Use of depression rating scales in chronic fatigue syndrome

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Abstract

Objective: The aim of this study was to examine the performance of three commonly used depression rating scales in a hospital sample of patients with chronic fatigue syndrome (CFS). **Methods:** Sixty-one patients with CDC criteria for CFS completed the General Health Questionnaire (GHQ), the Hamilton Depression Scale (HAM-D) and the depression subscale of the Hospital Anxiety and Depression Scale (HADS-D). Current psychiatric status was assessed using the Structured Clinical Interview for DSM-III-R. **Disorders:** Patient version (SCID-P). Receiver operating curves were drawn for each of the depression rating scales.

Results: Thirty-one percent of the patients were depressed according to the SCID-P. Using the standard cut-offs, both GHQ and HAM-D overestimated the number of depressed patients, whilst the HADS-D underestimated the number. The receiver operating curves suggest that the optimum cut-offs for GHQ, HAM-D and HADS-D in this population are 7/8, 13/14 and 8/9, respectively. **Conclusions:** Standard cutoffs may not be appropriate when using depression rating scales in CFS patients in a tertiary care setting.
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Introduction

Chronic fatigue syndrome (CFS) is a common disorder characterised by disabling medically unexplained fatigue lasting greater than 6 months and a number of both physical and psychological symptoms [1]. The role of psychiatry in CFS has caused much controversy; nonetheless, psychiatric diagnoses are common. Estimates of the prevalence of depression and anxiety, the most common psychiatric diagnoses, vary from 15% to 75% [2–6]. The recognition of psychiatric conditions, in particular, depression, in this group is important. Most patients with CFS will see either primary or secondary care physicians with little specialist training in psychiatric assessment—patients in a CFS clinic may have a major depressive disorder (MDD) in the absence of operationally defined CFS, or comorbid with CFS. MDD in CFS is a marker for more persistent symptoms and failure to return to work [7].

Only three studies have examined the performance of depression rating scales in CFS. Buchwald et al. [2] compared the 28-item General Health Questionnaire (GHQ-28) with a structured clinical interview. High levels of psychiatric morbidity were found using standard cut-offs, but alternative cut-offs were not examined. Farmer et al. [8] assessed patients using the Beck Depression Inventory (BDI; [9]) and the 60-item GHQ (GHQ-60; [10]). These were compared with the gold standard of the Schedule for the Clinical Assessment of Neuropsychiatry (SCAN; [11]). Both the GHQ-60 and the BDI performed badly, although the study was limited by the fact that the rating scales and the gold standard were performed on different occasions. A more recent study [12] examined the Hospital Anxiety and Depression Scale (HADS-D; [13]) and the Medical Outcomes Study (MOS)–mental health scale [14] in comparison with the gold standard of the Revised Clinical Interview Schedule (CIS-R; [15]). The MOS could not be recommended, as it yielded too many false positives, but the authors found that, if the cut-off for the depression scale of the HADS was lowered to 9/10, it was a valid screening tool in CFS patients.

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Table 1
Standard and alternative cut-offs for depression rating scales

TEST	Area under curve	Cut-off	Depression cases	Sensitivity (95% confidence interval)	Specificity (95% confidence interval)	PPV	NPV
SCID-P			19 (31%)	Gold standard			
HAM-D	0.988	11/12 (standard)	35 (57%)	1.0 (0.83–1.0)	0.62 (0.47–0.75)	0.54	1
		13/14 (best)	24 (39%)	0.89 (0.69–0.97)	0.83 (0.69–0.92)	0.71	0.95
GHQ-12	0.972	3/4 (standard)	32 (52%)	0.89 (0.69–0.97)	0.64 (0.49–0.77)	0.53	0.93
		7/8 (best)	19 (31%)	0.79 (0.57–0.91)	0.9 (0.78–0.96)	0.79	0.9
HADS-D	0.957	10/11 (standard)	5 (8%)	0.26 (0.12–0.49)	1.0 (0.92–1.0)	1	0.72
		8/9 (best)	12 (20%)	0.53 (0.32–0.73)	0.95 (0.84–0.99)	0.83	0.82

PPV—positive predictive value.
NPV—negative predictive value.

As part of a larger study, we examined the properties of three different commonly used depression rating scales in comparison with a structured clinical interview in a population of CFS patients.

Method

The recruitment and selection of patients is described in more detail elsewhere [16,17]. Patients were recruited as part of a larger study from those attending a teaching hospital department of either immunology or psychiatry for the assessment of their chronic fatigue. All patients met CDC criteria for CFS [1], hence, recognised medical causes for their fatigue had been excluded. Axis I disorders, including depression, were ascertained by use of the Structured Clinical Interview for DSM-III-R—patient edition (SCID-P; [18]). This has similar reliability to other structured interviews [19] and is widely used as a 'Gold Standard' when investigating the use of screening instruments, not the least in patients with physical symptoms [20,21]. All participants were seen by one of the authors (CT), and informed consent obtained. Patients were assessed using the Hamilton Depression Rating Scale (HAM-D; [22]) and completed the 12-item version of the GHQ (GHQ-12; [10]) and the depression scale of the HADS-D [13]. The study was approved by the Local Research Ethics Committee.

Statistical analysis was performed using the Statistical Package for the Social Sciences SPSS 10.0. Receiver operating characteristics (ROC) curves were drawn, by plotting the sensitivity against 1—specificity for each score on each scale.

Results

Sixty-one patients were studied. The mean age was 41 years (S.D.=11.5 years); 43 (70%) were female, 29 (48%) married or cohabiting, and 57 (93%) were white. The mean illness duration was 7.8 years (95% CI=5.8–9.8); 43 (70%) were members of a self-help group, and 21 (34%) reported a past psychiatric history. Using the SCID-P, 19 (31%) were categorised as suffering from MDD.
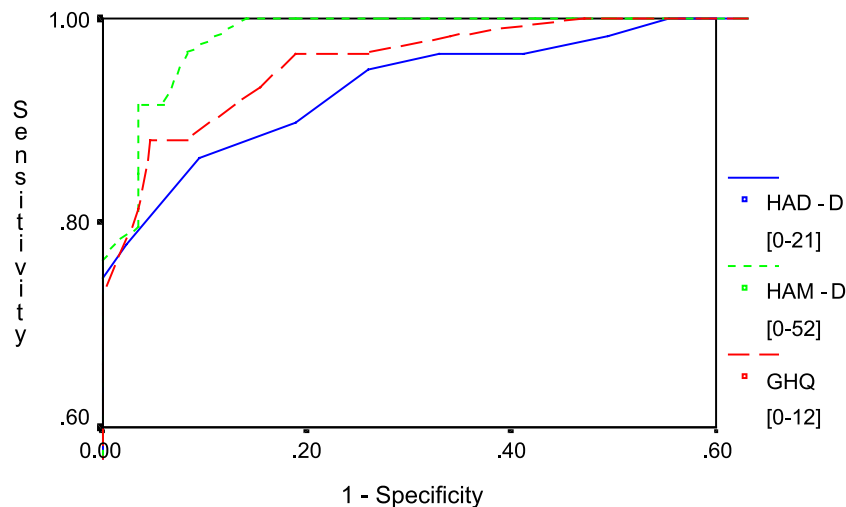

Fig. 1. ROC curves for depression rating scales.