

How disabling is depression? Evidence from a primary care sample

THE COUNSELLING VERSUS ANTIDEPRESSANTS IN PRIMARY CARE STUDY GROUP

SUMMARY

Background. Major depression is an illness with a high prevalence and is most commonly seen and treated by general practitioners (GPs).

Aim. To determine the level of disability in depressed patients seen in a primary care setting, and to investigate whether the level of disability was associated with the severity of the depression.

Method. Prospective data collection, using the 36-item Shortened Form (SF-36), from the Medical Outcomes Study, as a measure of disability, and from the Beck Depression Inventory (BDI) in a sample of depressed patients recruited from a Counselling versus Antidepressant in Primary Care (CAPC) study in the Trent Region. All patients met the research diagnostic criteria for major depression.

Results. Two hundred and fifty patients were assessed. These patients reported high levels of disability compared both with published norms and with other chronic physical illnesses. Increases in disability were especially noticeable in the domains of the SF-36 that were specific to mental illness. There was a significant correlation between scores on the SF-36 and the BDI.

Conclusion. This study confirms that depressed patients in primary care report high levels of disability on the SF-36, and that the instrument is both specific to the domains expected to be affected by mental disorder and is sensitive to the severity of mood disturbance.

Keywords: depression; disability; SF-36; BDI.

Introduction

THE past decade has seen an increasing emphasis on patients' subjective reports of disability in addition to their symptomatic evaluation when assessing the impact of specific disorders. This has led to the development of a number of generic questionnaires to measure aspects of life affected by ill health. The Medical Outcomes Study Short-Form General Health Survey (SF-36)¹ is one such instrument for measuring disability, and encompasses four physical and four mental health domains. Scores on each of these eight SF-36 scales range from 0 to 100, with higher scores reflecting better health. This measure, having been widely employed in the United States (US), was adapted for use in Great Britain^{2,3} where norms have been published. The scale has been shown to have good reliability and validity,⁴

although adjustments have to be made for sex and social class.³ The SF-36 can be used for different purposes: to estimate the health of a population, to compare the impact on subjective well-being of different illnesses, and to measure the effect of treatment.

Studies carried out in the US using the SF-36 have established that depression is associated with a high degree of disability overall when compared with physical illnesses,⁵ and that this disability is greatest in the mental health domains of the SF-36.⁶ It has also been shown that there is a direct association between the severity of depression and the level of disability,⁶ and that improvement in mood is associated with a reduction in disability.⁷ Although the SF-36 has been used to assess several medical conditions in Britain, thus far no data have been published on depression.

Our study had two aims. First, to determine the level of disability as measured by the SF-36 in a sample of patients with depression seen in a primary care setting in Britain. Secondly, to replicate the association between the severity of depression and the level of disability found in previous investigations in the US.

Method

The sample

Patients were recruited into the study from a randomized controlled trial comparing the relative efficacy of antidepressants versus counselling for patients who had been identified by their family doctor as requiring treatment for major depression (The Counselling Versus Antidepressants in Primary Care [CAPC] Study). The process of selection was as follows. We identified all the family practices in the Trent Region of Britain and, from these, drew a random sample of 410 practices that were invited to participate in the study. Patients diagnosed as being depressed by their doctor, and who met the Research Diagnostic Criteria⁸ for major depression, were invited to participate in the trial. We excluded patients aged under 18 or over 70 years, and those who had either delusional depression, postnatal depression, other comorbid drug or alcohol dependency, or in whom there was a concern about suicide. As part of the study protocol, each patient was asked to complete the form of the SF-36 that had been adapted for Britain and used in previous studies.² Each patient also completed the Beck Depression Inventory⁹ (BDI) on entry into the study. Written consent was obtained from each subject and ethical permission was obtained from all relevant local ethics committees.

Statistical analysis

Pearson correlation coefficients were used to assess the relationships between the BDI score and each of the SF-36 domains. The BDI score was subdivided into three categories ≤ 20 , 21–30, and ≥ 31 , and associations with the eight domains of the SF-36 were investigated using one-way analysis of variance and a test for trend.

Results

From the initial random sample of 410 family practices in the Trent Region, 41 agreed to participate (10%), and, of these, 31

The CAPC Study Group comprised: C Duggan, Division of Psychiatry, University of Nottingham. C Chilvers, M Dewey, K Fielding, and V Gretton, Trent Institute for Health Services Research, B39 Medical School, Nottingham University Medical School, Queen's Medical Centre, Nottingham. R Churchill and I Williams, Division of General Practice, University of Nottingham Medical School, Queen's Medical Centre, Nottingham. G Harrison, Department of Psychiatry, University of Nottingham. A Lee and N Bedi, Division of Psychiatry, South Block, University Hospital, Nottingham.
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went on to enrol one or more patients to the study (7.5% of the total 410). The sample consisted of 190 women (76%) and 60 (24%) men, with a mean age overall of 37.4 (SD = 10.7) years with no significant difference between the women and the men (means = 37.5 [SD = 10.9] years and 37.1 [SD = 10.1] years respectively). The mean BDI score was 26.4 (SD = 7.9) for the sample overall, and the BDI scores for women and men were 27.1 (SD = 8.3) and 24.1 (SD = 7.9) respectively. Two-thirds of the sample were rated clinically by their family doctor as having a moderate level of depression.

Table 1 compares the CAPC sample on the eight different domains on the SF-36 with the population means obtained from the Oxford Health and Life Survey (OHLS)¹⁰ and with the means from five other chronic physical conditions.^{11,12} Compared with population norms for the SF-36, the CAPC subjects rated themselves lower in the domains of mental role limitation (19.8 versus 82.9), mental health (33.9 versus 73.8), energy/vitality (24.4 versus 61.1), and physical role limitation (45.0 versus 85.8). There were no statistically significant differences between men and women on any the subscales of the SF-36. Two of the physical conditions (chronic fatigue syndrome and low back pain) showed greater reductions in physical role limitation and bodily pain when compared with the CAPC sample. Conversely, the CAPC sample reported greater reductions in mental health and mental role limitation than for all the other physical conditions.

We examined the association between the severity of depression as defined by the patients' self-reports on the BDI and the SF-36. We found (Table 2) that the severity of depression on the two scales was correlated very highly across most of the domains but especially for mental role limitation, social functioning, mental health, and energy/vitality. When the severity of depression was rated by the family doctor, then the only statistically significant associations with severity were found in the domains of social functioning, mental health, and, to a lesser extent, energy/vitality (Table 3).

Discussion

The main finding from this study was that patients with depression in a primary care setting reported significant reductions on the SF-36 compared with published norms. This corroborates the findings from other studies wherein subjects with depression reported significant decrements in functioning, which were comparable, if not in excess, when the individuals were affected by other physical illnesses.⁵ However, our comparison in Table 1 between the different disorders needs to be treated with some caution, as the data have been assembled from four different studies, and hence should be seen as a guide rather than a direct comparison. Nevertheless, while there was a reduction in many of the domains within the SF-36 in those with depression, these reductions were most marked in those domains most sensitive to being affected by mental illness; for example, mental role limitation. This indicates that the instrument is specific to the areas that one would expect to be affected by low mood.

An additional finding, which attests to the validity of the SF-36, is that these reductions in functioning were significantly associated with the severity of the illness, especially by self-report on the BDI. Although these replicate earlier findings using the SF-36 in depression, these results are important in that they have come from a sample outside the US and they have been obtained from a sample entirely presenting in a primary care setting. This latter finding is important, as this is the setting in which depression is most often encountered and treated.¹³

Although these patients with depression report high levels of disability, this finding also requires cautious interpretation. Self-reports from those with depression may be unrealistic, as such individuals may magnify their level of disability in accord with their general negative bias.¹⁴ One test of this would be to compare the individual's own self-report on the SF-36 with that from a non-depressed observer and see whether they concur. We have made some attempt to do this indirectly by examining the association between the SF-36 domains and the severity of depression as determined by self-report and the family doctor. We found

Table 1. Comparison of SF-36 mean and standard deviation scores for CAPC sample with a general population and with five other medical conditions.

SF-36 domains	General population ¹⁰	CAPC males & females	Low back pain ¹¹	Menorrhagia ¹¹	Peptic ulcer ¹¹	Varicose veins ¹¹	Chronic fatigue syndrome ¹²
Physical function	88.4 (18.0)	80.2 (22.2)	44.7	78.0	80.7	74.2	40.0
Role limitation — physical	85.8 (29.9)	44.9 (39.4)	15.8	41.1	55.0	61.0	3.0
Bodily pain	81.5 (21.7)	60.5 (27.1)	30.7	52.6	49.0	68.1	34.0
General health perception	73.5 (19.9)	53.9 (21.6)	51.2	55.7	58.5	67.3	35.5
Energy/vitality	61.1 (19.7)	23.6 (18.4)	35.4	40.3	43.1	56.7	15.0
Social functioning	88.0 (19.9)	49.5 (22.9)	50.6	64.8	68.3	79.4	27.0
Role limitation — mental	82.9 (31.8)	19.8 (30.1)	35.3	43.8	65.8	65.7	48.0
Mental health	73.8 (17.2)	33.9 (16.3)	55.4	60.0	63.0	73.0	57.0

¹⁰OHLS survey; ¹¹Garratt et al (1993); ¹²Buchwald et al (1996).

Table 2. Means (standard deviation) of the SF-36 eight domains for the three subgroups subdivided by severity (as defined by the Beck score [≤ 20 , 21–30, ≥ 31]).

SF-36 domains	Beck ≤ 20 ($n_{\max} = 65$)	Beck 21-30 ($n_{\max} = 120$)	Beck ≥ 31 ($n_{\max} = 62$)	P-value ¹
Physical function, mean (SD) n =	85.2 (19.8) 53	81.4 (21.5) 117	75.0 (23.6) 59	0.01
Role limitation — physical	58.2 (40.8) 55	46.9 (38.5) 119	30.1 (33.1) 59	0.0001
Role limitation — mental	37.7 (36.7) 54	19.3 (29.9) 119	6.8 (14.9) 59	<0.0001
Social functioning	65.3 (23.8) 55	50.5 (19.6) 119	36.0 (20.2) 62	<0.0001
Mental health	46.6 (17.8) 55	34.6 (13.1) 119	22.2 (10.9) 61	<0.0001
Energy/vitality	39.7 (18.0) 54	22.8 (15.8) 120	14.0 (14.4) 61	<0.0001
Pain	71.8 (25.4) 54	59.4 (28.0) 119	56.1 (24.5) 61	0.002
General health perception	63.2 (21.1) 55	53.2 (21.8) 117	47.1 (20.5) 60	0.0001

¹P-value: test for trend.**Table 3.** GPs rating of patient's depression: means (standard deviation) of the SF-36 eight domains for the three groups defined by GP.

SF-36 domains	Mild ($n_{\max} = 65$)	Moderate ($n_{\max} = 160$)	Severe ($n_{\max} = 18$)	P-value ¹
Physical function	80.3 (23.7) 61	79.8 (22.8) 156	83.9 (16.3) 18	0.8
Role limitation - physical	46.9 (39.9) 65	44.9 (39.5) 157	44.4 (37.9) 18	0.7
Role limitation - mental	20.0 (31.1) 65	20.3 (30.4) 156	14.8 (26.1) 18	0.7
Social functioning	54.4 (24.01) 65	49.7 (22.0) 160	35.2 (24.5) 18	0.005
Mental health	38.3 (15.1) 64	33.1 (16.6) 160	28.9 (14.0) 18	0.009
Energy/vitality	26.2 (18.5) 65	24.0 (18.6) 159	17.2 (11.5) 18	0.01
Pain	61.4 (28.1) 65	61.5 (27.6) 157	55.6 (22.2) 18	0.6
General health perception	57.1 (19.5) 63	54.0 (23.6) 158	49.9 (15.9) 18	0.2

¹P-value: on test for trend.

that there was a significantly greater association between the SF-36 report and the self-report (in the BDI) as compared with that from the family doctor, which might suggest the actual disability was less than that perceived by the subject. Nevertheless, it may be argued that self-perception is more important to the patient.

There are a number of limitations to this study that could affect the interpretation of the findings. There was a difficulty in recruiting family doctors to participate in the study and a further difficulty for these practices to recruit patients. Hence there is a question as to whether our subjects were representative of patients with depression who attend family doctors for treatment. A further limitation is that, if subjects are recruited into a study

by offering a therapeutic service (as in the CAPC study), this may result in subjects inflating their levels of disability in order to obtain treatment. These limitations, however, would be present in any treatment study and, despite their presence, we believe that we have a sizeable sample in a primary care setting that can contribute to our knowledge in this area.

It is clear when assessing the impact of depression on a patient that an evaluation of symptoms alone is insufficient,¹⁵ so that an assessment of disability becomes a valuable addition. Furthermore, in many fields of health care, there is increasing concern about the differing perceptions between what the health professional and the patient considers an appropriate level of

care.¹⁶ Therefore, focusing on specific deficits of functioning and their alteration as reported by the patient (that is, taking the 'consumer's' view seriously) may well improve the therapeutic alliance between patient and doctor. This may be one of the most important contributions of the SF-36 to mental health improvement in the future.¹⁷

References

1. Ware JE, Sherbourne CD. The MOD 36-item short form health survey (SF-36): I. Conceptual framework and item selection. *Med Care* 1992; **30**: 473-483.
2. Brazier JE, Harper R, Jones NMB, *et al.* Validating the SF36 Health survey questionnaire: new outcome measure for primary care. *BMJ* 1992; **305**: 160-164.
3. Jenkinson C, Coulter A, Wright L. Short form 36 (SF36) health survey questionnaire: normative data for adults of working age. *BMJ* 1993; **306**: 1437-1440.
4. McHorney CA, Ware JE, Raczek AE. The MOD 36-item short form health survey: II. Psychometric and clinical tests of validity in measuring physical and mental health constructs. *Med Care* 1993; **31**: 247-263.
5. Wells KB, Stewart AS, Hays RD, *et al.* The functioning and well-being of depressed patients. *JAMA* 1989; **262**: 914-919.
6. Beusterien KM, Steinwald B, Ware JE. Usefulness of the SF-36 health survey in measuring health outcomes in the depressed elderly. *J Geriatr Psychiatry Neurol* 1996; **9**: 13-21.
7. Korff MV, Ormel J, Katon W, Lin EH. Disability and depression among high utilizers of health care. *Arch Gen Psychiatry* 1992; **49**: 91-100.
8. Spitzer, RL, Endicott J, Robins E. Research diagnostic criteria: rationale and reliability. *Arch Gen Psychiatry* 1978; **35**: 773-782.
9. Beck AT, Ward CH, Mendelson M, *et al.* An inventory for measuring depression. *Arch Gen Psychiatry* 1961; **4**: 561-571.
10. Jenkinson C, Layte R, Wright L, Coulter A. *The UK SF-36: an analysis and interpretation manual*. Oxford; Unit Report, Health Services Research Unit, University of Oxford, 1996.
11. Garratt AM, Ruta DA, Abdalla MI, *et al.* The SF36 health survey questionnaire: an outcome measure suitable for routine use within the NHS? *BMJ* 1993; **306**: 1440-1444.
12. Buchwald D, Pearlman T, Umali J, *et al.* Functional status in patients with chronic fatigue syndrome, other fatiguing illnesses, and healthy individuals. *Am J Med* 1996; **171**: 364-370.
13. Paykel ES. The background, extent and nature of the disorder. In: Herbst K, Paykel ES (eds). *Depression: An integrative approach*. Oxford: Heinemann, 1989.
14. Beck AT, Rush AJ, Shaw BF, Emery G. *Cognitive therapy for depression*. New York: Guilford Press, 1979.
15. Mintz J, Mintz LI, Arruda MJ, Hwang SS. Treatments of depression and the functional capacity to work. *Arch Gen Psychiatry* 1992; **49**: 761-768.
16. Ware JE. Measuring patients' views: the optimum outcome measure. *BMJ* 1993; **306**: 1429-1450.
17. Gask L. Listening to patients. *Br J Psychiatry* 1997; **171**: 301-302.

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Address for correspondence

Professor Conor Duggan, Professor of Forensic Mental Health, Division of Forensic Mental Health, Arnold Lodge RSU, Cordelia Close, Leicester LE5 OLE.