Five-year outcome of outpatient psychotherapy with borderline patients

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ABSTRACT

Background. Borderline personality disorder (BPD) is a serious mental illness. Due to scepticism about the effectiveness of its treatment, the care of these patients is neglected. In this study we evaluated the effect of treatment 5 years after its ending, of patients with BPD.

Method. Thirty subjects were treated twice weekly for 1 year by psychotherapy based on the ‘Conversational Model’ of Hobson. Outcome measures included time in hospital, number of episodes of violence and self-harm, number of medical appointments, drug use and work history. A ‘morbidity budget’ made up of these items was collated for the year before treatment, the year following treatment, and for the year preceding the 5-year follow-up. Additional measures included DSM-III criteria and a self-report of symptoms. These outcomes were compared to a hypothetical natural history of BPD constructed from the DSM scores of 150 borderline patients aged between 18 and 52 years.

Results. Except for one measure, the improvements evident 1 year following treatment were maintained 4 years later. This improvement was not predicted by the hypothetical natural history.

Conclusion. A particular form of treatment of BPD has relatively long-lasting, beneficial effects.

INTRODUCTION

Those who suffer borderline personality disorder (BPD) have a high mortality, approaching 10% in some studies (Paris et al. 1987; Stone, 1993). Moreover, the condition is common. Figures for the United States suggest that over 20% of inpatients and 10% of outpatients can be diagnosed with the condition (Widiger & Frances, 1989). Despite this data, and despite the heavy burden placed upon health services by the morbidity associated with the disorder, these patients are neglected by systems of mental health care. This neglect is fuelled by doubts about the effectiveness of current modes of treatment. These concerns include the possibility that therapy is merely a ‘holding’ situation and that any improvement associated with it will be transient, lasting as long as the treatment itself. This report addresses this particular concern, focusing on the clinical outcome, 5 years after treatment ended, in a cohort of 30 patients.

METHOD

Background

This report concerns a cohort of 30 patients suffering from BPD who were treated by psychotherapy based on the Conversational Model (Hobson, 1985; Meares, 2000, 2004). Certain of the main ideas underpinning this model began to appear in the 1970s (e.g. Hobson, 1971; Meares & Hobson, 1977). An abbreviated version of the model has been manualized as ‘psychodynamic-interpersonal’ (PI) psychotherapy (Shapiro & Startup, 1990). PI psychotherapy has been shown to be effective in depression (Shapiro et al. 1994, 1995), in certain
psychosomatic disorders (Guthrie et al. 1991), and in treating high utilizers of psychiatric services (Guthrie et al. 1999). A brief form of PI psychotherapy is useful in reducing repeated episodes of self-harm (Guthrie et al. 2001).

The treatment cohort received psychotherapy twice a week for 1 year. They were later compared with 30 patients on a waiting list who had ‘treatment as usual’ (Stevenson & Meares, 1992; Meares et al. 1999a). These control subjects were the first 30 patients who had been on the waiting list for more than 1 year. Allocation to treatment and control groups was a chance event, dependent upon the availability of therapists. The ‘treatment as usual’ group did not significantly change, according to a 27-point scale derived from DSM-III criteria for BPD (see below). However, significant change in this measure was shown by the treatment group at the end of the year’s treatment.

The treatment group was followed up 1 year after cessation of treatment (Stevenson & Meares, 1992). Their improvement in DSM terms was maintained. A further series of outcome measures were introduced at this point. Each concerned the extent of manifestation of particular behaviours relevant to the BPD condition during the year following the cessation of treatment. The measures included the number of hospital admissions; time spent as an inpatient (in months); number of outpatient visits to a medical facility each month; quantity of drugs used on a daily basis (prescribed and non-prescribed); self-destructive behaviour and outwardly directed violence (number of episodes); and time away from work (in months). Information was obtained from the patient, friends or relatives, medical records, and referral sources. All assessments were performed by the research psychiatrist (J.S.) who was not involved in the therapy process. The information gained was from face-to-face interviews conducted either at the hospital or in the patients’ own homes, and from self-report questionnaires.

The same series of measures (what might be called a ‘morbidity budget’) had previously been collated for the year before treatment began. Comparison between the year before treatment and the year after showed a very significant reduction in all measures following treatment. This method of comparison allowed patients to act as their own controls. This study concerns a further collation of the ‘morbidity budget’ for the year preceding a follow-up of all 30 patients 5 years after treatment. Further details are available in earlier publications (Stevenson & Meares, 1992; Meares et al. 1999a).

Subjects

The majority of patients were originally referred to Westmead Hospital by psychiatrists and trainee psychiatrists who had been working unsuccessfully with them using a variety of treatments which included, for example, drugs, behaviour modification, in-patient care and psychotherapy, or combinations thereof. The remainder came from general practitioners (GPs), community and self-referral. The diagnosis of BPD was established by three independent psychiatrists via clinical interview based on DSM-III criteria and the Diagnostic Interview for Borderlines (Gunderson et al. 1981). Patients were excluded who had difficulty with English, who showed uncontrollable violent behaviour and, in two cases, borderline intellectual retardation.

These patients were, in the main, severely disabled people. Some had multiple hospital admissions, or had been misdiagnosed with schizophrenia. Of a series of consecutive referrals to the clinic, 48 people fulfilled criteria and accepted treatment. Eight dropped out, typically in the first 3 months. Forty patients were treated. At the end of 1 year, it was considered unethical in seven cases to cease therapy since it seemed likely that termination would jeopardize the gains made in treatment. These patients did well and gains were maintained at follow-up. The outcomes of two of them have been the subject of individual case reports (Meares & Anderson, 1993; Kotze & Meares, 1996). Three patients could not be contacted for follow-up assessment at 24 months. This report concerns the remaining 30 who completed 12 months therapy. There were 11 males and 19 females. Their mean age at the 5-year follow-up was 34.7 years. In the intervening years contact was maintained, and subjects had occasional sessions with the therapist.

Treatment arrangements

All subjects received psychotherapy for 1 hour, twice a week, over a 12-month period. Before
entering the programme, its purpose was explained to the patients and they gave written consent to the process, including audiotaping of sessions. The patients signed a contract outlining the arrangements to which they were committing themselves. The in-patient unit at Westmead Hospital provided back-up to the outpatient programme. Patients could be admitted to this facility when in crisis.

Most patients, on entering the trial, were on some form of medication. These medications were initially maintained but, in the typical case, were able to be slowly reduced or withdrawn. For example patients on antidepressants, benzodiazepines and/or antipsychotics were able to cease or reduce these medications to about one third of pre-treatment levels. Alcohol and drug use also decreased. This was possible as therapy resulted in symptom reduction – lower levels of depression, anger, impulsivity, and anxiety.

Therapists
The 20 therapists were mainly psychiatrists in training. There were also two senior psychiatric nurses and a psychologist. They were young (average age = 30.6 years), 12 were single, 8 married. Eleven were male, 9 female. They were optimistic, enthusiastic and formed a cohesive group. It seems likely, at least to us, that this general atmosphere contributed to the success of the programme.

The therapists received weekly didactic lectures about the method. However, their most important training came through the weekly supervision by means of audiotapes of their sessions. The audiotapes were essential to the process since they allowed the therapists to become aware of the shifts taking place in the therapeutic conversation. They were helpful also in fostering the therapist’s imaginative and empathic understanding of their patients. Finally, the tapes ensured adherence to the therapeutic model.

Outcome measures
(1) DSM scale. This scale was constructed from the 27 items making up the diagnostic criteria for BPD in DSM-III. (DSM III was used because the original cohort was treated in the mid- to late 1980s). The items are grouped to give eight criteria. In scoring the scale, the presence or absence of each item is elicited by means of a semi-structured interview involving a series of probe questions. These questions require a dichotomous response. An affirmative response gets a score of 1. In order to test the inter-rater reliability of the scale two independent assessors, blind to each other’s ratings, scored 25 psychiatric in-patients with various diagnoses, on this scale. The weighted kappa, used to test the inter-rater reliability was satisfactory, $\kappa = 0.81$ for the total scale.

(2) ‘Morbidity Budget’ as above.

(3) Cornell Index, a symptom checklist considered suitable since it is generally used for quite disabled patients.

Comparison group
The previously reported comparison group of patients on the waiting list (Meares et al. 1999a) was not available. These patients had either entered treatment or moved on. In the absence of appropriate prospective data, an alternative comparison was found by the construction of an approximation of the natural history of BPD. This construction depended on the assumption that a hypothetical natural history can be inferred from a series of evaluations made of individuals at various stages in the course of a particular condition (Meares, 1971). Assessment data on 150 consecutive BPD patients at their first presentation to the clinic provided the basis for this comparison. Their ages ranged from 18 to 52 years. For each patient, information was obtained concerning instances of (i) self-harm, (ii) medical, and (iii) emergency department visits, and (iv) time in hospital, which had occurred in the previous year.

ANALYSIS AND RESULTS
Treatment group
All 30 patients assessed at the end of 1 year’s therapy were traced 5 years later and a full set of data was gathered from all 30.

The study concerned assessments over a 6-year period. These were:

1. at the beginning of treatment, $T = 0$,
2. at the end of 1 year’s treatment, $T = 12$,
3. 1 year after the end of treatment, $T = 24$,
4. 5 years after the end of treatment, $T = 72$.

This report concerns the outcome at $T = 72$. The data are displayed in Table 1.
The data were analysed using the statistical software package SPSS for Windows, Version 10.1 (SPSS Inc., Chicago, IL, USA). The median, lower and upper quartiles are used to summarize the data for each variable at pre- and post-therapy and at 5-year follow-up. The within-patient changes over time were analysed using repeated-measures analysis of variance. Where a statistically significant change was detected, pairwise comparisons between time-points were adjusted for multiple comparisons using the Bonferroni method. An overall significance level of 5% was used throughout.

**RESULTS**

Statistically significant within-patient changes over time were detected for all variables \( p \leq 0.001 \) in all cases. The pairwise comparisons (between \( T=0 \) and \( T=72 \)) and (between \( T=12 \) and \( T=72 \)) adjusted for multiple comparisons, are shown in Table 2.

At \( T=72 \), scores on all assessments indicated that the significant improvements found at \( T=24 \) were maintained at \( T=72 \). In addition, 40% no longer met DSM-III criteria for BPD. There was a progressive reduction in time spent in hospital over the assessments \( T=0 \), \( T=24 \), \( T=72 \), from a median of 2 months per annum at \( T=0 \), to 0 months at \( T=24 \) and \( T=72 \).

**Comparison group**

The data on the 150 comparison subjects were studied in order to find whether an amelioration with age could be shown in terms of four outcome variables, (i) self-harm, (ii) medical visits, (iii) emergency department visits and (iv) time in hospital.

Logistic regression analysis was used to quantify an association between age and each

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**Table 1.** Median, lower and upper quartiles (LQ and UQ) for each variable at the pre-treatment, and the 12-month and 60-month post-treatment assessments

<table>
<thead>
<tr>
<th>Variable</th>
<th>Pre-treatment Median (LQ, UQ)</th>
<th>1 year post-treatment Median (LQ, UQ)</th>
<th>5 years post-treatment Median (LQ, UQ)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Violent episodes (no. per year)</td>
<td>1 (0, 4)</td>
<td>0 (0, 1)</td>
<td>0 (0, 0)</td>
</tr>
<tr>
<td>Use of drugs (no. per day)</td>
<td>3 (2, 5)</td>
<td>0 (0, 1)</td>
<td>0 (0, 1)</td>
</tr>
<tr>
<td>Medical visits (no. per month)</td>
<td>4 (1, 4)</td>
<td>0 (0, 1)</td>
<td>0.75 (0, 1)</td>
</tr>
<tr>
<td>Self-harm (episodes per month)</td>
<td>2 (1, 4)</td>
<td>0 (0, 1)</td>
<td>0 (0, 1)</td>
</tr>
<tr>
<td>Time off work (months per year)</td>
<td>3.5 (1, 6)</td>
<td>0.25 (0, 1)</td>
<td>0 (0, 1)</td>
</tr>
<tr>
<td>Hospital admissions (no. per year)</td>
<td>1 (1, 3)</td>
<td>0 (0, 1)</td>
<td>0 (0, 1)</td>
</tr>
<tr>
<td>Time as in-patient (months per year)</td>
<td>2 (1, 5)</td>
<td>0.75 (0.2)</td>
<td>0 (0, 0)</td>
</tr>
<tr>
<td>Cornell Index (at end of year)</td>
<td>43 (30, 53)</td>
<td>25 (20, 38)</td>
<td>25 (20, 40)</td>
</tr>
<tr>
<td>DSM III-R No. of subjects = 30, df = 29</td>
<td></td>
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</tr>
</tbody>
</table>

**Table 2.** Mean within-patient change and its 95% confidence interval (CI) for each variable together with the p value adjusted for multiple comparisons using the Bonferroni method

<table>
<thead>
<tr>
<th>Variable</th>
<th>Pre 5 years</th>
<th>Post 5 years</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean change (95% CI)</td>
<td>p value</td>
</tr>
<tr>
<td>Violent episodes (no. per year)</td>
<td>2.03 (0.7 to 3.4)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Drug use (no. per day)</td>
<td>3.33 (1.7 to 4.91)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Medical visits (no. per month)</td>
<td>2.92 (1.7 to 4.13)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Self-harm (episodes per year)</td>
<td>3.2 (1.0 to 5.35)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Time off work (months per year)</td>
<td>1.48 (−0.60 to 3.57)</td>
<td>0.24</td>
</tr>
<tr>
<td>Hospital admissions (no. per year)</td>
<td>1.43 (0.65 to 2.22)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Time as in-patient (months per year)</td>
<td>2.37 (1.12 to 3.61)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Cornell Index</td>
<td>+1.0 (7.7 to 20.3)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>DSM III-R (at the end of year)</td>
<td>2.57 (0.47 to 9.06)</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>
outcome variable. Data were transformed into a form fitting normal distribution. Self-harm was scored in a binary fashion as the presence or absence of any such behaviour in the previous year. Logarithms of the numbers of medical visits and emergency-room visits were calculated. The data concerning in-patient time was non-parametric and so a Spearman’s rank correlation coefficient was calculated to detect any correlation with age. The figures are shown in Table 3.

Regression analysis found no association between age and medical visits or emergency-room visits within the comparison group (see Table 3). Spearman’s rank correlation coefficient indicated no correlations between age and time and hospital (see Table 3). However, there was an association between age and the odds of a subject inflicting self-harm upon himself or herself. The estimated odds ratio (OR) of self-harm and their 95% confidence intervals (95% CI) were:

- OR per 1 year age increase = 0.96
  
  (95% CI 0.92–0.99),

- OR per 5 years age increase = 0.79
  
  (95% CI 0.65–0.98).

In the treatment group, logistic regression analysis was utilized to calculate a similar OR to reflect the reduction in the odds of self-harm as measured at 1 and 5 years post-psychotherapy compared with the odds at entry into the programme. The estimated ORs were:

- OR at 1 year post-psychotherapy = 0.08
  
  (95% CI 0.011–0.64),

- OR at 5 years post-psychotherapy = 0.06
  
  (95% CI 0.008–0.47).

The OR of self-harm at 5 years post-entry into the programme is very substantially less than that predicted simply due to the ageing of the patient cohort. The data suggests that if an untreated borderline patient were followed up after 5 years, there is a 79% likelihood that they would still be engaging in self-harming behaviours. In contrast, 5 years after having received psychotherapeutic intervention, there would only be a 6% likelihood that the patient would still be self-harming. Since the 95% CIs for the ORs associated with ageing and time, following entry into the programme, do not overlap, support is given to the significance of benefit from 1 year of psychotherapy at the 5-year follow-up.

**DISCUSSION**

This report concerns the clinical outcome, 5 years after a year’s treatment ended, of 30 patients with BPD, treated according to the principles of the Conversational Model. All patients evaluated at the end of the treatment period were reached at the 5-year follow-up. The substantial improvements which were evident 1 year after treatment ended (Stevenson & Meares, 1992), were maintained at the 5-year mark. In the intervening 4 years clients were seen at six-monthly intervals. All continued to have contact with their GPs, some had in intermittent contact with their therapist (1–2 visits per year) and most kept in touch with their local Community Health Centre (CHC), for social and practical help. Two, after leaving the area, established contact with another area health centre. Various therapies were offered at CHCs, including CBT, group therapies, social rehabilitation and social programmes.

Although these data suggest the possibility that effective treatment programmes can be mounted for BPD and that the beneficial effects of the treatment are likely to be long lasting, there are certain limitations to the study. The first is the absence of a control group for the

<table>
<thead>
<tr>
<th>Table 3. Measurement of correlation between age and selected outcome indices (dependent variables)</th>
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</thead>
<tbody>
<tr>
<td><strong>Index</strong></td>
</tr>
<tr>
<td>-------------------------</td>
</tr>
<tr>
<td>Medical visits (log₁₀)</td>
</tr>
<tr>
<td>Emergency room visits (log₁₀)</td>
</tr>
<tr>
<td>In-patient medical visits</td>
</tr>
<tr>
<td>In-patient psychiatric visits</td>
</tr>
</tbody>
</table>
5-year period. The control group utilized following our original study was made up of waiting-list patients, whose clinical condition, as indicated on a scale derived from DSM criteria, did not change over a 1-year period (Meares et al. 1999a). However, on ethical and practical grounds, they could not be maintained on a waiting list, having ‘treatment as usual’ for a longer period. An alternate comparison had to be found. A previously identified natural history of BPD might have been suitable for this purpose. However, suitable information has not been available. The large and important retrospective studies of McGlashan (1986) and Stone (1993) concern the outcome of extended in-patient therapy, of approximately 2 years’ duration in the former case, and over 1 year in the latter. They are not appropriate reflections of the natural history. A much shorter follow-up, of a prospective kind, coming from Mehlum et al. (1991) also concerned a treated group who had day hospital treatment for an average 5.5 months. On the other hand, a study of the outcome of people with BPD who had received no systematic form of therapy and who were managed in various ways, did not reach a sufficient number of the original cohort at follow-up to provide a plausible picture of the natural history. A much shorter follow-up, of a prospective kind, coming from Mehlum et al. (1991) also concerned a treated group who had day hospital treatment for an average 5.5 months. On the other hand, a study of the outcome of people with BPD who had received no systematic form of therapy and who were managed in various ways, did not reach a sufficient number of the original cohort at follow-up to provide a plausible picture of the natural history. Paris et al. (1987) located 165 subjects of a cohort of 322, 15 years later. Twenty-two were known to be dead and 43 refused to be interviewed, leaving 100 for assessment. A further follow-up of this 100 was conducted later. Sixty-four, i.e. one fifth of the original cohort, were available for evaluation (Paris & Zweig-Frank, 2001).

Recently, Zanarini et al. (2003) completed a 6-year prospective follow-up of patients with BPD, and a comparison group with non-borderline Axis II disorders. Most of the borderline patients received multiple treatments before their index admission and during the study. Significantly these highly treated subjects with BPD improved over the follow-up period with impulsive symptoms resolving most quickly and affective symptoms being the most chronic.

In order to provide a suitable comparison for a group of treated patients, a prospective study of untreated patients in which all, or nearly all, of the cohort is followed for a period of 5–6 years is required. As far as we are aware, such data have yet to be published. For example, when Links et al. (1999) came to reassess a cohort of 130 BPD patients 7 years after their index admission, only 81 were available.

Our alternative comparison was a hypothetical natural history of BPD constructed by means of a cross-sectional, or ‘vertical’, method which compares with the longitudinal or ‘horizontal’, procedure of prospective studies. This construction indicated that it was unlikely that the morbidity associated with BPD which leads to hospital admission and medical emergency attendances would be spontaneously reduced over a 5–6 year period but that there was a likelihood of a small reduction in episodes of self-harm. This contrasts with the outcome of the patients in this cohort who showed improvement in rates of self-harm, episodes of violence, time in hospital, level of medication use, and medical visits in which the levels of each behaviour were reduced to about one fifth of their pre-treatment occurrence.

Although this comparison seems to show a fairly strong effect of treatment, our method of deriving a natural history of BPD is not without its problems. It may incorporate sampling biases. For example, patients in whom the disorder had remitted later in life would have been excluded from our sample. On the other hand, our comparison sample would also have excluded those patients in whom the disorder resulted in institutionalization or death by suicide, thereby excluding a more severely ill subgroup.

Despite these difficulties the literature tends to support the view that, as Paris (1993) put it, in reviewing outcome data for BPD, ‘a dramatic improvement within five years is somewhat atypical of BPD and when achieved could be due to treatment effects’ (p. 532), Perry et al. (1999) in a more detailed study came to a somewhat similar conclusion.

In addition to the problem of controls, a second limitation of this follow-up is that it was conducted by the research psychiatrist (J.S.) in the programme, instead of an independent assessor. However, the fact that the research psychiatrist performed this task herself, led to the cooperation in the follow-up of all patients in the original cohort. This is no easy achievement in a group of individuals who are characteristically volatile and frequently hostile. Moreover, the principal outcome measures were largely behavioural and did not depend upon subjective judgements.
The good results in this study raise a number of questions. It might be asked, for example, whether the findings can be explained by the subjects having a relatively mild level of disability. This seems not to be so – 57% of the cohort showed all eight DSM-III criteria compared with 7% in Stone’s series.

Another question arises on consideration of the prospective study of a parasuicidal group of BPD patients treated by Linehan et al. (1991). In terms of parasuicidal episodes, the improvement of their patients shown at the end of treatment was not significantly greater than the ‘treatment as usual’ group 1 year later (Linehan et al. 1993). How is this difference from the present follow-up to be explained? A possible explanation may lie in the focus of the treatment.

Clarkin et al. (1993) found that the catalogue of DSM criteria is made up of three factors. They concern affect, impulse and self. It is not yet known which, if any, of these three factors is the most fundamental. Nevertheless, they may have somewhat different natural histories as suggested by our hypothetical natural history in which the impulse factor, as indicated by the self-harm, tended to ameliorate while the general morbidity reflected in in-patient and outpatient attendance, did not. Zanarini et al. (2003) had similar findings. Put in simplest terms, Linehan and her colleagues may focus on the impulse factor while our treatment focuses on the self-factor. Self is defined according to William James’ classic description (Meares & Hobson, 1977; Meares, 1993), i.e. as ‘duplex’, to use James’ word, involving a reflective awareness of inner events (James, 1890).

If they have different natural histories it may be that self and impulse also have different aetiologies. The self deficit has been conceived (Meares et al. 1999b) as the consequence of an unsatisfactory developmental environment causing failure of the ‘sociogenetic’ (Vygotsky & Luria, 1994) element necessary for the maturation of a cascade of neural networks underpinning the emergence of ‘higher order consciousness’ (Edelman, 1992) which William James called ‘self’. The Conversational Model gives emphasis to the restoration of the developmental pathway. A main feature of the therapeutic approach, involving empathic representation, is seen as potentiating the emergence of reflective function.

The impulse factor can be understood in terms of systems of unconscious traumatic memory which are triggered by environmental events (Meares, 1995, 2000). These systems involve distorted ‘cognitions’ of the person in relation to others (Meares, 1998). Linehan’s approach, which is cognitive behavioural, focuses on these cognitions and the actions which ensue from them. It should be noted, however, that while there are significant differences in emphasis, each therapeutic method addresses both self and impulse.

Our treatment model may have similarities to that of Bateman & Fonagy (1999) who, using a day hospital model, also found good results in treating a cohort of BPD patients who were compared with a randomized sample of controls. Their patients not only maintained improvement but were continuing to ameliorate in terms of depression and anxiety at follow-up 18 months later (Bateman & Fonagy, 2001). This is consistent with the course of our own patients who also continued to improve symptomatically following cessation of therapy as evidenced by the Cornell Index scores. A particular emphasis in the treatment method of Bateman & Fonagy (1999) is the significance of the reflective function. Our method also has similarities with the approach of Monsen and his colleagues who, in a prospective study, found that significant beneficial change followed their treatment based on ‘affect consciousness’ (Monsen et al. 1995a, b).

Finally, we return to the neglect of BPD patients in many health-care systems. It is sometimes argued that even if treatment is beneficial for these patients, it is too expensive to institute. However, an economic study of our cohort of patients showed that the state saved about AU$8000 per patient in the year following the treatment, this figure being based on in-patient care (Stevenson & Meares, 1999). A more comprehensive study, including the patients’ use of emergency, ambulatory, and diagnostic services, and of medication, showed a saving of just over AU$18 000 per patient (Hall et al. 2001). It is not unreasonable to suppose that this economic benefit was continued to the 5-year mark. The findings of this study may also have implications for devising more effective means of treating deliberate self-harm, about which a certain pessimism is arising (Hawton & Sinclair, 2003).
ACKNOWLEDGEMENTS

We thank Karen Byth for her valuable advice regarding statistics.

DECLARATION OF INTEREST

None.

REFERENCES


