but do all cases need help? We tried to validate the HSCL-25 and the CIDI by use of medication, loss of functioning and help seeking, considering these variables as supplementary illness indicators. Use of medication was chosen because statistics of the prescription and use of medicines have been used to estimate the health status

of a population (Øydvin 1996). Reduction in functioning was chosen because a World Health Organization expert committee in psychiatry (WHO 1960) proposed that "a 'case' be defined as a manifest disturbance of mental functioning... severe enough to cause loss of working or social capacity..." and because The Diagnostic and Statistical Manual of Mental Disorder, DSM-III, has incorporated a separate axis (axis V) for global assessment of functioning (American Psychiatric Association 1980). Help seeking is a complex process (Goldberg and Huxley 1980), but highly associated with psychiatric illness, which is why it was included.

In the CIDI, symptoms are probed with the following questions before they are accepted as sufficiently important:

1. Did you tell a doctor about (actual symptom)?
2. Did you tell any other professional about (actual symptom)?
3. Did you take medication more than once for (actual symptom)?
4. Did (actual symptom) interfere with your life or activities a lot?

Once one probing question receives a positive response, the other questions are omitted.

The HSCL-25 is known to reflect unspecified distress and adjustment to somatic illness (Tousignant et al. 1974; Sandanger 1993) or difficult life conditions (Salkind 1976), as well as psychiatric diagnoses. Some of the HSCL-25 symptoms (faintness, dizziness, weakness, heart pounding or racing, trembling, headaches, feeling low in energy, slowed down, loss of sexual interest or pleasure, poor appetite, difficulty falling asleep/staying asleep, feeling everything is an effort) could be interpreted as somatic symptoms or symptoms derived from somatic illness.

We expected that the CIDI cases would represent a more severe or "true" psychiatric illness. Based on the lack of specificity of the HSCL-25 and the efforts of the CIDI to include only significant symptoms, our hypothesis was that having a diagnosis by the CIDI would be more closely associated with medication, reduction in functioning and help seeking (illness indicators) than being a HSCL-25 case

Methods

Sample: response rate and design

The data were collected in two random individual population samples, in two sites in Norway during 1989–1991, using structured face-to-face interviews and pencil-and-paper schemas. Stage I covered somatic illness, medication, help seeking, functioning, psychosocial risk factors and a self-administered version of the HSCL-25 with the interviewer present. Stage II covered ICD-10 diagnoses by the CIDI and was done on average 11.5 months later. We approached a random sample of 3656 individuals (aged 18 years or more), drawn by the Central Bureau of Statistics. Of these, 929 persons were eliminated because they were deceased, had moved or were impossible to locate after at least 12 attempts. Personal contact was obtained with 2727 individuals, of whom 2015 were personally interviewed, giving a response rate of 74% at stage I. The gender and age composition of the sample was very similar to the population from which they were drawn. Persons with language problems were given an abbreviated form of the interview at stage I, giving $N = 1879$ with full data sets. Respondents with abbreviated interviews were not included in stage II.

An HSCL-25 score equal to or greater than 1.55 at stage I was considered to indicate "a possible psychiatric case" (Rickels et al. 1976; Murphy 1981) and used as the selection criterion for stage II. In addition, a random sample of those with lower HSCL-25 scores was selected. Of the 797 persons in the new sample, 617 responded (415 with an HSCL-25 score of 1.55 or more, and 202 who scored below). Thus, 30% of the original interview population received the CIDI. Eleven persons in the stage II sample were excluded in the analyses in this article because of missing data.

Dependent variables: illness indicators

Use of medication

Information was recorded about use of (1) sedatives/hypnotics and (2) analgesics at least once a week during the last month before the interview. Yes/no.

Reduced functioning

The questions were directed to present health in general and read: "Do health problems interfere with doing paid work?" and "Do health problems interfere with your leisure time activities or your hobbies?" Yes/no.

Help-seeking

Provided that the respondent reported having ever talked to a doctor about nervousness, personal problems or related topics, seeing (1) any doctor or (2) a general practitioner during the last year was recorded. Yes/no. Seeing (3) a psychologist/psychiatrist or (4) a person practising "alternative medicine" during the last year was also recorded. Yes/no.

Independent variables

The HSCL-25 score was based on pencil-and-paper self-report of 25 questions about the presence and intensity of anxiety and depression symptoms over the last week. Symptoms could also be interpreted as somatoform or somatic. They were scored on a scale from "1" (not bothered) to "4" (extremely bothered). The HSCL-25 score was calculated as the sum score of items divided by number of items answered. A score equal to or larger than 1.75 was defined a "case" (Winokur et al. 1984).

The CIDI version 1.0 focused first on lifetime ever symptoms and then asked for onset and recency of symptoms. This allowed us to know which diagnoses were present at the time of the stage I Interview. After probing answers by questions about seeking professional help, taking medication and loss of functioning, the CIDI ruled out symptoms caused by drugs, medication, alcohol or somatic illness. The probed symptoms were put together to give diagnoses according to the ICD-10 criteria by data algorithms. Exclusion criteria were used according to the diagnostic hierarchy. The CIDI results were summarised in four diagnostic categories according to the ICD-10 Diagnostic Criteria for Research Diagnoses (WHO 1989): (1) depression (F31.3–F34.1), (2) panic and generalised anxiety disorders (F41.0–F41.8), (3) phobias (F40.0–F40.2) and (4) somatoform disorders (F44–F45.4). The phobias were separated from the other anxiety disorders because the planned avoidance of phobic situations can prevent phobic attacks and anxiety, in contradiction to panic attacks.

Concordant cases/noncases were defined by agreement between the CIDI and the HSCL-25 on the caseness status of the individual. Discordant cases were cases according to only one of the case definitions.
Age was used as a continuous variable.
Somatic illness was recorded as a yes/no variable from a list containing 25 major somatic illness categories and an open category, with "yes" being the appropriate response only if the illness had affected activities or work "quite a bit" or "very much" in the preceding year.

Statistical methods

The stage II data were adjusted for the sampling by probability weights from the sampling procedure (HSCL-25 ≥ 1.55 or < 1.55, and site rural or urban) to reflect the population sample (StatCorp 1997). The associations between HSCL-25 cases or CIDI cases and the sum of illness indicators, adjusted for gender, age and somatic illness, were estimated with linear regressions. Changes in odds ratios for each illness indicator when adjusting caseness for somatic illness, gender and age were tested with blockwise logistic regressions. Somatic illness was adjusted for because of the possibility that symptoms scored on the HSCL-25 represented somatic illness. Adjustment for gender was done because women are known to visit doctors more often than men (Kessler 1986), and to use more medication (Tellnes et al. 1986). Adjustment for age was done because seeing doctors more often in older age follows an age-induced increase in health problems. Interactions between either HSCL-25 cases or CIDI cases and somatic illness with regard to illness indicators were tested with cross-tables and multiplicative interaction terms in a separate last step of linear and logistic regressions. Significance testing was done by chi-square statistics and 95% confidence intervals. The statistical analyses were performed with the Stata Statistical Software, Release 5.0 (StatCorp).

Results

The distribution of the sample is given in Table 1. Counting the number of different illness indicators, the mean number for HSCL-25 cases was 2.4 (range 2.2–2.6), significantly higher than the mean for CIDI cases, 1.9 (range 1.6–2.2). This difference was partly due to lower illness indicators in the phobias and the somatoform disorders. The tendency was that the HSCL-25 cases used more sedatives and more analgesics, and reported more reduction in work and leisure-time functioning. The HSCL-25 non-cases and the CIDI non-cases were quite similar (Table 2).

Table 1 Gender and age distribution of the samples ($N = 2015$ for stage I, $N = 606$ for stage II)

	Men Stage I 47% Stage II 41%	Women Stage I 53% Stage II 59%
18–34 years	36% 27%	40% 36%
35–49 years	30% 33%	28% 29%
50–66 years	19% 21%	17% 20%
67+ years	15% 19%	15% 15%
	100% 100%	100% 100%

Adjusting the associations between HSCL-25 or CIDI caseness and illness indicators for somatic illness, age and gender made them more equal. The adjustments made the probability for illness indicators from the HSCL-25 cases smaller and from the CIDI cases larger. The change in effect of the HSCL-25 caseness was mainly due to the adjustment for somatic illness, the change in effect of the CIDI caseness was mainly due to the adjustment for age.

Interaction between having a somatic illness and being an HSCL-25 case or a CIDI case was found only for the use of analgesics. This meant that persons having both a somatic and a psychiatric illness used more analgesics than would be the case if one simply added the effects of each of the two cases.

Comparing each diagnosis with the HSCL-25 caseness, depression corresponded most with the HSCL-25, followed by panic and generalised anxiety disorder. Using sedatives occurred most often in panic and generalised anxiety disorder, loss of functioning most often in HSCL-25 cases and depression.

Concordant cases showed highest association with the sum of illness indicators, followed by discordant HSCL-25 cases and discordant CIDI cases, all significantly higher than concordant non-cases. When compared with regard to the percentage using each illness indicator, the discordant CIDI cases were not significantly higher than concordant non-cases. In concordant cases, adjusting for somatic illness, gender and age reduced the probability for all illness indicators, except using sedatives. The reduction was less in the discordant HSCL-25 cases, except for seeing a specialist. In discordant CIDI cases, adjustment increased the probability for illness signs slightly (Table 3). Unadjusted and adjusted odds ratios were not statistically significantly different for any type of case.

Discussion

Method

As a self-administered instrument the HSCL-25 is short and economical, but could easily be subject to mood-of-the-day effects (Moum 1988) as well as other response sets such as "yea saying" and "nay saying" (Couch and Keniston 1960; Gove and Geerken 1977; Linden et al. 1986). Social desirability response bias (Ross and Mirowsky 1984) is perhaps more pronounced in face-to-face interviews and could influence the CIDI respondent to deny or confirm symptoms, depending on the relation to the interviewer and the interview setting (Riessman and Kohler 1979). The CIDI functioned very well in the interview situation and was highly tolerated. Any doubt about correct understanding and response to the independent variable questions would apply to both types of cases and would not disturb the comparison of illness

Table 2 Relation of caseness by the Hopkins Symptom Checklist 25 (HSCL-25) and diagnostic classification by the Composite International Diagnostic Interview (CIDI)[a] to use of medication, reported reduction of functioning and help seeking: crude (unadjusted) odds ratios (OR) for illness behaviour and ORs adjusted for somatic illness, gender and age (*MD* doctor, *GP* general practitioner)

	Using sedatives (n = 166)	Using analgesics (n = 216)	Reporting reduced work functioning (n = 162)	Reporting reduced leisure functioning (n = 80)	Seeing any MD (n = 812)	Seeing a GP (n = 684)	Seeing specialist (n = 68)	Seeking alternative treatment (n = 224)
HSCL-25 caseness (N = 1879)								
Yes (n = 151)	29% (24–35%)	26% (21–31%)	23% (18–28%)	13% (9–17%)	66% (60–72%)	58% (52–64%)	10% (6–13%)	18% (13–22%)
No	5% (4–6%)	9% (8–11%)	6% (5–8%)	3% (2–4%)	40% (37–42%)	33% (31–35%)	3% (2–3%)	11% (9–12%)
Unadjusted OR	7.3 (5.2–10.2)	3.5 (2.6–4.9)	4.3 (3.0–6.0)	5.5 (3.4–8.6)	3.0 (2.3–3.9)	2.8 (2.1–3.6)	4.1 (2.5–6.7)	1.8 (1.3–2.5)
Adjusted OR	6.3 (4.3–9.2)	2.2 (1.6–3.1)	3.0 (2.0–4.4)	3.3 (2.0–5.4)	2.3 (1.8–3.1)	2.1 (1.6–2.7)	4.4 (2.6–7.6)	1.3 (0.9–1.9)
CIDI diagnostic status (N = 606)								
Yes (n = 177)	15%* (10–18%)	21% (13–30%)	12% (7–18%)	9% (4–14%)	63% (52–73%)	54% (44–66%)	7%* (2–14%)	12% (6–17%)
No	8% (5–10%)	9% (6–12%)	7% (4–10%)	4% (2–6%)	43% (37–49%)	36% (31–42%)	1% (1–2%)	8% (5–12%)
Unadjusted OR	2.11 (1.2–3.6)	2.8 (1.5–5.2)	2.0 (1.1–3.6)	2.3 (1.1–5.9)	2.2 (1.3–3.7)	2.1 (1.3–3.4)	6.8 (2.5–18.3)	1.5 (1–3)
Adjusted OR	3.1 (1.7–5.6)	2.4 (1.2–4.8)	2.5 (1.2–5.0)	3.2 (1.3–7.9)	2.4 (1.4–4.1)	2.3 (1.4–4.0)	5.6 (2.1–15.1)	1.2 (1–3)
Depression								
Yes (n = 44)	27% (12–41%)	25% (6–43%)	19% (7–31%)	12% (3–21%)	70%* (52–89%)	70% (52–89%)	16% (0–34%)	10% (2–18%)
No	8% (6–11%)	11% (8–14%)	8% (5–10%)	5% (3–7%)	46% (41–52%)	39% (34–44%)	2% (1–3%)	9% (6–12%)
Unadjusted OR	4.1 (1.9–8.8)	2.7 (1.0–7.3)	2.8 (1.2–6.5)	2.6 (1.1–6.6)	2.8 (1.1–6.6)	3.7 (1.5–9.0)	10.1 (2.5–40.4)	1.1 (0–3)
Adjusted OR	5.7 (2.6–12.5)	2.1 (0.6–7.5)	3.5 (1.4–8.6)	3.0 (1.1–8.6)	2.7 (1.1–6.9)	3.9 (1.5–10.0)	7.8 (1.8–32.9)	0.8 (0–2)
Panic gen. anxiety								
Yes (n = 83)	39% (20–59%)	28% (6–49%)	16% (4–28%)	6% (0–13%)	67% (44–91%)	60% (38–81%)	24%* (2–46%)	12% (2–21%)
No	8% (6–10%)	11% (8–14%)	8% (6–10%)	5% (3–7%)	47% (41–52%)	40% (35–45%)	2% (1–3%)	9% (6–12%)
Unadjusted OR	7.5 (3.3–17.0)	3.2 (1.1–9.2)	2.2 (0.9–5.4)	1.2 (0.3–4.1)	2.4 (0.8–6.6)	2.2 (0.9–5.5)	17.4 (4.7–64.4)	1.3 (0.5–3.6)
Adjusted OR	11.0 (4.9–24.6)	2.6 (0.7–10.2)	2.3 (0.9–5.8)	1.0 (0.3–3.8)	2.3 (0.8–6.1)	2.2 (0.9–5.1)	14.9 (4.0–55.3)	1.1 (0.4–2.8)
Phobia								
Yes (n = 78)	12% (6–19%)	19% (8–30%)	11% (5–17%)	8% (3–13%)	66% (52–81%)	59%* (44–75%)	5% (2–10%)	11% (3–18%)
No	9% (6–11%)	11% (8–14%)	8% (5–10%)	5% (3–7%)	45% (40–51%)	38% (33–44%)	2% (1–4%)	9% (6–12%)
Unadjusted OR	1.4 (0.8–2.8)	2.0 (0.9–4.2)	1.4 (0.7–2.8)	1.7 (0.8–3.8)	2.4 (1.2–4.8)	2.4 (1.2–4.6)	2.5 (0.9–7.0)	1.3 (0.5–3.0)
Adjusted OR	1.7 (0.9–2.3)	1.5 (0.6–4.1)	1.3 (0.6–2.9)	1.8 (0.7–4.2)	2.4 (1.2–4.9)	2.5 (1.3–4.8)	2.2 (0.8–6.1)	1.1 (0.5–2.6)
Somatoform disorder								
Yes (n = 45)	14% (6–23%)	26%* (12–40%)	13% (4–23%)	13% (4–22%)	62% (46–78%)	48% (32–64%)	6% (0–15%)	17% (6–28%)
No	9% (6–11%)	10% (7–13%)	8% (5–10%)	4% (3–6%)	45% (40–51%)	40% (34–45%)	2% (1–3%)	8% (5–11%)
Unadjusted OR	1.8 (0.9–3.7)	3.3 (1.5–7.1)	1.9 (0.8–4.4)	3.2 (1.3–8.0)	1.9 (0.9–4.0)	1.4 (0.7–2.7)	3.1 (0.7–14.2)	2.3 (1.0–5.5)
Adjusted OR	2.8 (1.3–6.1)	2.9 (1.2–7.3)	2.4 (1.0–6.2)	4.9 (1.8–13.9)	2.1 (1.0–4.5)	1.5 (0.7–3.2)	2.4 (0.5–11.3)	1.9 (0.8–4.6)

*$P < 0.05$

[a] CIDI results are adjusted for sampling procedure to represent the population sample

Table 3 Percentage of concordant and discordant cases ($N = 606$) using medication, reporting reduction of functioning and help seeking. Crude ORs and ORs adjusted for somatic illness, gender and age[a]. Results adjusted for sampling procedure to represent the population sample

	Sedatives ($n = 104$)	Analgesics ($n = 103$)	Reduced work functioning ($n = 81$)	Reduced leisure functioning ($n = 51$)	Seeing any MD ($n = 330$)	Seeing a GP ($n = 286$)	Seeing specialist ($n = 26$)	Seeking alternative treatment ($n = 66$)
Concordant cases ($n = 93$)	41% (31–51%)	26% (17–35%)	27% (18–36%)	20% (11–28%)	74% (65–83%)	68% (58–78%)	12% (5–19%)	23% (14–31%)
Unadjusted OR	11.8 (6.1–22.8)	4.8 (2.5–9.5)	6.3 (3.2–12.6)	7.4 (3.1–17.6)	4.1 (2.4–7.0)	4.0 (2.3–6.7)	32.9 (10.2–106.5)	3.5 (1.7–7.3)
Adjusted OR	19.0* (7.9–46.0)	2.4 (1.0–5.4)	5.7 (2.3–13.9)	6.6 (2.2–19.6)	3.6* (2.0–6.5)	3.6* (2.0–6.5)	26.8 (6.4–112.5)	2.7 (1.3–5.5)
Discordant CIDI cases ($n = 84$)	4% (0–8%)	19%** (8–30%)	7% (1–13%)	5% (0–10%)	58% (44–72%)	49% (35–65%)	6% (0–13%)	7% (0–14%)
Unadjusted OR	0.7 (0.2–2.4)	3.3 (1.4–7.5)	1.2 (0.4–3.6)	1.5 (0.4–6.1)	2.0 (1.1–3.7)	1.9 (1.0–3.4)	14.7 (2.6–82.8)	0.9 (0.3–2.9)
Adjusted OR	1.3 (0.4–4.5)	3.1 (1.2–8.0)	1.8 (0.5–6.1)	2.6 (0.5–12.4)	2.4 (1.2–4.6)	2.3 (1.2–4.6)	11.4 (2.3–55.8)	0.8 (0.2–2.4)
Discordant HSCL cases ($n = 127$)	24% (17–32%)	24% (16–31%)	18% (11-25%)	11% (6–17%)	58% (49–67%)	51% (42–60%)	8% (3–12%)	12% (6–18%)
Unadjusted OR	5.5 (2.9–10.6)	4.3 (2.3–8.1)	3.6 (1.8–7.3)	3.9 (1.6–9.5)	2.0 (1.3–3.1)	2.0 (1.2–3.1)	20.0 (6.0–66.4)	1.6 (0.8–3.5)
Adjusted OR	5.2 (2.5–11.0)	2.8 (1.4–5.9)	2.4 (1.1–5.6)	2.3 (0.9–6.1)	1.6 (0.9–2.2)	1.5 (0.9–2.6)	23.0 (5.0–105.3)	1.5 (0.7–3.1)
Concordant non-cases ($n = 302$) (reference group)	6% (3–8%)	7% (4–10%)	6% (3–8%)	3% (1–5%)	41% (34–48%)	35% (28–41%)	0.4% (0–1%)	8% (4–11%)

*$P < 0.05$ between concordant cases and discordant HSCL-25 cases; **$P < 0.05$ between discordant CIDI cases and concordant non-cases

[a] ORs given with reference to concordant non-cases

indicators between the two. The question about how well the chosen illness indicators evaluated the meaning and significance of the cases would also apply to both types and not disturb the comparison.

We had feared a certain circularity between the probe flow chart questions and the illness indicators, which could give high correlations between the CIDI and the illness indicators. This was nor apparent. Most people in Norway see the doctor during the course of a year, and they frequently mention personal problems. To talk to a doctor may therefore not be a good discriminating question for the severity of a psychological symptom, considering the low specificity of the question. Seeing a specialist was not a good probing question either, because of the low availability of specialists. Use of medication, reduced functioning and help seeking functioned as indicators of illness for the group of psychiatric cases as a whole, but not as characteristics of the individual case. The illness indicators in question develop through an adaptive process. They depend on the availability of the health services, on work characteristics (Mechanic 1995), on cultural, legal and structural factors (Angel and Thoits 1987; Gater et al. 1991) and on social network (Hammer 1963; McKinley 1973; Sørensen 1981).

Results

The significantly stronger association between the sum of illness indicators and the HSCL-25 was in favour of the HSCL-25 as a case finder. The difference between the HSCL-25 and the CIDI lay largely in the HSCL-25's ability to pick up symptoms related to somatic illness. However, somatic illness is itself a cause of nervous problems (Romano and Turner 1985). The effect in those HSCL-25 cases possibly caused by somatic illness was therefore taken away when adjustment for somatic illness was made, with the result that the odds ratios for the illness indicators became too small, overadjusted. Depression and panic and generalised anxiety disorder behaved more like HSCL-25 cases than phobia and somatoform disorder. This was in agreement with earlier findings that the HSCL-25 predicted depression best among these diagnoses followed by panic and generalised anxiety disorder. (Sandanger et al. 1998).

The stronger probability for illness indicators among concordant cases and discordant HSCL-25 cases than among discordant CIDI cases raised the question about which dimensions in psychiatric disorders do each of the instruments pick up. Comparing the effects of the adjustment on concordant cases and discordant CIDI cases, it was obvious that the change in effect took place mostly in the HSCL-25 dimension of the concordant cases. We knew from previous analyses that concordant cases had more than four times the comorbidity between the presently studied psychiatric disorders than the discordant CIDI cases, and that discordant CIDI cases were younger than concordant cases (Sandanger et al. 1998). Also, persons with somatic illness were more

likely to be both HSCL-25 and CIDI cases (Sandanger 1993). It seemed to us that the HSCL-25 had a dimension more sensitive than the CIDI to pain, distress or impairment.

It was surprising to us that any type of case showed so little reduction in functioning. This is, however, in agreement with a much lower cumulative incidence of sickness certification than prevalence for the actual psychiatric disorders, as shown by the registers of the Norwegian National Insurance Administration (Sandanger et al. 1997).

Screener versus classification

Which shall it be: How much of it has the subject got? or Has the subject got it? For this discussion, the HSCL-25 (screener score) and the CIDI (criteria based classification) can serve as examples of the two methods. The validity of psychiatric diagnoses in clinical settings are not merely based on criteriological data, but also on phenomenological information through the process between doctor and patient, information from relatives or the hospital ward and through observations over time (Kraus 1994). Because of the selection mechanisms that lead a person into treatment, persons diagnosed in a clinical setting will have a high need of services and resources. In population studies information is limited to admitted symptoms at one point in time and eventual probing of the significance of these. Planning and administration of the mental health services requires epidemiological data that is of the quality of information from a clinical setting, but that can be acquired by an epidemiological instrument that is sensitive, specific, short, economical and tolerable to the respondents. We would like the CIDI to be improved in such a way that it becomes more sensitive to how much psychological pain and distress people feel, or alternatively the CIDI could be used in combination with an instrument for distress. The importance of classification for treatment, duration and prognosis is obvious, but the perceived suffering of the individual is probably a strong incentive for seeking help and indication of needing help.

Conclusion

The hypothesis that the CIDI would identify psychiatric cases with more illness behaviour than the HSCL-25 was clearly not supported. The CIDI and the HSCL-25 behaved in a very similar manner, in particular for the diagnoses of depression and panic and generalised anxiety disorder. Concordant cases had the best prediction of illness indicators. CIDI, as a criteria-based classification of diagnoses, gives information about the type of psychiatric services eventually needed, while the HSCL-25, as a distress measure, expresses more the urgency with which it is needed. Using both classification and a measure of distress would be our preferred choice at the present.

References

American Psychiatric Association (1980) Diagnostic and Statistical Manual of Mental Disorder, 3rd edn. American Psychiatric Press, Washington, D.C.

Angel R, Thoits P (1987) The impact of culture on the cognitive structure of illness. Culture Med Psychiatry 11: 465–494

Couch A, Keniston K (1960) Yea sayers and nay sayers: agreeing response set as a personality variable. J Abnorm Soc Psychol 60: 151–174

Derogatis LR, Lipman RS, Rickels K, Uhlenluth EH, Covi L (1974) The Hopkins Symptom Checklist (HSCL): a selfreport symptom inventory. Behav Sci 19: 1–15

Gater R, de Almeida, de Sousa B, Barrientos G, Caraveo J, Chandrashekar CR, Dhadphale M, Goldberg D, al Kathiri AH, Mubashar M, Silhan K, et al (1991) The pathways to psychiatric care: a cross-cultural study. Psychol Med 3: 761–764

Goldberg DP, Huxley P (1980) Mental illness in the community. The pathway to psychiatric care. Tavistock, London

Gove WR, Geerken MR (1977) Response bias in surveys of mental health: an empirical investigation. Am J Sociol 82: 1289–1417

Hammer M (1963) Influence of small social networks as factors on mental hospital admission. Hum Organ 22: 243–251

Hesbacher PT, Rickels K, Morris RJ, Newman H, Rosenfeld H (1980) Psychiatric illness in family practice. J Clin Psychiatry 41: 6–10

Kessler R (1986) Sex differences in the use of health services. In: Mcltugh S, Vallis TM (eds) Illness behavior: a multidisciplinary model. Plenum, New York, pp 135–148

Kessler RC, McGonagle KA, Zhao S, Nelson CB, Hughes M, Eshleman S, Wittchen H-U, Kendler KS (1994) Lifetime and 12-month prevalence of DSM-III-R psychiatric disorders in the United States. Arch Gen Psychiatry 51: 8–19

Kraus A (1994) Phenomenological and criteriological diagnosis. Different or complementary? In: Sadler JZ, Wiggins OP, Schwartz MA (eds) Philosophical perspectives on psychiatric diagnostic classification. The Johns Hopkins University Press, Baltimore

Lin E, Goering PN, Lesage A, Streiner DL (1997) Epidemiologic assessment of overmet need in mental health care. Soc Psychiatry Psychiatr Epidemiol 32: 355–362

Linden W, Paulhus DL, Dobson KS (1986) Effects of response styles on the report of psychological and somatic distress. J Consult Clin Psychol 54: 309–313

McKinley JB (1973) Social networks, lay consultation and helpseeking behavior. Soc Forces 51: 279–292

Mechanic D (1995) Sociological dimensions of illness behavior. Soc Sci Med 9: 1207–1216

Moum T (1988) Yea-saying and mood-of-the-day effects in self-reported quality of life. Soc Indic Res 20: 117–139

Murphy JM, Monson RR, Olivier DC, Sobol AM, Leighton A (1987) Affective disorders and mortality. Arch Gen Psychiatry 44: 473–480

Murphy JM (1981) *Psychiatric instrument development for primary care*. (NIMH Contract No. 80M014280101D). Rockville, MD: Division of Biometry and Epidemiology

Øydvin K (1996) The use of medicaments in Norway 1991–1995. Norsk Medisinal Depot As, Oslo 1996. ISBN 82-90312-24-5.

Rickels K, Garcia CR, Lipman RS, Derogatis LR, Fisher EL (1976) The Hopkins Symptom Checklist: assessing emotional distress in obstetric-gynecological practice, Primary Care 3: 751–764

Riessman C, Kohler (1979) Interviewer effects in psychiatric epidemiology: a study of medical and lay interviewers and their impact in reported symptoms. Am J Public Health 69: 485–491

Robins LN, Wing JK, Wittchen H-U, Helzer JE, Babor TF, Burke J, Farmer A, Jablenski A, Pickens R, Regier DA, Sartorius N,

Towle LH (1988) The composite International Diagnostic Interview. Arch Gen Psychiatry 45: 1069–1077

Robins L, Wing JK, Wittchen H-U, Helzer JE, Babor TF, Burke J, Farmer A, Jablensky A, Pickens R, Regier DA, Sartorius N, Towle L (1994) The Composite International Diagnostic Interview. In: Mezzich JE, Jorge MR, Salloum IM (eds) Psychiatric epidemiology: assessments concepts and methods. Johns Hopkins University Press, Baltimore London

Romano JM, Turner JA (1985) Chronic pain and depression: does the evidence support a relationship? Psychol Bull 97: 18–34

Ross CE, Mirowsky J (1984) Socially-desirable response and acquiescence in a cross-cultural survey of mental health. J Health Soc Behav 25: 189–197

Salkind M (1976) The assessment of drugs in general practice. Br J Pharmacol 3 [Suppl i]: 69–72

Sandanger I (1993) The Composite International Diagnostic Interview for psychiatric diagnoses as an expounding instrument in the Norwegian Community Diagnosis Project: mental health and physical illness. Int J Methods Psychiatr Res 3: 137–142

Sandanger I, Nygård JF, Brage S, Tellnes G (1997) Prevalence of mental health problems and sickness certification with psychiatric diagnoses in the population. Sex differences. Report no 13508 in the project "Mental health problems and gender" (in Norwegian). Department of Social Affairs and Health, Institute of General Practice and Community Medicine, Department of Social Insurance Medicine, University of Oslo

Sandanger I, Moum T, Ingebrigtsen G, Dalgard OS, Sørensen T, Bruusgaard D (1998) Concordance between symptom screening and diagnostic procedure in an epidemiological survery. Cases by the Hopkins Symptom Checklist-25 and the Composite International Diagnostic Interview I. Soc Psychiatry Psychiatr Epidemiol (1998) 33: 345–354

StatCorp (1997) Stata Statistical Software release 5. Statistics, Data Management, Graphics. User's Guide. [U] 244–245

Sørensen T (1981) Social network (in Norwegian). Agrippa 3: 5–29

Tellnes G, Bjørndal A, Fugelli P (1986) Psychotropic drug-users and non-users in general practice. Scand J Primary Health Care 4: 131–135

Tousignant M, Denis G, Lachapelle R (1974) Some considerations concerning the validity and use of the health opinion survery. J Health Soc Behav 15: 241–252

Winokur A, Winokur DF, Rickels K, Cox DS (1984) Symptoms of emotional stress in family planning service: stability over a four-week period. Br J Psychiatry 144: 395–399

World Health Organization (1960) Epidemiology of mental disorders. WHO Technical Report Series no. 185. World Health Organization, Geneva

World Health Organization, Division of Mental Health (1989) ICD-10, chap V. Mental and behavioural disorders. Diagnostic criteria for research. (April 1989 draft for field trials). World Health Organization, Geneva