British Journal of Medical Psychology (2000), 73, 197–210 *Printed in Great Britain*

Effectiveness of time-limited cognitive analytic therapy of borderline personality disorder: Factors associated with outcome

Anthony Ryle*
King's College, London, UK

Katya Golynkina
Department of Clinical Psychology, Guy's Hospital and King's College, London, UK

Most patients with borderline personality disorder receive no formal treatment for their personality disorder and psychotherapy is widely believed to be necessarily intensive, of long duration and of uncertain effect. This study seeks to demonstrate the scope and limits of time-limited outpatient cognitive analytic psychotherapy. Cases were identified by standard diagnostic procedures. Most were referred from psychiatrists and were typical of inner city patient populations. At an assessment 6 months after therapy the 27 patients completing therapy were divided into 'improved' and 'unimproved' groups. The patients classified as improved no longer met diagnostic criteria for borderline personality disorder. The two-thirds still traceable were re-tested at 18 months. These groups were compared in terms of a number of pre-therapy measures and features. Poorer outcome was associated with greater severity of borderline features, a history of self-cutting, alcohol abuse and unemployment.

Borderline personality disorder (BPD) usually becomes apparent in adolescence or early adult life. The great majority of cases have suffered severe abuse or deprivation in childhood. The severity of the disorder usually diminishes over 15–20 years, especially as regards impulsivity, but the majority continue to live lives restricted by symptoms and many survive at the cost of avoiding close personal relationships. Nearly 10% of once hospitalized patients die by suicide.

While the diagnosis of BPD according to the evolved criteria of DSM–IV (APA, 1994) reliably identifies a group of patients showing severe problems in respect of self-care and relationships with others, the category includes patients of widely differing symptomatology and severity. Most cases of BPD also meet the diagnostic criteria of other Axis II and of some Axis I diagnoses; the conventional description of this as 'co-morbidity' seems inappropriate, for severe adverse childhood experiences, combined with organic factors or genetic predisposition in some cases, produce extensive developmental damage rather than a set of separate disease entities. Within the group of patients diagnosed as BPD both the symptom profile and the level of severity of the various features vary in ways likely to affect the course and response to treatment.

*Requests for reprints should be addressed to Dr Anthony Ryle, CAT Office, Munro Centre, Guy's Hospital, London SE1 9RT, UK.

Factors associated with the course of borderline personality disorder

Because of the variability of BPD and the fact that more-or-less reliable diagnostic criteria have been developed only recently, no more than tentative conclusions can be drawn about the course of BPD and the factors influencing it. Stone (1993), in a study of 500 patients, found that after 10–25 years about half of his sample had shown considerable improvement, while nearly 9% had died by suicide. He reported that being of high intelligence, having artistic talents, being attractive, having some obsessive–compulsive traits and having successfully given up abusing alcohol were associated with a better outcome, whereas having a history of brutal parents and father–daughter incest and having associated schizotypal or sociopathic traits were associated with poor outcome. It should be noted that Stone's sample were middle or upper middle class New Yorkers and that they spent, on average, just over a year as inpatients. Paris (1993, 1996), in his own study of a less privileged population, found a similar suicide rate and on the basis of his own work and a literature review concluded that there were no clear predictors of outcome, although he suggested that a good work history was associated with therapeutic engagement. Overall, he found 'no evidence that treatment has an effect on outcome'. Higgitt and Fonagy (1992) reviewed the evidence for the effectiveness of a range of treatment methods and found that most had some impact, especially on less severely disturbed patients. They noted the absence of any other clear predictive factors and indicated the need for research in this area.

The influence of severity and 'co-morbidity' on outcome receives support from Marziali, Munroe-Blum, and Links (1994) and from Dolan, Evans, and Norton (1995). The former divided more from less severe patients on the basis of scores on the revised Diagnostic Interview for Borderlines and showed that one-half of the less severe group had a major depressive disorder but no other Axis II diagnoses disorder, whereas those with higher scores had more associated personality disorder diagnoses and a high incidence of substance abuse. The latter authors showed that multiple Axis II diagnoses were very common and that this 'breadth' of psychopathology was associated with a poorer outcome.

Apart from the severity and breadth of borderline pathology, the clinical feature of BPD most often reported as having an association with poor outcome is impulsivity. Of associated Axis I disorders, substance abuse is the most negative in its impact. Associated depression is extremely common, the nature of its relation to BPD being uncertain (Gunderson & Phillips, 1991).

The impact and practicality of treatments for BPD

The course of BPD and the response to treatment could, in principle, be influenced by: (a) the intensity and duration of early exposure to the particular forms of abuse and deprivation known to be particularly common in cases of BPD; (b) general social and cultural influences such as poverty, poor education and unemployment; (c) the extent to which the individual has any personal or social support; (d) the number of diagnostic features present and their intensity; (e) the nature and severity of associated Axis II and Axis I conditions; (f) genetic variability. These factors cannot be regarded as independent of each other. Their presence needs to be taken into account as far as possible if differences in treatment outcome in different samples of BPD are to be interpreted. It is

also important to bear in mind the fact that practitioners using different treatment models will recruit patients from different social groups and through different referral pathways and that different treatment modes may be effective in changing different aspects of BPD.

Given the complexity and variability of BPD and the fact that the treatments used vary over a wide range in terms of duration, setting, objectives and method, it is not surprising that no clear evidence exists on the basis of which effective interventions can be selected and applied to appropriately matched patients. Most of the treatment outcome studies are American and refer to long-term psychoanalytic treatments, many in inpatient settings. While even such expensive treatments may be cost effective (Gabbard, Lazar, Hornberger, & Spiegel, 1997) facilities for such treatment in the UK are scant. The report by Menzies, Dolan, and Norton (1993) of work at the Henderson Hospital and the review of therapeutic community studies by Warren and Dolan (1996), while not based on controlled studies, suggest that such treatment can be clinically helpful and cost effective when direct and indirect savings are taken into account. However, only a minority of patients would need therapeutic community care even if it was available. Most services in the UK are unable or unwilling to offer outpatient psychotherapy to borderline patients.

One reason for this is the general belief that such treatment is of necessity prolonged and intensive. This belief reflects the largely American psychoanalytic literature. As an example, Gunderson and Sabo (1993) recommend three or more sessions per week for 4 or more years. This literature also reports very high drop-out rates; in a review of many studies Gunderson *et al.* (1989) found that between one-quarter and two-thirds of patients in psychodynamic therapy drop out in the first 6 months.

More practical and economical treatments have been reported in non-randomized trials. Stevenson and Meares (1992) reported that after 1 year of twice weekly therapy a third of their patients no longer met borderline criteria. Garyfallos *et al.* (1998) reported the evaluation of 16-session cognitive analytic therapy (CAT) in an outpatient service, using the Minnesota Multiphasic Personality Inventory (MMPI). They reported (personal communication, 1999) satisfactory outcomes for the majority of the 38 borderline patients treated, only seven of whom received a second course of CAT. Linehan, Armstrong, Suarez, Allmon, and Heard (1991) and Linehan, Tutek, Heard, and Armstrong (1994) reported two small randomized controlled trials of Dialectical Behaviour Therapy (DBT); although there was a reduction in parasuicidal behaviour and inpatient stays in the treated group, changes in most psychometric scores were modest and 2 of the 32 patients receiving DBT committed suicide.

The CAT model and treatment of BPD

The CAT model of the development and structure of BPD is described in Ryle (1997a) and its application to therapy and relation to other models is more fully considered in Ryle (1997b). The features of BPD are understood to reflect the partial dissociation of personality into a small number of 'self states' each characterized by mood, the extent of the access to and control of affect, and by a characteristic reciprocal role repertoire manifest in patterns of self-management and of interpersonal relationships. Psychotherapy involves the early collaboration of patient and therapist in the identification and

characterization of the self states and of switches between them. These understandings are recorded in writing and in diagrams which become the shared tools of therapy, providing the patient with a new basis for self-reflection and the therapist with a means of avoiding or correcting responses likely to reinforce negative interpersonal patterns and maintain fragmentation. Illustrative case histories are reported in Ryle and Beard (1993), Ryle and Marlowe (1995), Dunn (1994) and in Ryle (1997b); the latter contains descriptions of some of the cases studied in the present paper.

Aim of the present study

The present study seeks to establish the value and limitations of time-limited CAT in a NHS setting and to identify features associated with the outcome. It is an uncontrolled, naturalistic study in which the referral, recruitment, diagnosis, demographic and clinical features and psychometric scores and the response to treatment of a series of patients meeting DSM–IV criteria for BPD are described.

Method

Recruitment of patients

Patients assessed in the CAT clinic at Guy's Hospital in whom a diagnosis of BPD seemed probable were identified. Those in whom the diagnosis was confirmed (see below) were invited to join the project. Patients were recruited over a number of years according to the availability of therapists and supervisors. Consent to audio-taping was obtained at this point and again during the first therapy interview, the one patient who refused being treated in the normal clinic. Patients were encouraged to audio-tape sessions and some did so.

The therapists and supervision

Therapy was carried out by CAT supervisors in six cases and in the remainder by trainees from various professional backgrounds, most of whom were currently doing the advanced CAT training. Therapists were required to play through the tapes before supervision. Supervision was normally carried out in groups of three, for 1.5 hours weekly.

The diagnostic criteria and a measure of severity

The diagnosis of BPD was based on the use of the Personality Assessment Schedule (PAS) of Tyrer, Alexander, and Ferguson (1987). Interviews were conducted by trainee psychiatrists during the first half of the study and by the authors thereafter. These interviews indicated a very high rate of 'co-morbidity' with other personality disorders, the first seven patients yielding a total of 43 Axis II diagnoses.

In an attempt to arrive at a measure of the intensity of borderline features and in order to confirm the diagnosis data from referral, assessment and early therapy records were combined and rated against the nine diagnostic features of the DSM–IV. A 9-point rating of the intensity and impact on life of each of the nine features was made independently by A.R. and K.G. The rating method is described in the Appendix. The inter-rater agreement achieved a significant level in eight of the nine DSM–IV characteristics and the mean rating based on these eight traits was used as a measure of borderline severity.

This retrospective process led to the exclusion from the sample of two cases in whom fewer than five DSM–IV traits were confirmed.

Clinical data

The recorded history of childhood sexual and physical abuse and deprivation was rated as none, some or severe. The history in respect to other features considered to indicate severity or to represent problems for

therapy was recorded, this listed self-cutting, self-poisoning, hospitalization after overdosing, alcohol and other substance abuse, a forensic history, episodes of loss of control violence, binge eating and any major adverse life events. These were recorded as in the past year and at any time in the past.

Demographic data

The educational level, employment history, marital status and gender orientation of the patients were recorded.

Psychometric tests

At the time of referral to the CAT clinic all patients are sent the following questionnaires, to be completed before their assessment interview: The Beck Depression Inventory (BDI; Beck, Ward, Mendelson, Mock, & Erbaugh, 1961); The Symptom Check List (SCL-90-R; Derogatis, Lipman, & Covi, 1973); The Inventory of Interpersonal Problems (IIP; Horowitz, Rosenberg, Baer, Ureno, & Villasenor, 1968) and the Social Questionnaire (SQ; Corney, Clare, & Fry, 1982). Scores on all of these were significantly higher in the borderline sample than in general referrals to the clinic ($p < .001$, .007, .001 and .001, respectively).

Measures of process and the quality of therapist input

Detailed process studies of the therapies of some patients in the present sample are reported in Bennett and Parry (1998) and Ryle and Marlowe (1995); these data are not reported here. For the purposes of the present study a measure of some aspects of therapist competence was derived by rating the quality of the written materials which CAT therapists produce, namely the reformulation letter and diagram and the goodbye letter against ideal ratings.

Measures of change following therapy

Patients were assessed about 6 months after completing therapy, at which time they would normally have had their last follow-up meeting with the therapist. In a few cases earlier assessment was arranged in order to plan further treatment but none had started treatment by the time of the 6-month follow-up interview. At this point the following procedures were carried out.

(1) A post-therapy interview was conducted. The aim was to determine whether or not the patient still met borderline diagnostic criteria on the basis of the PAS. On this basis patients were classified as either improved or unimproved. In the patients assessed in the second half of the project the interviewers considered only the four items of the PAS which determine borderline status. The assessor then carried out a semi-structured inquiry in which each of the Target Problems and Target Problem Procedures identified by the patient and therapist at the reformulation stage of therapy and recorded in verbal and diagrammatic form was discussed, reports of change being considered in detail. On the basis of this discussion, assessor and patient rated change in problems and change in procedures on 5-point scales, the lower rating being recorded in case of disagreement.
(2) On the basis of the interview a decision as to whether further treatment was needed was made either by the assessor alone or, more usually, by the clinic assessment meeting.
(3) The original battery of questionnaires was re-administered.

Patients were re-contacted by mail 1 year after their post-therapy interview and in some cases 2 and 3 years after; they were asked to say if they were receiving any treatment and if they would like to attend for re-assessment and they were given the questionnaire battery to complete. In the event of non-response a second letter, telephoning where practicable, and contacting the referrer were tried in turn. Despite this, attrition in the years after the post-therapy interview was high and, as the potential sample size also diminished with time due to the serial recruitment of the patients, statistical analysis was only carried out on the 6 and 18 month data.

Results

Attrition

Thirty-nine patients were entered in the study. Two of these were removed from the sample after therapy when the combined diagnostic assessment made retrospectively did not confirm the diagnosis; both cases had good outcome. Of the 37 remaining patients, 3 were referred out for treatment of substance abuse and 1 was admitted for inpatient care after a few meetings. Of the remaining 33, 2 moved away in the middle of their treatment and, of the 31 left, 4 dropped out before completing therapy. The remaining 27 patients constituted the research sample. All of them attended for the 6-month follow-up and 18 attended at 18 months.

The research sample

Table 1 records the demographic and developmental features of the sample and clinical data. Eighteen patients had attended outpatient clinics during the year before referral and had received some form of counselling; 14 were taking psychotropic drugs, mainly antidepressants, and continued to do so. Pre-therapy mean psychometric scores of the 27 patients are given in Table 2.

In therapy events

Six patients continued to abuse alcohol and 10 used other substances, largely cannabis or 'ecstasy', during therapy, although use diminished in many cases. Three patients overdosed, two being hospitalized.

Outcome

(1) Post-therapy assessment. Fourteen patients (52%) no longer met criteria for BPD according to PAS. The post-therapy interview ratings of change in Target Problems and Target Problem Procedures for the 27 patients completing therapy are given in Table 3. Fourteen patients (Table 4) were judged as needing further treatment; they were offered more CAT (three cases), group therapy (four cases) or were referred back to the outpatient or Community Mental Health Centre from which they had been referred. In the latter case cognitive behavioural treatment building on the CAT was administered by Community Psychiatric Nurses in some cases. Mean psychometric scores for the whole sample post-therapy showed significant change (Table 2). Unfortunately one-third of the sample had been lost to follow-up at 18 months; those who were followed up at this time showed a continuing decrease in psychometric scores.

(2) Division into 'improved' and 'unimproved' groups. In order to identify factors associated with outcome, patients were divided into 'improved' and 'unimproved' categories at the post-therapy (6 months) assessment. The 14 patients who no longer met the criteria for BPD were classified as 'improved'. The remaining 'unimproved' patients were

sub-divided between 'uncertain' ($N = 6$) where interview ratings or scores on the BDI showed some change, and 'no change' ($N = 7$).

(3) Features of the 'improved' and 'unimproved' groups. Other indices of change largely paralleled the 'improved–unimproved' classification. Thus Table 4 shows that, at the 6-month follow-up, the 'improved' group was significantly more likely to be in some kind of employment and more often in ongoing relationship. Deliberate self-harm and episodes of violence were confined to the 'unimproved' group, nearly all of whom had been recommended for further treatment. Scores on the BDI, IIP, SQ and the Global Severity Index (GSI) of the SCL-90-R in the 'improved' and 'unimproved' groups, at the 6-month follow-up and 18 months after therapy, are recorded in Table 2. Initial score levels were higher in the 'unimproved' group with the exception of SQ. An analyses of covariance (ANCOVAs), with pre-treatment scores as covariates, was carried out; this showed that the changes in the 'improved' group were significantly greater. Further positive changes (with the 'improved' group having significantly fewer symptoms and social problems) were found in both groups in those contacted at the 18 months follow-up (rates of attrition were similar in the two groups). As the research patients were recruited over a number of years, longer term follow-up involves increasingly small and possibly increasingly biased samples. One patient categorized as 'unimproved' made a major therapy-related change in the third post-therapy year. Another 'unimproved' patient was re-referred 4 years after treatment; while still meeting borderline criteria the severity of disturbance was much reduced and her initially very frequent self-cutting has stopped. Three 'improved' patients returned for further treatment after 3–6 years. Of the two of these who reported continuing gains from therapy, one had a depressive illness provoked by work difficulties which were in part reflections of some personality traits and the other, having achieved greater personal and occupational stability, presented with anxiety consequent upon risking greater emotional intimacy. The third patient, following failures to establish close relationships, came with a return of his previous borderline features. One 'improved' patient having remained well for 3 years, wrote (unfortunately not giving his address) to say that he had spent a year in prison for burglary.

(4) Pre-therapy characteristics associated with outcome. Table 1 lists a number of demographic, developmental and clinical features which were considered of possible significance in determining treatment response, and past treatment history is also recorded. The following individual items were significantly associated with 'unimproved' versus 'improved' status: a poor occupational history, self-cutting either in the past year or at any time and a past history of alcohol abuse. The following factors were not significantly discriminatory: impulsivity as rated by PAS; age, sex, marital status, gender orientation, educational level, childhood physical and sexual abuse, a history of substance abuse either in the past year or ever; a history of violence; a history of eating disorder; a history of previous treatment; current psychotropic medication. Other features tested were pre-therapy scores on the questionnaires, none of which were related to outcome, and the severity rating of the DSM–IV features. Mean scores on this were significantly higher ($p = .015$) in the 'unimproved' group (6.29) as compared with the 'improved' group (5.19).

Table 1. Demographic, developmental and clinical features of the sample of BPD patients

Pre-therapy variables	Whole sample $N = 27$	'Improved' $N = 14$	'Unimproved' $N = 13$	Stat test χ^2 or *t*-test (*t*-test in italics)	Fisher's exact test[a]	p[b]
Demographic						
Age (years: *M* (SD))	34.3 (7.5)	35.2 (8.2)	33.3 (6.7)	.66		.51
Sex						
Male	11	7	4	1.03		.30
Female	16	7	9			
Education				1.10		.57
Graduate or equivalent	4	3	1			
GCSE/A level, student	16	8	8			
No qualifications	7	3	4			
Employment in past year				9.57	.012*	.008
Full-time	10	9	1			
Part-time	5	2	3			
Unemployed	12	3	9			
Marital status				.41		.93
Married/stable cohabit	7	4	3			
Divorced	5	3	2			
Single	9	4	5			
3 + partners in past year	6	3	3			
Gender orientation				2.57		.27
Heterosexual	19	11	8			
Homosexual	3	2	1			
Bi-sexual	5	1	4			
Developmental						
Childhood abuse and neglect						
Sexual abuse				1.38		.49
Severe	11	6	5			
Some	4	3	1			
Physical abuse				5.25		.07
Severe	9	6	3			
Some	4	0	4			
Deprivation				3.5		1.7
Severe	11	4	7			
Some	12	9	3			
Clinical features						
Self-cutting						
Past year	10	2	8	6.54	.015*	.011*
Ever	13	2	11	13.35	–	.0002*
Self-poisoning						
Past year	4	1	3	1.18	.29	.27
Ever	13	5	8	1.8	–	.17

Table 1. (continued)

Pre-therapy variables	Whole sample $N = 27$	'Improved' $N = 14$	'Unimproved' $N = 13$	Stat test χ^2 or t-test (t-test in italics)	Fisher's exact test[a]	p[b]
In hospital after overdose						
Past year	3	1	2	.46	.47	.46
Ever	6	4	2	.51	.40	.47
Alcohol abuse						
Past year	8	2	6	3.28	0.081	.069
Ever	13	4	9	4.46	0.03*	.034*
Other substances abuse						
Past year	10	6	4	.42	.40	.51
Ever	15	7	8	.36	–	.54
In the past year				.07	.55	.78
Cannabis	9	5	4			
Opiates	3	1	2	.46	.47	.49
Mood enhancers/ hallucinogens	6	3	3	.01	.63	.91
Forensic history						
Past year	3	0	3	3.63	.097	.056
Ever	9	4	5	.29	.44	.58
Loss of control/violence						
Past year	16	9	7	.001	.64	.97
Ever	19	9	10	1.19	.26	.27
Eating disorders	8	3	5	1.43	–	.48
Major life events	10	6	4	.42	.40	.51
Impulsivity (as rated on PAS)	3.51 (1.43)	3.5 (1.38)	3.5 (1.60)	–	–	–
DSM Index of Severity	5.72 (1.21)	5.19 (.87)	6.29 (1.29)	2.60	–	0.015*
Treatment history						
Outpatient counselling/therapy						
Past year	18	9	9	–	–	–
Ever	18	9	9	–	–	–
Psychiatric inpatient						
Past year	1	1	0	1.03	–	.30
Ever	11	7	4			
Prescribed medication	14	5	9	3.03	–	.081

[a]Fisher's exact test is based on 'unemployed vs. the rest', 'self-cutting vs. no cutting', 'alcohol abuse vs. no abuse'.
[b]p* refers to a level of significance in comparing pre- and post-therapy scores and scores obtained 18 months after therapy with t-tests.

Table 2. Pre- and post-therapy psychometric scores in the BPD treatment sample

	Whole sample $N = 27$ M (SD)	'Improved' $N = 14$ M (SD)	'Unimproved' $N = 13$ M (SD)	ANCOVA F	ANCOVA $p <$
BDI					
Pre-treatment	29.70 (12.14)	27.93 (11.02)	31.62 (13.44)		
Post-treatment	20.19 (15.07) ($N = 26$)	9.77 (7.80) ($N = 13$)	30.62 (13.31) ($N = 13$)	26.87	.001
$p^* <$ Pre–post	.002				
18 months after	11.94 (14.29) ($N = 18$)	6.33 (6.74) ($N = 9$)	17.89 (16.98) ($N = 9$)	2.84	n.s.
$p^* <$ Post-18 months	.04				
IIP					
Pre-treatment	2.16 (0.56)	2.06 (0.38)	2.27 (0.70)		
Post-treatment	1.53 (0.77) ($N = 27$)	1.03 (0.53) ($N = 14$)	2.02 (0.64) ($N = 13$)	17.64	.001
$p^* <$ Pre–post	.001				
18 months after	1.27 (0.91) ($N = 19$)	0.83 (0.49) ($N = 9$)	1.65 (0.01) ($N = 10$)	4.45	n.s.
$p^* <$ Post-18 months	n.s.				
SCL-90-R (GSI)					
Pre-treatment	1.92 (0.79)	1.81 (0.67)	2.04 (0.92)		
Post-treatment	1.41 (0.93) ($N = 27$)	0.72 (0.50) ($N = 14$)	2.10 (0.73) ($N = 13$)	38.36	.001
$p^* <$ Pre–post	.006				
18 months after	0.96 (0.97) ($N = 19$)	0.49 (0.50) ($N = 9$)	1.41 (1.08) ($N = 10$)	5.41	.03
$p^* <$ Post-18 months	.02				
SQ					
Pre-treatment	33.22 (18.29)	34.57 (24.49)	31.77 (9.81)		
Post-treatment	25.11 (12.60) ($N = 27$)	18.23 (10.55) ($N = 14$)	32.00 (10.82) ($N = 13$)	12.94	.002
$p^* <$ Pre–post	.04				
18 months after	20.00 (12.35) ($N = 17$)	13.78 (7.19) ($N = 9$)	27.37 (12.52) ($N = 8$)	7.05	.02
$p^* <$ post-18 months	n.s.				

Table 3. Post-therapy interview ratings of 27 borderline patients

Rating	Target problems	Target problem procedures
Clearly improved	9	8
Some improvement	13	11
No change	4	8
Worse	1	0
Much worse	0	0

(5) Relation of in-therapy variables to outcome. The 'improved' and 'unimproved' groups did not differ in respect of the number of missed sessions, substance abuse or deliberate self-harm during therapy.

(6) Therapist variables. Ratings of the quality of therapist documents had no significant association with outcome but were slightly (non-significantly) better in the 'improved' group.

Discussion

Twenty four sessions plus four follow-up meetings is a much shorter intervention than is usually recommended for BPD. The low drop-out rate and the evidence of substantial improvement at the post-therapy assessment and of further psychometric change in the subsequent year in most patients is encouraging and suggests that CAT could contribute

Table 4. Patients' post-therapy characteristics in two different outcome groups

Post-therapy variables	'Improved' $N = 14$	'Unimproved' $N = 13$	χ^2	Fisher's exact test[a]	p^b
Demographic					
Employment since therapy: at least part-time	13	4	10.11	.002*	.001
Relationship: in on-going relationship, married or co-habiting	7	2	3.17	.08	.074
Clinical features					
Self-cutting episodes	0	5	7.22	.01*	.007
Self-poisoning	0	0	–	–	–
In hospital after overdose	0	0	–	–	–
Alcohol abuse	0	1	1.32	.44	.25
Other substances abuse	4	2	.88	.32	.34
Loss of control violence	0	5	7.46	.01*	.006
Forensic episodes	1	0	.74	.58	.38
Major life events	4	2	.68	.36	.41
Treatment since CAT					
Psychiatric inpatient since therapy	0	0	–	–	–
Prescribed medication	8	6	.17	.61	.89
Referred for further treatment	3	11	12.82	.001*	.000

For footnotes see Table 1.

to any service treating personality-disordered patients. The early collaborative work with patients, the early attention paid to any patients' procedures likely to disrupt the therapy relationship and the explicit agenda agreed with patients in CAT are likely to contribute to this result. These features are identified as important by Yeomans, Selzer, and Clarkin (1993) in their study of the treatment contract in psychoanalytic psychotherapy. The use of diagrams in CAT is also an important way of avoiding collusive responses and of encouraging integration.

Factors associated with outcome

The factors identified as predictive of poorer outcome were greater severity of borderline features, a history of self-harm, a history of alcohol abuse and being unemployed. Neither the extensive review by Higgit and Fonagy (1992) nor the studies included in Paris (1993) reported clear predictors of treatment response. Stone (1993) found that stopping alcohol abuse was associated with a more favourable outcome and Paris (1996) suggested that patients with a good employment record did better; our results are in line with these reports. Marziali *et al.* (1994) emphasized the significance of associated depression, finding that patients with less severe borderline symptoms tended to have fewer associated Axis II diagnoses and more frequent depression. All of the patients in our study had been assessed for the presence of major depression and half were taking antidepressant medication before and during their psychotherapy (although their mean scores on the BDI were, nonetheless, still markedly elevated). One may conclude that improvements were the effect of the therapy and not of the medication of the accompanying depression. Initial scores on the psychometric tests used in the study were not predictive of outcome but the measurement of more fundamental borderline features might have been more effective in this respect. Our results support the influence of severity on treatment response, as indicated by a range of features rather than by any single measure.

The duration of treatment

The finding that, at 18 months, mean psychometric scores had continued to decrease in both 'improved' and 'unimproved' groups (in the two-thirds who were available for testing) suggests that treatment had a continuing effect, either directly or in enabling patients to make use of what further treatment was offered and available. While prediction of response may remain difficult, there may be a case for introducing a more flexible time frame or for offering a second phase of treatment according to treatment response.

Further research

Further research should rely upon the use of more specific and preferably dimensional methods of measurement. The present study was a naturalistic one in which most therapists were still in training and in which the patients were probably typical of those encountered in inner city psychiatric practice. The place of CAT in a fully integrated treatment service could not be evaluated as no other resources designed for personality-disordered patients currently exist. The specific effectiveness of CAT is currently being further researched in a randomized controlled trial.

References

American Psychiatric Association (1994). *Diagnostic and statistical manual of mental disorder* (4th ed.). Washington, DC: American Psychiatric Association.

Beck, A. T., Ward, C. H., Mendelson, M., Mock, J. E., & Erbaugh, J. K. (1961). An inventory for measuring depression. *Archives of General Psychiatry*, 4, 561–571.

Bennett, D., & Parry, G. (1996). The accuracy of reformulation in Cognitive Analytic Therapy: A validation study. *Psychotherapy Research*, 8, 84–103.

Corney, R. H., Clare, A. W., & Fry, J. (1982). The development of a self-report questionnaire to identify social problems—A pilot study. *Psychological Medicine*, 12, 903–909.

Derogatis, L. R., Lipman, L. S., & Covi, M. D. (1973). SCL-90: An outpatient rating scale: Preliminary report. *Psychopharmacotherapy Bulletin*, 9, 13–29.

Dolan, B., Evans, C., & Norton, K. (1995). Multiple Axis II diagnoses of personality disorder. *British Journal of Psychiatry*, 166, 107–112.

Dunn, M. (1994). Variations in Cognitive Analytic Therapy technique in the treatment of a severely disturbed patient. *International Journal of Short-Term Psychotherapy*, 9, 119–134.

Gabbard, G. O., Lazar, S. G., Hornberger, J., & Spiegel, D. (1997). The economic impact of psychotherapy, a review. *American Journal of Psychiatry*, 154, 147–155.

Garyfallos, G., Adamopolou, A., Mastrogianni, A., Voitili, M., Saitis, M., Alektorides, P., Zlatanos, D., & Pantagi, A. (1998). Evaluation of Cognitive Analytic Therapy outcome in Greek psychiatric outpatients. *The European Journal of Psychiatry*, 12(3), 167–179.

Gunderson, J. G., Frank, A. F., Ronnington, E. F., Wachter, S., Lynch, V. G., & Wolf, P. J. (1989). Early discontinuance of borderline patients from psychotherapy. *Journal of Nervous and Mental Diseases*, 177(1), 38–42.

Gunderson, J. G., & Phillips, K. A. (1991). A current view of the interface between borderline personality disorder and depression. *American Journal of Psychiatry*, 148, 967–975.

Gunderson, J. G., & Sabo, A. N. (1993). Treatment of borderline personality disorder: A critical review. In J. Paris (Ed.), *Borderline personality disorder: Etiology and treatment* (pp. 385–407). Washington, DC: American Psychiatric Press.

Higgitt, A., & Fonagy, P. (1992). Psychotherapy of narcissistic and borderline personality disorder. *British Journal of Psychiatry*, 167, 23–43.

Horowitz, L., Rosenberg, S., Baer, B., Ureno, G., & Villasenor, V. (1988). Inventory of Interpersonal Problems: Psychometric properties and clinical applications. *Journal of Consulting and Clinical Psychology*, 56, 885–892.

Linehan, M. M., Armstrong, H. E., Suarez, A., Allmon, D., & Heard, H. L. (1991). Cognitive behavioural treatment of chronically parasuicidal borderline patients. *Archives of General Psychiatry*, 48, 1060–1064.

Linehan, M. M., Tutek, D. A., Heard, H. L., & Armstrong, H. E. (1994). Interpersonal outcome of Dialectical Behaviour Therapy for chronically suicidal borderline patients. *American Journal of Psychiatry*, 151, 1771–1776.

Marziali, E., Munroe-Blum, H., & Links, P. (1994). Severity as a diagnostic dimension of BPD. *Canadian Journal of Psychiatry*, 39, 540–544.

Menzies, D., Dolan, B. M., & Norton, K. (1993). Are short term savings worth long term costs? Funding treatment for personality disorders. *Psychiatric Bulletin*, 17, 517–519.

Paris, J. (Ed.) (1993). *Borderline personality disorder: Etiology and treatment.* Washington, DC: American Psychiatric Press.

Paris, J. (1996). *Social factors in the personality disorders.* Cambridge: Cambridge University Press.

Ryle, A. (1997a). The structure and development of borderline personality disorder: A proposed model. *British Journal of Psychiatry*, 1679, 82–87.

Ryle, A. (1997b). *Cognitive analytic therapy and borderline personality disorder: The model and the method.* Chichester: Wiley.

Ryle, A., & Beard, H. (1993). The integrative effect of reformulation: cognitive analytic therapy with a patient with borderline personality disorder. *British Journal of Medical Psychology*, 66, 249–258.

Ryle, A., & Marlow, M. J. (1995). Cognitive analytic therapy of borderline personality disorder: Theory, practice and the clinical and research uses of the self-states sequential diagram. *International Journal of Short-Term Psychotherapy*, 10, 21–34.

Stevenson, J., & Meares, R. (1992). An outcome study of psychotherapy for patients with borderline personality disorder. *American Journal of Psychiatry*, 49(3), 358–362.

Stone, M. H. (1993). Long term outcome in personality disorders. In P. Tyrer & G. Stein (Eds.), *Personality disorder reviewed* (pp. 321–345). London: Gaskell.

Tyrer, P., Alexander, J., & Ferguson, B. (1987). In P. Tyrer (Ed.), *Personality disorders: diagnosis, management and course* (pp. 43–62). London: Wright.

Warren, F., & Dolan, B. (1996). Treating the 'untreatable', Therapeutic Communities for personality disorders. *Therapeutic Communities*, 17(3), 205–216.

Yeomans, F., Selzer, M., & Clarkin, J. (1993). Studying the treatment contract in intensive psychotherapy with borderline patients. *Psychiatry*, 56, 254–263.

Received 28 September 1998; revised version received 7 October 1999

Appendix: The DSM index of severity

The Index of Severity for each patient was derived from independent rating carried out by the authors. The nine DSM–IV traits of BPD were rated for their intensity and their impact on the patients' lives against the following 9-point scale:

1 = mild/absent;
3 = always or recurrent (work and relationship affected but not destroyed);
6 = work/life disrupted (hurts self and others or uses harmful escapes, e.g. drugs);
9 = dominates daily life (destroys relationships, work or threat to life).

Ratings were made after inspecting all of the data recorded in the referral letter, the assessment interview, the therapist's record of the history and the reformulation letter. The mean ratings and the intercorrelations between them of the 37 patients who attended their first interview for whom adequate information was available are given in Table A1. The scores of the two raters on trait 7 (chronic feeling of emptiness) were not significantly correlated.

An individual patient's Index of Severity was calculated as the average of the two raters' mean scores on the remaining eight features.

Table A1. DSM rating of severity of BPD

	DSM–IV traits for BPD	AR rating mean (SD)	KG rating mean (SD)	Mean rating	Spearman *r*	*p* <
1	Frantic avoidance of feared abandonment	4.58 (2.60)	4.62 (1.72)	4.59 (2.28)	.67	.001
2	Unstable/intense interpersonal idealization/denigration	6.40 (2.08)	6.36 (1.29)	6.39 (1.80)	.43	.05
3	Marked unstable sense of self	6.71 (1.43)	6.14 (1.21)	6.48 (1.36)	.45	.05
4	Impulsive behaviours	5.48 (2.82)	5.14 (2.12)	5.34 (2.53)	.84	.001
5	Recurrent parasuicide, self-harm	3.76 (2.91)	4.38 (2.71)	4.00 (2.82)	.91	.001
6	Affect instability	6.56 (2.00)	6.05 (1.36)	6.36 (1.78)	.84	.001
7	Chronic feeling of emptiness	6.90 (1.94)	6.05 (1.43)	6.57 (1.79)	.37	n.s.
8	Inappropriate/intense/uncontrolled anger	4.94 (2.79)	5.23 (2.27)	5.05 (2.58)	.76	.001
9	Transient paranoid/severe dissociation	4.32 (2.80)	4.40 (2.72)	4.35 (2.75)	.91	.001