

The Impact of Social Skills Training within an Established In-Patient Treatment Programme for Anorexia Nervosa

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Summary: The paper reports a controlled study of the impact of social skills training within a longer treatment approach to patients with anorexia nervosa. Under these circumstances social skills training was not found to be a very powerful form of intervention. Possible reasons for this are touched on.

There are no controlled studies of the long term impact of treatment on the evolution of anorexia nervosa, although it is clear that life can sometimes be saved in the short term and that a variety of pharmacological and behavioural approaches can have a short term and limited effect on the low body weight control mechanisms of the patient. During the past 20 years, the second author has run an established in-patient combined behaviour and psychotherapeutic treatment programme for patients with anorexia nervosa involving restoration of body weight to matched population levels coupled with individual and family psychotherapy (Crisp, 1967). He believes that this approach does have an impact on the course of the disorder (Crisp, 1980). However, it is difficult to evaluate it in total in a controlled experimental fashion since, in the event, it is impossible to deny any patient a treatment which almost always has the short term effect of her gaining weight back to normal adult levels. In recent years, therefore, an alternative strategy has developed in the unit in which specific treatments (e.g. the impact of tricyclic drugs (Lacey and Crisp, 1980) are experimentally superimposed on the basic treatment programme.

This paper reports the impact of a social skills programme exhibited on this basis. Two case reports (Lang, 1965 and Argyle *et al*, 1974a) describe the efficacy of behavioural social anxiety treatment for anorexia nervosa. These studies are limited in diagnostic detail. Wolpe (1975) advocates the value of the comprehensiveness of a behavioural analysis in treating anorexia nervosa that would include an assessment of the symptom of social anxiety within the clinical condition. A controlled study by Argyle *et al* (1974b) indicates the efficiency of social skills treatment as well as brief psychotherapy in positively influencing social ease in a patient population. However, no experimental studies are reported on the

impact of a behaviourally orientated treatment for social anxiety on the course of recovery for anorexia nervosa. This treatment was introduced because anorexics are known to be socially isolated and to have low self-esteem (Crisp, 1970; Pillay and Crisp, 1977). Furthermore, previous follow-up studies have revealed that those who have recovered often become socially anxious despite their involvement in psychotherapy directed at this area of difficulty (Stonehill and Crisp, 1977; Crisp, 1980).

The hypothesis was that social skills training within the established in-patient treatment programme would lead to a greater degree of recovery from anorexia nervosa at one year follow-up as measured by the percentage matched population mean weight of the patients, and furthermore that these patients would be less socially anxious than those who had not received such treatment.

Method

A series of consecutive patients with anorexia nervosa admitted to the in-patient unit was treated in the usual way, with initial bed rest, 3000 calorie daily diet, individual and family psychotherapy and milieu therapy. The aim was to recruit 24 patients, 12 to each group, of social skills and a placebo condition, allowing sequential study throughout the usual four months' period in-patient care and then again at one year follow-up. The patients were randomly allocated to either 12 sessions of a social skills/social anxiety treatment or to a placebo social contact situation in which the same therapist instead spent similar amounts of time in non-specific counselling as did student nurses who formally played patient-chosen table games with them. The social skills/social anxiety treatment programme took the following form:

Firstly, while still in her cubicle and on bed rest, a word association task (four successive weekly sessions)

was performed on a modelling basis to encourage spontaneity and reduce the patient's preoccupation with 'right' and 'wrong' responses in verbal communication.

The second phase of treatment was a role-play modelling format around four situations:

1. Joining in with an assembled communicating pair *both of whom* are known to the third person.
2. Joining in with an assembled communicating pair *one of whom* is known and the other has to be introduced or one has to introduce oneself to the person.
3. Joining in with a pair of communicating individuals, neither of whom is personally known to the third person. (Common room, cafeteria type setting).
4. Making conversation at a party—approach to standing others.

The emphasis in each of these situations (usually a different student nurse was involved in each session) was approach behaviour and the taking of an initiative after their having been modelled. Attention was directed to non-hesitancy in joining the pair and the various entry gambits that people employed. Mutuality and non-intrusiveness in the participation process were also pointed out. The four situations therefore included issues of participation, being introduced and introducing others, introducing oneself and differentiating intrusion from general social discourse.

Measures (at admission; at target weight plus 4 weeks; at one year follow-up).

1. CCEI (Crown and Crisp, 1979). This is a brief standardized self-rating inventory measuring psychoneurotic and personality status on six scales: anxiety (A); phobic anxiety (P); obsessiveness (O); functional somatic complaint (S); depression (D); hysteria (H) (a measure correlating positively and highly with measures of sociability).
2. Social Questionnaire: SAD (Social Avoidance Distance) and FNE (Fear of Negative Evaluation) are two factorially derived scales of 28 and 30 true/false items respectively (Watson and Friend, 1969). SAD is an index of social approach behaviour and FNE rates subjective anxiety in inter-person contact.
3. At one year follow-up patients were assessed globally on the Social Situations Questionnaire developed by Trower *et al* (1978) and also in terms of body weight. General social adjustment was determined by comparing the patient's retrospective rating of pre-treatment 'difficulty' and 'frequency' with current ratings of social activity.

Results

In the event, this study coincided with a time when exceptionally severely ill anorexics were admitted. They were not especially low in body weight on admission but they were older and had been ill for longer than usual (many of them for more than five years). Also more were from social classes III, IV and V (Registrar General's classification) than usual. These are characteristics associated with a particularly poor prognosis (Crisp *et al*, 1977; Hsu *et al*, 1979; Crisp, 1980). In the event nine patients discharged themselves from care before the second assessment at target weight plus four weeks, some earlier on and others just prior to the assessment. Eight of these came from the placebo group. They were therefore replaced by nine other patients during the course of the study. One other patient was subsequently excluded from analysis of the data because she was found to be atypical. She was only 13 years old, had primary amenorrhoea and proved unsuitable in respect of many of the measures which were designed for a more adult population. In addition it was difficult to assess her in terms of matched population body weight norms because she was basically still within early puberty. Therefore 33 patients in all entered the study, nine did not complete, one was excluded and, finally, there were 11 patients in the treatment group and 12 in the placebo group. One other patient in the treatment group was eliminated because her test protocols at one year follow-up were incomplete, which reflected her earlier observed unreliability in completing questionnaires. The one year follow-up questionnaire study was therefore performed on a treatment group of 10. Table I shows some clinical features of the two populations.

It can be seen that the treatment and placebo groups were not significantly different in any respect. Of the nine who dropped out of treatment and discharged themselves, three were dead at one year follow-up. They had a lower mean admission body weight and height, and in addition to coming mainly from social classes I and II, they were mostly drawn from the placebo group ($\chi^2 = 4.16$, $P < .05$). Seven of the nine patients remained in treatment for more than a week (mean stay = 6.3 weeks). As a group they improved in weight from a mean of $37.7 \text{ kg} \pm 7.3$ to $45.0 \text{ kg} \pm 9.1$ before their self-discharge.

Psychometry on admission

(i) CCEI. Table II allows comparison of scores on admission with those derived from other series of patients studied in the past. It can be seen that the present group score highly compared with previous groups, especially in comparison to the previously reported in-patient sample (Stonehill and Crisp, 1977). However, such mean scores are in fact still lower than

TABLE I
Personal characteristics of 23 treatment-completed and 9 treatment-discontinued anorexia nervosa patients

	Treatment group (N = 11)	Placebo group (N = 12)	Treatment and placebo groups combined (N = 23)	Discontinued treatment group (N = 9)
Mean age (yrs)	23.6 ± 8.2	23.8 ± 7.8		24.22 ± 4.9
Married	2	3	5	2
Single	9	9	18	7
Social class 1/2	4	5	9	7
Social class 3/4/5	7	7	14	2
Mean height (cms)	162.7 ± 5.6	162.5 ± 5.1	162.6 ± 5.3	155.4 ± 6.9
Mean admission weight (kgs)	41.0 ± 5.7	40.2 ± 7.5	40.6 ± 6.5	35.9 ± 7.3
Vomitters	6	4	10	4
Non-vomitters	5	8	13	5
Mean weeks as in-patients	17.4 ± 4.8	16.3 ± 4.7		6.3 ± 2.6
*W.A.I.S. equivalent score	106.0 ± 9.8	106.6 ± 14.0		

* Tested post target weight. (Test unavailable for 1st patient in each group (N = 10 and 11 respectively)).
Derived from 'G' in G.A.T.B. Form B 1002.

TABLE II
Present population (pre-treatment) compared with previously reported anorectic populations on CCEI scale scores

Study	N	A		P		O		S		D		H		Total	
		Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
A. Crisp <i>et al</i> (1978) In and out-patients	100	8.9	4.1	4.0	3.5	8.4	3.8	6.1	3.8	7.2	3.8	6.2	4.0	40.8	-
B. Stonehill and Crisp (1976) In-patients	29	7.9	4.1	3.0	2.3	7.2	3.7	5.0	3.3	6.2	3.4	6.1	4.2	35.4	-
C. Hsu <i>et al</i> (1980) In and out-patients	55	8.2	4.2	3.8	3.0	8.3	3.7	6.0	3.9	7.2	3.6	6.3	3.9	39.8	-
D. Present population In-patients	32	10.3	3.5	4.4	3.4	9.4	3.1	8.3	3.3	8.7	4.0	8.0	3.8	49.1	14.5
Z. Score between B-D		2.50		2.59		2.86		4.58		2.78		1.79		-	
P <		0.01		0.01		0.01		0.01		0.01		0.01			

TABLE III
Social questionnaire scores at admission, target weight plus 4 weeks, and 1 year post discharge by group for 22 patients with full test results

	Admission		Target weight+4 weeks					1 year follow-up				
	Mean	SD	Mean	SD	Diff.	Related t	P < (2 tail)	Mean	SD	Diff.	Related t	P < (2 tail)
Treatment group (N = 10)												
SAD	15.0	9.1	14.0	10.8	0.5	0.29	NS	14.4	9.2	0.6	0.3	.77
FNE	23.6	5.6	21.3	7.7	2.3	1.19	NS	20.5	8.7	3.1	2.57	.03
Total	38.7	14.1	35.8	16.9	2.9	0.53	NS	34.9	17.1	3.7	1.31	NS
Placebo group (N = 12)												
SAD	13.5	7.6	13.3	7.8	0.2	0.11	NS	12.1	8.8	1.4	1.0	.34
FNE	22.3	6.4	21.6	7.9	0.7	0.35	NS	19.6	8.7	2.7	1.80	.1
Total	35.8	12.9	34.9	13.9	0.9	0.26	NS	31.7	15.0	4.1	1.73	NS

TABLE IV
CCEI scale scores at admission, target weight plus 4 weeks, and 1 year post discharge by group for 22 patients with full test results

	Admission		Target weight+4 weeks					1 year follow-up				
	Mean	SD	Mean	SD	Diff.	Related t	P (2 tail)	Mean	SD	Diff.	Related t	P (2 tail)
Treatment group (N = 10)												
A	11.1	3.5	8.9	3.5	2.2	2.28	.05	9.4	4.3	1.7	2.37	.05
P	5.2	4.3	4.4	3.2	0.8	1.24	NS	3.7	3.3	1.5	1.13	NS
O	11.6	2.1	9.9	1.5	1.7	1.83	.1	10.3	3.4	1.3	1.14	NS
S	9.4	3.4	5.3	3.3	4.1	4.32	.01	6.0	4.3	3.4	3.29	.01
D	10.3	4.2	7.1	3.8	3.2	3.28	.01	7.5	5.3	2.8	2.60	.05
H	8.4	4.5	7.8	3.6	0.6	.61	NS	7.5	4.4	0.9	1.27	NS
Total score	56.0	15.8	43.4	14.7	13.6	3.48	.01	44.2	18.4	11.8	2.71	.05
Placebo group (N = 12)												
A	10.8	3.6	10.2	4.6	0.5	0.72	NS	8.8	3.9	2.0	3.73	.01
P	4.3	3.2	5.3	3.7	-1.0	.12	NS	4.3	3.2	0	1.0	NS
O	8.8	3.4	7.9	3.1	0.8	0.93	NS	7.1	2.8	1.7	1.73	NS
S	8.9	2.8	5.5	3.5	3.4	3.22	.01	5.0	3.8	2.9	6.07	.01
D	8.4	3.9	9.0	4.0	0.4	0.46	NS	7.0	4.0	1.4	2.33	.04
H	8.2	3.2	7.3	1.6	0.9	1.25	NS	7.5	3.0	0.7	0.92	NS
Total score	49.3	14.1	44.2	16.4	5.1	1.36	NS	39.6	14.4	9.7	4.03	.01

TABLE V
Weight in kg at admission, target weight plus 4 weeks, and at 1 year follow-up

	N	Admission weight				Target weight				One year follow-up				Weight outcome category*						
		Mean		SD		% Weight increase		Follow-up weight		Follow-up weight as % MMPW		1			2			3		
		Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	
Treated group	11	41.0	5.7	54.4	3.6	34.5	15.5	48.0	7.1	84.6	11.7	6	2	3						
Placebo group	12	40.2	7.5	54.1	5.2	37.1	18.6	47.4	7.6	83.1	10.9	6	2	4						

* Category 1 = 85–115% of MMPW
 Category 2 = 75–84% of MMPW
 Category 3 = below 75% of MMPW

TABLE VI
Mean scores for self-perceived change in social activity at 1 year follow-up on Social Situations Questionnaire

	'Difficulty' pre admission to hospital		At present time		'Frequency' 3 month period before admission		Last 3 months	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
	Treated group	42.8	25.9	30.5	29.1	78.7	21.6	64.4
Placebo group	45.1	23.8	27.4	18.2	81.9	21.9	60.5	24.0

NS

't' = 1.99 NS

't' = 4.52 P < 0.001

Related 't' = 1.4

't' = 3.28 P < 0.01

those generated by morbidly anxious and depressed patients respectively (see Crown and Crisp, 1979). There are no significant differences in these mean scores on admission between the treatment and placebo groups, although the placebo group tends to score slightly lower, and more especially so on the obsessional and depression scales.

(ii) Social Questionnaire. SAD and FNE scores at admission (Table III) are not significantly different for the two groups. Unpublished data (available on request) indicate that the present anorectic population has a significantly lower admission SAD score than an adult female neurotic population referred for behavioural treatment. However, their SAD score is higher than that of 2 separate normal control female student groups. Their FNE scores, however, are not significantly different from the patient population and differ significantly only from the control university student sample and not the student nurse control sample.

After treatment

(a) *Target weight plus four weeks:* At this stage when all patients in the study have achieved normal adult body weight and sustained it for four weeks there is a tendency for all CCEI scale scores to be lower than on admission, but mainly significantly so for the treatment group on A, S and D scales. Only the S scale drops significantly for the placebo group (Tables III and IV).

(b) *At one year follow-up:* There are further drops in mean scores for the placebo group (Tables III and IV). The placebo group are by then significantly less 'anxious', 'somatic' and 'depressed'. The treatment group remains significantly less 'anxious', 'somatic' and 'depressed' and also shows significantly reduced 'fear of negative evaluation'.

However, in terms of body weight at one year follow-up six subjects in each group are within normal limits and the remainder (five in the treatment group and six in the placebo group) are substantially underweight (Table V). Table VI indicates self-perceived change in social adjustment made by the patients at one year follow-up and is based on their recollection of pre-admission 'difficulty' and 'frequency' of social activity. The instruction on the 'Social Situations Questionnaire' (Trower *et al*, 1978) was modified to accommodate the circumstances of this patient population. The changed scores reported by the placebo group are statistically different whereas the changed scores for the social anxiety treatment group are not.

Discussion

Social skills training applied in the way described

here does not have an effect on the outcome of anorexia nervosa in terms of body weight at one year follow-up. Its exhibition, however, was associated with the patient's ability to stay in overall treatment during this period. However, since self-discharge during the time of this in-patient study was far in excess of our usual experience it may be that the existence of an apparently valued treatment not available to those in the placebo group facilitated the discharge within the consequently induced negative transferences (Marzillier, 1978).

Other than this social skills training was associated with a more rapid reduction in levels of anxiety, depression and fear of negative evaluation. The mean difference in FNE for each of the groups with a university student sample narrows and is no longer significantly different as it had been for each of the study groups at admission when compared with this sample. It is in the SAD scores which perhaps reflect the personality characteristic, 'shyness' (Crozier, 1979), 'schizoid withdrawal' (Watson and Friend, 1969) of 'social anxiety' (Nichols, 1974) that neither group made any significant change. However, unexpectedly at one year follow-up it was the placebo group which showed improvement in terms of social situations despite continuing to report similar degrees of social anxiety.

It may be that, in this study, the potential effects of social skills training were swamped by the individual and family psychotherapy that everyone received. The treatment was also conducted in clinical circumstances that largely precluded in vivo practice. Moreover, in this study we did not monitor the psychological status, nor search for changes in it, within the parents. Previous studies have shown that the basic treatment programme is associated with increases in parental anxiety and depression as the patients gain weight (Crisp *et al*, 1974); also that 'emotionality' in the patient at target weight confers a better long term prognosis for the patient (Crisp *et al*, 1979).

Because of these many issues we would not at this stage consider social skills training to be valueless in the treatment of anorexia nervosa. It may well have a place within other treatment contexts, e.g. in out-patient clinics and in units where it is the main psychotherapy skill available. We suggest that further studies should monitor changes not only in the patients but also in their families. It is also clearly important to follow up the impact of any treatment of patients with anorexia nervosa for at least four years (Crisp, 1980) and, indeed, we plan to do this in respect of the study reported here.

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