Cassel Personality Disorder Study

Methodology and treatment effects

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Background The effectiveness of hospital-based treatment models for personality disorder is still uncertain.

Aims To compare effectiveness of two models of psychosocial intervention for personality disorder.

Method Two samples of people with personality disorder allocated to a one-stage treatment model (in-patient treatment with no after care) and to a two-stage model (shorter in-patient admission followed by outreach therapy) are prospectively compared.

Results Subjects in the two-stage sample did significantly better on global assessment of mental health (according to the Global Assessment Score (GAS)) at 6 and 12 months and on social adjustment (according to the Social Adjustment Scale (SAS)) at 12 months. Significant differences in rates of reliable improvement on the GAS (43% v. 17%) and SAS (39% v. 15%) in favour of the two-stage condition were found at 12 months. Subjects with borderline personality disorder (BPD) allocated to the two-stage model improved significantly more than such patients in the one-stage model.

Conclusions A long-term phased model which combines hospital-based and community-based strategies has advantages over a purely in-patient model for the treatment of BPD.

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In this paper we outline the research programme carried out at the adult unit of the Cassel Hospital in collaboration with the psychoanalysis unit at University College London. This non-randomised prospective study aims to evaluate the degree of clinical effectiveness of a newly introduced treatment programme entailing a short hospital admission followed by a period of out-patient treatment (the 'two-stage programme') relative to a traditional programme which consists of 12 months of in-patient treatment but no post-discharge treatment provision ('one-stage programme'). The study started in January 1993 and recruitment ended in July 1997. In this paper, only results concerning treatment effects (12 months after initial admission) are presented. The study is still in progress; 24-month (follow-up) data have been collected and are currently being analysed for presentation in a later paper.

In-patient psychotherapy for personality disorder has remained confined to a few specialised centres, owing to the long-term nature of the treatment and the considerable costs and specific skills required for treatment delivery. The majority of patients for whom in-patient psychosocial treatment is indicated are those suffering from chronic personality disorders who have established themselves as being unresponsive to other traditional psychiatric approaches. Frequently, these subjects repetitively use and abuse medical and psychiatric resources, and become a drain on local health services (Tyrer & Seivewright, 1988; Chiesa et al, 1996).

The study of the effects of treatment on these patients in the poor prognosis spectrum has been carried out in specialised centres (McGlashan, 1986; Rosser et al, 1987; Stone, 1990; Karterud et al, 1992; Piper et al, 1994; Najavitis & Gunderson, 1995; Dolan et al, 1997). One of the common findings has been that long-term treatment is necessary for patients with borderline pathology. Some of these studies of the management of severe personality disorders have been criticised on the grounds that diagnostic criteria were not clear, outcome measures were relatively subjective and designs were retrospective rather than prospective (Aronson, 1989; Higgitt & Fonagy, 1993).

Our study attempted to overcome some of these problems. Patients were diagnosed according to DSM–III–R criteria (American Psychiatric Association, 1987), the outcome measures were objective, the assessment of outcome was multi-dimensional, assessments were repeated at regular intervals and from different vantage points, and the design was prospective.

METHOD

Description of treatment programmes

The main ingredients of psychosocial treatment at the Cassel Hospital are the socio-therapeutic programme, mainly managed by the nursing staff, and the formal psycho-analytic psychotherapy delivered by medical and non-medical psychotherapists. The individual twice-weekly therapy is of psychodynamic orientation and focuses on the interpretation of internal conflicts, on the confrontation and clarification of dysfunctional behaviour and on the analysis of institutional transferences as they become apparent during treatment.

The 'one-stage programme' consists of a hospital stay lasting 11–16 months. After discharge the responsibility of setting up further treatment or seeking additional support is left with patients.

The need to shorten hospital stays and to support patients during the transition between discharge and resuming life in the community led to the introduction in 1993 of a 'two-stage programme' (Chiesa, 1997). Patients are admitted for a shorter in-patient stay (six months), followed by 12–18 months of out-patient group psychotherapy and six months of concurrent community outreach nursing, both provided by Cassel Hospital staff. In the outreach stage of the programme patients are actively supported in communicating with other agencies within their community setting.

Patients residing outside the Greater London area who would be unable to attend the out-patient phase of the two-stage programme are assigned to the one-stage programme.

Main (1957) set out the main features of the one-stage model in the late 1950s and 1960s, when the hospital population consisted mainly of people with severe and incapacitating neurotic conditions. Patients who would now probably be diagnosed as having borderline personality disorder (BPD) seemed to have a poor prognosis. This clinical finding was later confirmed by a retrospective study carried out in the 1980s (Rosser et al, 1987), which showed that patients with BPD had a less favourable outcome than those with neurotic or other character disorders. More recent descriptive studies indicate that patients admitted to the Cassel Hospital over the past decade meet operational criteria for personality disorder, and that two-thirds have a BPD (see Chiesa & Drahorad, 1998).

Hypothesis

On the basis of these considerations we predicted that the phased and longer-term two-stage model will be more effective than the one-stage model for treating patients with BPD.

Design and sample

Patients were selected on the basis of specific inclusion and exclusion criteria which coincided with the clinical selection criteria for admission to the Cassel Hospital. Inclusion criteria were as follows: (a) age 18–55; (b) good command of the English language and IQ above 90; and (c) an Axis II diagnosis of personality disorder according to DSM–III–R criteria. Exclusion criteria were the following: (a) a previous diagnosis of schizophrenia or delusional (paranoid) disorder; (b) previous continuous stay in hospital for two years or more; (c) evidence of organic brain damage; and (d) involvement in criminal proceedings for violent crimes. Two patients admitted over the five-year period were excluded from the study because of organic brain pathology. All admitted patients who met the selection criteria were allocated to the two treatment groups according to the criteria based on geographical treatment accessibility. An initial pilot study in which patients were randomised failed, because subjects residing outside the Greater London area randomised to the two-stage intervention had to be re-allocated to the one-stage programme because they were unable to attend the outpatient stage of the programme. The option of randomising only those patients from Greater London would have reduced the sample size considerably and would not have given sufficient statistical power to detect between-group differences.

The researchers met all patients in order to explain the aims of the research and to seek written consent for their participation. Since 1993, when the study began, 135 consecutive admissions have been approached about participation in the study. Of these, 18 (13.1%) refused consent, 12 (15.7%) withdrew immediately after signing the consent form and a further 11 (14.4%) withdrew after completing the baseline battery. As selection criteria were not established for the former group, and the latter group of patients contributed no data (other than baseline data), they had to be excluded from data analysis. The majority of subjects who either did not sign up or withdrew belonged to the first two years of recruitment, when the introduction of the research programme had not yet been fully accepted by some clinical staff and by the patient group. We speculate that this may have led to a bias against participating on the part of some individuals in this complex patient group.

Results are presented and discussed for 90 patients (46 from the one-stage group; 44 from the two-stage group) who completed ratings of the three standardised outcome measures at intake, six and twelve months. Four subjects in the one-stage sample committed suicide before the six-month assessment and one subject in the two-stage group died of natural causes after dropping out of treatment. As no data were available, patients who committed suicide had to be excluded from the multivariate analysis, but they were included in the study of reliable change as having deteriorated on the Global Assessment Scale. The mean duration of in-patient treatment was 8.8 months (s.d.=4.32, median 10.77) for the one-stage group and 6.2 months (s.d.=1.81, median 6.43) for patients in the two-stage group. The latter remained in out-patient treatment for an average of 9.7 months (s.d.=6.98, median 13.23). The rate of premature termination of treatment was relatively high in both groups (47%), but since we adopted an 'intent-to-treat' design all subjects were recalled or traced for assessments.

Measures

The two groups were prospectively evaluated through a standard battery of self-rated and rater-based measures for a multi-dimensional evaluation of functioning. The outcome measures were applied longitudinally at intake and at 6, 12 and 24 months.

Forty-eight socio-demographic and clinical variables were collected at intake. Intelligence quotient equivalents were obtained through the administration of the National Adult Reading Test (Nelson, 1982), which consists of a list of 50 words printed in order of increasing difficulty. Diagnostic Axis I and II profiles have been obtained using the Structured Clinical Interview for DSM–III–R, Version 1.0 (SCID–I&II; Spitzer et al, 1990). The Symptom Check List (SCL–90; Derogatis, 1983), a four-point self-report clinical rating scale targeting symptoms in nine major areas of the patient psychosomatic and interpersonal functioning, was administered at baseline and six-monthly intervals thereafter. The SCL–90 general severity index (GSI) was the total score used in the study to report changes in degree of symptomatic distress. The interviewer-based version of the Social Adjustment Scale (SAS; Weissman, 1975) was administered at the same times. This instrument yields ratings on a four-point scale of adjustment in the areas of work, family of origin, marriage, sex and social leisure. A total social adjustment score is derived from the mean values of the sub-categories. The Global Assessment Scale (GAS; Endicott et al, 1976) was also administered every six months. The GAS is an anchored rating scale that allows the evaluation of a patient's general outcome in accordance with his or her level of functioning assessed during a specified time period (four weeks in the present study). The rating is on a continuous scale from 0 (completed suicide) to 100 (perfect functioning) representing a range from psychological sickness to health. The GAS is divided into zones: 1–30 (incapacitated), 31–50 (marginally adjusted), 51–60 (moderately adjusted), 61–70 (satisfactory, good adjustment), above 70 (asymptomatic, very good occupational, interpersonal and social adjustment).

The research workers were trained according to reliability criteria in the use of the instruments employed in the study through direct teaching and/or audio- or video-tapes obtained from original sources. Twenty per cent of assessment interviews concerning all major diagnostic and outcome measures were audio-taped, transcribed and subsequently edited in order to exclude information that may have given

an independent assessor an indication of the subject's group assignment. Finally, interrater reliability was tested by asking a research worker unfamiliar with the study to rate the tapes. The raters had no clinical involvement with patients or other clinical staff in order to ensure a degree of blindness as to clinical progress, knowledge of which could have influenced ratings. Cohen's kappa and Pearson's r reliability coefficients were computed as appropriate. Values of κ were calculated for each Axis I diagnosis (SCID–I), yielding a median value of 0.85 (range 0.73–1.00). On Axis II (SCID–II), reliability of diagnoses was 0.61 for cluster A, 0.67 for cluster B, and 1.00 for cluster C. On the SAS an interclass correlation coefficient (ICC) of 0.78 was obtained for the total score, showing satisfactory interrater agreement. On the GAS, good interrater reliability was found (ICC=0.79).

Data analysis

Baseline comparison between the two samples was performed using the Statistical Package for the Social Sciences (SPSS), version 7.5 (SPSS, 1996). The 'crosstabs' procedure was used for categorical variables, and means were compared by using the t-test for independent samples, except where distribution was not normal, when the Mann–Whitney U-test was performed.

A number of patients (under 5%) did not complete outcome questionnaires at either the six-month or 12-month observation points. In order to minimise bias from selective data loss, missing data were imputed by using a maximum likelihood regression approach in a BMDP5V program (Statistical Solutions, 1990). The SPSS multivariate approach to repeated-measures analysis of variance (MANOVA) was used to test the significance of changes in mean scores on three measures (GAS, GSI and SAS) and of the differences between the treatment conditions. The two-way MANOVA had one repeated-measures factor (time) and one between-subjects factor (group). Bonferroni tests of adjustment were used in *post hoc* pairwise contrasts provided by the MANOVA simple effects subroutine.

Improvement was also examined as a categorical variable. A reliable change index (RCI) was calculated for all three variables using the formula provided by Jacobson *et al* (1984), later amended by Christensen & Mendoza (1986). Patients

were defined as 'improved' if they showed reliable change on at least two measures with no concomitant deterioration on the third measure. Logistic regression was subsequently carried out in order to explore whether improvement status was related to borderline pathology and treatment programme allocation.

RESULTS

Treatment compliance and demographic and clinical features of the sample

Tables 1 and 2 compare the socio-demographic and clinical characteristics of the subjects allocated to the two groups. The groups were well matched on both demographic and clinical variables. The average age was 32; women outnumbered men; the majority were single, unemployed and living alone; two-thirds held qualifications above GCSE level (a school examination taken at age 15) and belonged to the upper three occupational levels (high professional, lower professional and non-manual skilled occupation). Seventy per cent of the sample met DSM–III–R criteria for BPD, whereas non-borderline subjects met diagnostic criteria mostly for avoidant (17%), paranoid (12%) or self-defeating (11%) personality disorder. On Axis I

diagnosis, 50% of the sample met criteria for mood disorder; a similar proportion met criteria for anxiety disorder. Comorbidity was high; the average numbers of diagnoses were 2.3 for Axis I and 3.5 for Axis II. Nearly half of the subjects reported experiences of sexual or physical abuse or both by the age of ten. Two-thirds of the subjects had made at least one suicide attempt, while just over half had engaged in self-mutilating episodes. The majority had been admitted to hospital at least once in their life, with an average of one hospital admission in the previous year. Most patients had been taking psychotropic medication – on average for eight months during the year prior to the index admission.

Treatment effects

The means and standard deviations of three key dependent variables (GAS, GSI and SAS total scores at intake, six and 12 months) for the two groups are shown in Table 3. A MANOVA and three separate repeated-measures univariate ANOVAs were applied to these data with time as a repeated-measures variable. Overall improvement across all variables is indicated by the significant time factor in the MANOVA (Wilk's λ=0.565, F=10.64, d.f.=6,83,

Table 1 Comparison of socio-demographic characteristics of the two treatment samples

Variable	One-stage group (n=46)	Two-stage group (n=44)
Age (years, mean (s.d.))	31.67 (7.91)	32.12 (8.61)
Gender: females (n (%))	36 (78%)	35 (79%)
Marital status (n (%))		
Single	31 (67%)	32 (73%)
Married or equivalent	8 (17%)	7 (15%)
Divorced, widowed or separated	7 (15%)	5 (11%)
In employment at admission (n (%))	6 (13%)	7 (16%)
Education (n (%))		
Above GCSEs[1]	34 (74%)	31 (70%)
GCSEs and below	12 (26%)	13 (30%)
Occupation (n (%))		
Upper three occupational levels[2]	28 (72%)	24 (69%)
Lower three occupational levels	11 (28%)	11 (31%)
Living situation (n (%))		
Alone	25 (54%)	26 (70%)
With others	21 (46%)	16 (38%)
Self-reported sexual abuse (n (%))	20 (44%)	21 (49%)
Self-reported physical abuse by carers (n (%))	20 (43%)	16 (36%)

1. School examination taken at age 15.
2. Higher professional, lower professional and non-manual skilled occupation.

Table 2 Comparison of clinical characteristics of the two treatment samples

Variable	One-stage group (*n*=46)	Two-stage group (*n*=44)
Parasuicide (*n* (%))		
In previous year	20 (44%)	24 (55%)
Ever	35 (77%)	34 (77%)
Self-mutilation (*n* (%))		
In previous year	24 (52%)	21 (48%)
Ever	26 (57%)	23 (52%)
Transient psychotic episode in previous year (*n* (%))	8 (17%)	9 (21%)
Hospital admissions		
Number in previous year (median (s.d.))	0.5 (1.14)	1.0 (1.37)
Ever hospitalised (*n* (%))	35 (77%)	30 (68%)
Length of hospital stay in previous year (days (median))	2.0	1.5
Psychotropic medication taken in previous year (*n* (%))	35 (81%)	32 (73%)
Time on medication in previous year (months (median))	12.0	11.5
Current Axis I DSM–III–R diagnosis (*n* (%))		
Mood disorders	23 (50%)	20 (46%)
Phobic disorders	22 (48%)	18 (41%)
Other anxiety disorders	16 (35%)	17 (39%)
Eating disorders	10 (22%)	8 (18%)
Substance use disorders	9 (20%)	6 (14%)
Current Axis II DSM–III–R diagnosis (*n* (%))		
Cluster A (paranoid, schizoid, schizotypal)	28 (62%)	22 (50%)
Cluster B (borderline, narcissistic, antisocial, histrionic)	34 (76%)	34 (77%)
Cluster C (avoidant, depressive, passive–aggressive, self-defeating, obssessive–compulsive)	42 (93%)	35 (80%)
National Adult Reading Test score (mean (s.d.))	117.40 (5.27)	115.05 (8.13)
SCL–90 general symptom index score (mean (s.d.))	2.07 (0.60)	1.86 (0.82)
SAS total adjustment score (mean (s.d.))	2.69 (0.45)	2.56 (0.54)
Global Assessment Scale score (mean (s.d.))	45.78 (6.76)	46.70 (6.48)

SCL–90, 90-item version of Symptom Check List; SAS, Social Adjustment Scale.

Table 3 Outcome scores at 12 months in the two samples

Variable	One-stage group (*n*=46)	Two-stage group (*n*=44)
GSI score (mean (s.d.))		
Intake	2.07 (0.60)	1.86 (0.82)
6 months	1.80 (0.52)	1.49 (0.83)
12 months	1.63 (0.63)	1.39 (0.91)
SAS score (mean (s.d.))		
Intake	2.68 (0.45)	2.56 (0.54)
6 months	2.55 (0.34)	2.37 (0.47)
12 months	2.46 (0.42)	2.17 (0.58)*
GAS score (mean (s.d.))		
Intake	45.78 (6.76)	46.70 (6.48)
6 months	49.16 (7.65)	53.83 (9.43)*†
12 months	51.09 (9.66)	58.71 (13.76)**††

Post hoc contrasts of groups: *$P < 0.05$, **$P < 0.01$.
Post hoc within-group contrasts: †$P < 0.05$, ††$P < 0.001$.
GSI, General Severity Index; SAS, Social Adjustment Scale; GAS, Global Assessment Scale.

$P < 0.0001$). Univariate analyses revealed that change for the total sample was significant on all three variables ($F=29.6$, d.f.=2,176, $P < 0.0001$; $F=23.4$, d.f.=2,176, $P < 0.0001$; $F=19.7$, d.f.=2,176, $P < 0.0001$ for GAS, GSI and SAS scores, respectively). There was also a significant multivariate group effect (Wilk's $\lambda=0.891$, $F=3.49$, d.f.=3,86, $P < 0.02$) but this was only significant for the GAS and SAS scores in univariate analysis ($F=9.2$, d.f.=1,88, $P < 0.004$, and $F=6.2$, d.f.=1,88, $P < 0.2$, respectively). The overall group difference was marginally significant for GSI scores ($F=4.4$, d.f.1,88, $P < 0.06$). *Post hoc* contrasts revealed that mean scores on the GAS were significantly higher for the two-stage group at six months ($P < 0.05$) and 12 months ($P < 0.01$). Similarly, the SAS mean scores for the two-stage group were
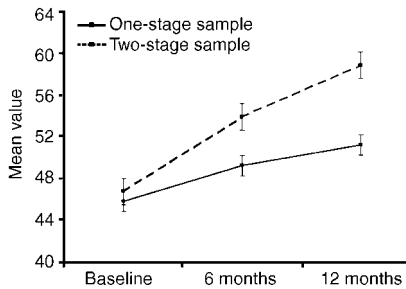
Fig. 1 Comparison of Global Assessment Scale scores between the two treatment groups.

50% and 64% of the patients showed reliable change on at least one out of the three outcome measures.

According to our criteria of improvement, patients in the two-stage sample were significantly more likely to have improved (39% v. 18%; $\chi^2 = 4.98$, d.f.$=1$, $P < 0.05$).

Borderline status and outcome

Of patients with BPD diagnoses allocated to the two-stage model, 46.7% improved on at least two measures, compared with only 13.5% of this group in the one-stage programme. A logistic regression performed to examine whether the improvement rates for patients with BPD and patients with non-borderline personality disorder differed in the two treatment programmes showed a significant group allocation by borderline diagnosis interaction ($B = 2.21$, s.d.$=1.07$, d.f.$=1$, $P < 0.05$). Figure 2 shows that the higher rates of improvement in patients with BPD relative to patients with non-BPD are most marked in the two-stage programme.

DISCUSSION

This study shows that significant improvement occurs over time (12 months after admission) in a group of patients with severe personality disorder in terms of symptom distress, social adjustment and global assessment of outcome. The overall improvement compares favourably with previous studies (McGlashan, 1986; Karterud *et al*, 1992; Piper *et al*, 1994; Najavitis & Gundeson, 1995), including studies at the Cassel Hospital (Rosser *et al*, 1987). The
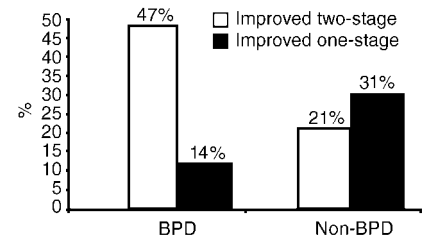

Fig. 2 Rates of reliable improvement (in two out of the three key outcome measures) in borderline personality disorder (BPD) and non-BPD in the two treatment groups.

absence of follow-up data in the analysis prevents conclusions about the stability of these improvements being drawn.

Treatment modality and rates of improvement

As the period of in-patient stay was on average not much greater in the one-stage than the two-stage group, the study cannot test the specific value of in-patient treatment for this group. The following considerations may account for the faster rates of improvement found in patients in the two-stage programme. The shorter length of in-patient stay may focus patients and staff on the therapeutic tasks provided by the hospital, hence creating a more positive attitude from the outset. In addition, anecdotal evidence suggests that a shorter stay may lead to a more tolerant attitude on the part of staff towards difficult patients, with a consequent improvement in the working alliance.

The two-stage sample showed significantly better GAS scores at six and 12 months, and SAS scores at 12 months. In addition, the two-stage group had significantly higher rates of reliable improvement on two out of three of the main outcome measures. Although not statistically significant, the lower rate of suicides in the two-stage programme also underscores the superiority of this approach. These results are encouraging for a newly introduced programme which, by shortening the length of hospital stay, increases patient turnover in a specialised service, allowing more patients to be treated at a considerably lower cost.

Treatment model and BPD

The finding that patients with a borderline diagnosis do significantly better if allocated to the shorter in-patient programme with

significantly lower at 12 months ($P < 0.05$). The group by time interaction was not significant in the MANOVA (Wilk's $\lambda = 0.882$, $F = 1.86$, d.f.$=6,83$, NS). On univariate tests, the interaction was significant only on the GAS ($F = 4.4$, d.f.$=2,176$, $P < 0.02$). Pairwise comparisons performed separately for the two groups indicated that whereas for the one-stage group significant differences from baseline were only achieved by 12 months ($P < 0.02$), for the two-stage group differences were significant by six months ($P < 0.006$) and also 12 months ($P < 0.001$). The means for the GAS are shown in Fig. 1.

Reliable change

Table 4 displays the rate of improvement and deterioration in the two groups. Contingency table analysis revealed that on two of the three key outcome measures, patients in the two-stage condition were more likely to meet the stringent RCI criteria for improvement (Kendall's $\tau_b = 0.34$, d.f.$=2$, $P < 0.001$ and $\tau_b = 0.20$, d.f.$=2$, $P < 0.05$ for the GAS and SAS, respectively). Overall,

Table 4 Reliable change at 12 months in the two samples

Variable	One-stage group ($n=46$)	Two-stage group ($n=44$)
GSI result (n (%))		
Improved	24 (52%)	24 (55%)
Unchanged	21 (46%)	14 (32%)
Deteriorated	1 (2%)	6 (14%)
SAS result (n (%))*		
Improved	7 (15%)	17 (39%)
Unchanged	38 (83%)	24 (55%)
Deteriorated	1 (2%)	3 (7%)
GAS result (n (%))**		
Improved	8 (17%)	19 (43%)
Unchanged	37 (80%)	25 (57%)
Deteriorated	5 (10%)	0%

*$P < 0.05$, **$P < 0.001$; GSI, General Severity Index; SAS, Social Adjustment Scale; GAS, Global Assessment Scale.

out-patient follow-up (the overall longer-term treatment programme) confirms our original hypothesis.

A number of reasons may account for the pattern of results observed. It is well established that these patients react with profound disturbance to experiences of abandonment and separation (Gunderson, 1996). Subjects in the two-stage programme face the final separation from treatment in a phased fashion, and they are provided with a new emotional involvement in the outreach stage following the full immersion in the intense environment of the therapeutic community. The out-patient work, in the first instance, functions as a safety net, which helps patients to tolerate and contain their anxieties and fears connected with what is often still a lonely life outside the hospital. The abrupt discharge from an institution where patients have formed strong, if ambivalent, relationships may be experienced as traumatic by patients with BPD and this can cause relapse.

The strategy of the one-phase programme, which requires a total severance of any relationship with the hospital after discharge, was probably well suited to a patient population with severe neurosis and high dependency for whom a drastic experience of separation was perhaps required in order to move beyond a state of helpless and parasitic dependence (Main, 1989).

The specific psychopathological features of BPD require the development of a treatment strategy that involves follow-up treatment and support in the community. A combined hospital- and community-based model that first tackles the patients' chronic maladaptive relational and behavioural patterns through the intense psychosocial approach of the in-patient setting, and then helps the patient to re-establish a social network, take up interests and employment and thus prevent a relapse into chaotic interpersonal patterns, may be a more effective strategy than a purely in-patient approach.

Although caution has to be applied with regard to the generalisability of our findings to other settings, this study gives a first indication that patients with BPD who require admission to hospital should be preferentially allocated to a combination of hospital-based and community-based treatment. Whenever possible, out-patient treatment should be arranged with local services well in advance of discharge from hospital.

Methodological considerations

Although this study has some methodological strengths, and makes a contribution to the assessment of models of treatment for personality disorder, the absence of an untreated control group limits claims as to the efficacy of the two treatment programmes. It is important to bear in mind that the sample consists of patients with treatment-resistant personality disorder who did not respond to previous in-patient and out-patient general psychiatric and out-patient psychotherapeutic treatment. The severity of psychopathology is also indicated by the high baseline GSI and SAS scores, the low GAS scores, and by the high average number of Axis I and II diagnoses per patient. This argues against the possibility that the changes found may be ascribed to spontaneous improvement, which previous studies of the long-term course of personality disorder show to be very slow and confined to the fourth and fifth decade of life (McGlashan, 1986; Stone, 1990).

Non-random assignment of subjects to the two groups may have introduced bias into patient allocation. We attempted to explore group differences fully and could identify no demographic or clinical variables which distinguished the groups on admission. Although this study was not a randomised controlled trial, we feel that it provides indications of effectiveness on a number of measures. There is still no agreement as to which measures are the best indicators of outcome in personality disorder. Indeed it is still uncertain which dimensions of change and perspective (i.e. self-rated severity of symptoms, rater-based social and community adjustment or clinician-rated global psychiatric assessment) may be the most important in assessing outcome.

In our study we have taken a three-tier approach. First, we examined significant change in the three key outcome measures through a multivariate analysis of variance based on sample mean scores. Second, we looked at improvement through the calculation of RCIs, in order to take account of the within-group variability; RCIs are regarded as more informative and meaningful for the practising clinician than an analysis based on averages (Jacobson & Tzuax, 1991). Third, we gave a stringent global definition of change as a categorical variable based on improvement on two out of the three outcome variables with no concurrent deterioration on the third outcome measure.

In our study, reliable improvement of symptoms has been observed in over 50% of patients in both treatment conditions, while rates are significantly different between the two groups in social adjustment and global psychiatric assessment. Although these findings may reflect the difficulty in assessing the latter two categories while patients are still in hospital, we feel that it provides a robust indication of the benefits of treating patients preferentially in the community following a briefer admission to a specialised centre. Follow-up results will be required to confirm these findings.

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CLINICAL IMPLICATIONS

■ Substantial improvement in symptoms, social adjustment and global assessment of mental health is associated with a specialist psychosocial treatment for personality disorder.

■ The combined hospital- and community-based model is more effective than the purely hospital-based programme for borderline personality disorder.

LIMITATIONS

■ Absence of follow-up data and of a control group limits claims for treatment efficacy.

■ The non-randomised nature of treatment allocation is a threat to internal validity.

■ Generalisability to other settings is limited.

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