Rating scales for depression and anxiety: A current perspective

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1 Research now requires instruments capable of a better distinction between depressive and anxiety disorders. The study is concerned with two relatively recent clinician-rated scales, the Montgomery-Asberg Depression Rating Scale and the Clinical Anxiety Scale together with two recent self-assessment scales, the Irritability–Depression–Anxiety Scale and the Hospital Anxiety and Depression Scale. The concurrent validity of these scales as measures of the separate concepts of anxiety and depression is examined.

Keywords rating scales depression anxiety

Introduction

There are at present a large number of depression rating scales and the research worker receives little guidance in the selection of an appropriate instrument for his proposed study. Carroll and his colleagues (1973) pointed out that the choice of a rating scale is often an arbitrary decision undertaken without much thought concerning the characteristics of the scale or whether it is well suited to the study. Probably the two most widely used depression scales in the English language are the Hamilton Depression Rating Scale—HDRS—(Hamilton, 1967) and the Beck Depression Inventory—BDI—(Beck *et al.*, 1961). The extent to which these instruments are used would appear to ensure their continued use but research demands are changing and it is necessary to consider carefully just what these scales measure. The word 'depression' carries no precise meaning and psychiatrists continue the debate about its application in the clinical context. In the more severe states of depressive illness patients experience a wide variety of symptoms but in milder disorders, detected in community studies, the range of symptoms is narrower; here however the overlap with anxiety is more evident.

The HDRS is composed of seventeen items, or symptoms all of which may occur in severe depression; they span the range from psychic to somatic manifestations and from depressed to anxious mood and the same is true for the

twenty one items of the BDI. Therefore both scales will provide a general measure of the severity of illness on the assumption that the sum of the severity of individual symptoms indicates the overall severity of the disorder, an assumption which it is fair to make in view of the large number of studies that have been carried out which attest to the validity of the instruments (*inter alia*, Hedlund & Vieweg 1979). However much of the present emphasis in pharmacological and other types of research is now concerned with the differentiation of concepts within the broad field of disorders of mood and especially between anxiety and depression. Hamilton also produced an anxiety rating scale, the HAS (Hamilton, 1959) but the ability of the HDRS and the HAS to discriminate between depression and anxiety is doubtful since both instruments contain items referring to both mood disorders and a large pool of somatic symptoms in common.

Beck *et al.* (1974) carried out an analysis of both the HDRS and the BDI and produced a much shorter version of the former which he called the Melancholia Scale (MS). Montgomery & Åsberg (1979) also developed a depression rating scale, inspection of which suggests that it is constructed from items with a narrower concept of depression than the HDRS; however in both the Montgomery-Åsberg Depression Rating Scale (MDRS) and the MS one item relating to anxiety is present. The MADRS

items are: reported sadness, apparent sadness, suicidal thoughts, pessimistic thoughts, inability to feel (anhedonia), lassitude, difficulty in concentration, loss of appetite, insomnia and psychic anxiety (inner tension). Regarding the anxiety rating instrument we (Snaith *et al.*, 1982) carried out an item analysis of the HAS which we have called the Clinical Anxiety Scale (CAS), the items of which all conform to the anxiety section of the Present State Examination (Wing *et al.*, 1974); they are: psychic anxiety, somatic (muscular) tension, hyperarousal (startle response), worrying thoughts, apprehension and motor restlessness.

Another aspect of assessment of mood disorders are scales (questionnaires) completed by patients and both these and scales completed by a researcher or clinician probably complement each other and add to the overall accuracy of assessment (Snaith, 1981). Two of our self-assessment scales, the Wakefield Depression Inventory and the Leeds Scales for Depression and Anxiety are now redundant but the two most recent scales, the Irritability-Depression-Anxiety (IDA) Scale (Snaith *et al.*, 1978) and the Hospital Anxiety and Depression (HAD) Scale (Zigmond & Snaith, 1983), at present are widely used. A study comparing various depression scales has been carried out in depressed patients admitted to a psychiatric hospital (Kearns *et al.*, 1982) but the present investigation is concerned with the assessment of some characteristics of the more recent depression and anxiety rating scales in a psychiatric out-patient population composed of patients suffering from anxiety and depressive neuroses.

Methods

Patients included in the study were consecutive new referrals to the first author's out-patient clinic at St James's University Hospital, who had received either a diagnosis of anxiety neurosis (ICD, 300.0) or depressive neurosis (ICD, 300.4). After the clinical examination the patients were asked to complete both the IDA and HAD Scales and to agree to a further examination for the purpose of the research; they were informed that they were not obliged to do so but in fact very few patients refused and in those instances it was always for lack of time. Following the procedure of the self-assessment scales the patient then saw one of us (C.T.) in a separate room; he was unaware of the self-assessment scores and carried out the MADRS and CAS ratings (in a few cases the first author made these ratings but always in ignorance of the patients' scores on the self-

assessment scales). The rating procedure lasted about 30 min and the guidelines provided in the MADRS and the CAS publications were followed in the allotment of grades. A formal inter-rater correlation was not calculated but, after the conduct of several joint interviews, the authors were confident that they were consistent in their application of the Scales.

Inspection of the items composing the MADRS suggests that they are not all related to the concept of 'depression' in contradistinction to 'anxiety'. As already mentioned one of the items is 'psychic anxiety' and another item, 'insomnia' is likely to occur as frequently in anxiety as in depressive states, especially as the part of the night during which the insomnia occurs is not specified. A preliminary analysis of the relationship of the individual MADRS items was therefore carried out and correlations of scores against the overall score on the CAS were calculated in 30 patients: it was found that the above two items both had highly significant correlations with the CAS rating ($r + 0.55$ and $+0.53$, $P < 0.01$) whilst the item relating to appetite had a correlation of borderline significance ($r = +0.44$, $P < 0.02$). All other items had non-significant correlations. We therefore decided to examine the data of subsequent patients in respect both to the full MADRS score and also to the scale abbreviated by omission of the psychic anxiety and insomnia items.

Results

In an out-patient psychiatric population it is a common experience that classification according to the ICD categories of depressive neurosis and anxiety neurosis is difficult since many patients show overlapping features of both disorders. Since the present study is concerned with the ability of certain scales to distinguish between the concepts of anxiety and depression it was considered that formal diagnostic grouping would be a poor guide to the distinction between depression and anxiety and the following presentation is based upon the pooled ratings of both diagnostic groups. The data are based on 63 patients, 38 female and 25 male.

In the case of the MADRS and the CAS scales no information is yet available as to cut-off scores indicating a morbid degree of the mood disorder although such scores and borderline range scores are available for both the HAD and the IDA self-assessment scales. This being the case one method of testing the validity of one instrument against another i.e. examination of misclassifications and the pro-

Table 1 Inter-correlation values of scale scores

	CAS	HAD Depression	HAD Anxiety	IDA Depression	IDA Anxiety
MADRS	0.39	0.81	0.37	0.72	0.36
MADRS abbreviated version*	0.30	0.81	0.31	0.67	0.28
CAS		0.44	0.69	0.42	0.58

*see text

0.25, $P < 0.05$; 0.30, $P < 0.02$; 0.33, $P < 0.01$

vision of information concerning sensitivity and specificity of the scales, was not possible. The present comparison of the scales is therefore based upon concurrent validations assessed by Pearson product-moment correlation.

The correlation matrix is shown in Table 1.

Discussion

There are considerable limitations to the concurrent validation of rating scales by the method of intercorrelation described above and misleading conclusions may be drawn when correlations are based on data from patients who represent the full range of morbidity from a severe degree to recovered; in such situations correlation figures are likely to be considerably inflated. However, in the present study only those patients were included who had been newly referred to a psychiatric out-patient clinic and before treatment or time had led to an amelioration of their disorder. As a preliminary method of surveying the concurrent validation of the scales, the method may therefore be defended although further studies will be required.

The finding that the correlation of the MADRS with the CAS was not very high suggests that the two scales do assess different aspects of mood disorder in neurotic out-patients. The MADRS has high concurrent validity with depression but lower correlations with anxiety assessed by the two patient-rated scales and this supports the view that the MADRS is a valid depression scale which

is capable of distinguishing depression from anxiety in clinical settings. The reverse argument holds true for the CAS. Also, by converse reasoning the validation of the depression and anxiety subscales of the HAD and the IDA Scales is supported.

It was found that removal of two items, psychic anxiety and insomnia, from the MADRS does not impair its validity as a depression scale but does improve its ability to distinguish anxiety from depression and it is suggested that this abbreviated form of the MADRS should in future be used.

The establishment of score ranges for both the CAS and the MADRS is necessary as a guide to its use in research and work is proceeding in order to provide this information.

Readers of this paper are informed that the HAD Scale is available to British applicants free, on request to:

Mr D. d'E. Panrucker,
Professional Communications Manager,
Upjohn Limited,
Fleming Way,
Crawley,
West Sussex RH10 2NJ

It is also available in the following translations: Arabic, Dutch, French, German, Czech, Greek, Hebrew, Italian, Russian, Polish, Spanish, Catalan, Chinese and Swedish; Portuguese, Japanese, Danish and Norwegian are in preparation. Readers wishing to receive specimen copies of these translations should apply to the first author.

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