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A Short Anorexic Behaviour Scale

By P. D. SLADE

Introduction

The successful investigation and development of effective treatment programmes for any disorder is closely dependent on the development of reliable and valid assessment procedures. Anorexia nervosa would seem to be no exception in this respect. At present, while the diagnosis of anorexia nervosa seems fairly easy to establish, the assessment of severity, response to various treatment regimes, and prognosis pose rather more of a problem. Reliance on criteria such as weight status and gain, return of menstruation, psychosexual adjustment, etc., is inadequate, especially in the assessment of short-term effects of various therapeutic conditions. Recently Slade and Russell (1972) have described an objective technique for measuring 'perception of body size', an area in which they found anorexia nervosa patients to be defective. Clearly, however, other reliable, objective assessment techniques are needed as well.

One area which is yet to be tapped is the patients' behaviour. And from the nature of some of the clinical descriptions in the literature the behaviour of patients with anorexia nervosa is highly abnormal (Dally, 1969; Russell, 1970). Dally, for example, mentions a series of subterfuges used by patients for disposing of food, and the use of self-imposed vomiting and overactivity for producing weight loss. It was decided, therefore, to try to synthesize such observations into a form of behaviour scale which could be filled in by the nursing staff.

Method

On the basis of a series of discussions with senior nurses who had had considerable experience in the management of anorexia nervosa patients, a 22-item scale was developed, dealing with the patients' behaviour while in hospital. The items were arranged in three categories, as follows:

(a) 8 items dealing with 'resistance to eating';
(b) 8 items dealing with methods of 'disposing of food' and
(c) 6 items dealing with 'over-activity'.

This 22-item scale is shown in the Appendix.

All items, which involve a judgement as to whether a particular piece of behaviour has been displayed by the patient or not, are rated 'YES', 'NO', or '?'. A score of 2 is allocated when the behaviour has definitely been observed, a score of 0 if it has definitely *not* been observed, and a score of 1 when there is some doubt in the rater's mind.

Two sets of ratings (i.e. by two independent raters) were obtained on a group of 12 anorexia nervosa patients and a group of 12 psychiatrically disturbed adolescent controls. The mean age of the anorexic patients was 17·75 years, S.D. = 5·13, with a range of 14–33 years; the mean age of the control patients was 15·08 years, S.D. = 2·02, with a range of 13–21 years. The slight age difference is non-significant ($t = 1{\cdot}56$, $p > {\cdot}05$). The diagnostic breakdown of the control group was as follows: 3 patients with predominantly behaviour disorders, 3 patients with neurotic disorders, 3 patients with manic-depressive disorders, 2 patients with schizophrenia, and 1 patient with post-temporal lobectomy symptoms.

The senior nurses on the two wards which were used acted as raters. They were asked to rate the patients after they had been on the ward for *at least* a month. This was done in order to ensure that an adequate sample of observed behaviour was being rated. The following general instructions were given to the raters:

> 'Rate all items of behaviour as either "Yes" (i.e. behaviour that was shown by the patient at some point during her say in hospital), "No" (i.e. behaviour never shown by the patient *at any stage*), or "?" (i.e. not sure).

Only rate items as "Yes" if you definitely observed them or they were reported to you'.

Results

(a) *Reliability*

The two sets of ratings for the combined group (N = 24) were correlated with each other to obtain a measure of inter-rater reliability. The resulting correlation coefficient of +0·90 is satisfactory, considering that the items of behaviour rated provide considerable latitude for individual judgement.

(b) *Group differences*

The mean ratings, standard deviations, and ranges for the two independent sets of ratings are shown in Table I.

Table I

	Anorexia nervosa patients N = 12	Control patients N = 12
Rater 1:		
Mean	22·33	1·75**
S.D.	13·70	2·83
Range	0–40	0–8
Rater 2:		
Mean	23·58	2·83**
S.D.	11·07	1·22
Range	8–42	0–12

** Difference between means is significant at the ·001 level.

It can be seen that not only are the group differences highly significant for both sets of raters but the mean ratings of the two independent sets of raters are very similar for both diagnostic groups. This provides a further check on the reliability of the ratings. Moreover, none of the control patients obtained a score of more than 12 from either rater. In this respect a score of 13+ may be considered diagnostic. Using this cut-off, 9 anorexic patients were correctly identified by rater 1 and 10 by rater 2.

(c) *Relationship with measures of body-size misperception*

Nine of the anorexic patients rated on the 22-item behaviour scale had taken part in another study designed to assess the patient's perception of their own physical size (Slade and Russell, 1972). In this study the patients had to estimate the distances across various parts of their body, the four areas used being the face, the chest, the waist and the hips. These perceived sizes were then compared directly with their real or true sizes.

It was found that anorexia nervosa patients as a group markedly overestimated their body width compared with normal controls. Furthermore it was found that the magnitude of this overestimation tendency was significantly related to the patient's ability to maintain her weight after discharge from hospital.

The nine anorexic patients who had taken part in this previous study were firstly rank-ordered in terms of their ratings on the Anorexic Behaviour Scale, for the two sets of ratings separately. They were then rank-ordered in terms of the four 'body perception indices' of the previous study. Finally, the two sets of rank-orderings were correlated using the Spearman rho technique. The results are shown in Table II.

Table II

	Body perception indices			
	Face	Chest	Waist	Hips
Anorexic Behaviour Scale:				
Rater 1 ..	+·55	+·69*	+·67*	+·65*
Rater 2 ..	+·60*	+·625*	+·69*	+·58

* $p < .05$.

It can be seen that six out of the eight rank-order correlations are significant at the ·05 level, while the other two are approaching significance. Thus it appears that those anorexic patients who markedly overestimate their physical size are the same ones that show a large number of items of anorexic behaviour.

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Discussion

The preliminary results reported here are encouraging. They suggest that the 22-item 'Anorexic Behaviour Scale' can be used fairly reliably to distinguish anorexic from non-anorexic patients (albeit on small numbers here); and that the magnitude of this behavioural abnormality is related to another independent index of anorexic severity, namely the degree of 'body misperception' shown. It is specifically this latter finding which suggests that the present scale may be used to measure changes in severity of the disorder and to monitor the effects of different types of therapeutic conditions.

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APPENDIX

Anorexic Behaviour Scale (22 Items)

All items to be answered 'yes', 'no' or '?'.

(a) *Resistance to eating*

1. Delays as much as possible before coming to the dining table. 2. Shows obvious signs of tension at meal times. 3. Shows increased hostility at meal times (towards nurses or food). 4. Begins by cutting up food into small pieces. 5. Complains that there is too much food or that it's too rich. 6. Exhibits extreme 'food faddiness'. 7. Bargains over food (e.g. 'I'll eat X if I don't have to eat Y'). 8. Picks at food (e.g. eating inside but leaving outside of potatoes, piecrusts, etc.).

(b) *Disposing of food*

9. Vomits after meals. 10. Conceals food in serviettes, pockets, handbags and clothing. 11. Disposes of food out of windows, into dustbins, down sinks and toilets. 12. Conceals food in own room (e.g. in cupboards, drawers, flower-vases, etc.). 13. Crumbles cakes into their wrapping paper. 14. Rubs food into clothes or spills liquids over own clothes. 15. Drops odd bits of food on the floor, e.g. peas. 16. Makes frequent use of purgatives or attempts to use purgatives.

(c) *Activity*

17. Stands as much as possible rather than sits. 18. Walks or runs about whenever possible. 19. Is as active and as industrious as possible (e.g. clearing tables, cleaning own room etc.). 20. Chooses the more strenuous activity when given the choice (e.g. table tennis rather than watching television). 21. Makes unnecessary journeys for extra exercise. 22. Does physical exercises whenever possible (e.g. press-ups, etc.).

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