

**FEMALE PRISONERS WITH BORDERLINE  
PERSONALITY DISORDER:  
SOME PROMISING TREATMENT DEVELOPMENTS**

**Claire Nee**

**and**

**Sarah Farman**

**International Centre for Research in Forensic Psychology  
Department of Psychology  
University of Portsmouth**

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## **ABSTRACT**

**Background** The over-representation of female prisoners with borderline personality disorder (BPD) is an area of concern for HM Prison Service. Pilot programmes of Dialectical Behaviour Therapy (DBT) were undertaken for the first time in three British prisons for women diagnosed with BPD. Standard year-long programmes were piloted in two closed training prisons. Three short format programmes were undertaken in a local allocation prison.

**Method** Evaluation measures included psychometric tests, behavioural data, and interviews with participants and key personnel. Sixteen of the 30 women that embarked on the programmes completed them, though five drop-outs were transferred or released, leaving a voluntary attrition rate of 33%. Fourteen completed all measures. A waiting-list control group of eight participants was also set up. Five completed all measures.

**Results** The vast majority of completers showed overall improvements in psychometric data often reaching statistical significance, and with notable effect sizes, while there was no significant overall change in the control group (though improvements were seen). A downturn in overall self-harm was also seen.

**Conclusion** Results are tentative at this stage because of the small sample size. However, despite the numerous challenges associated with implementation, outcomes showed real promise for delivering DBT in a prison setting, its efficacy in reducing criminogenic risk, and improving the manageability and quality of life for this highly problematic group. Lessons learnt for future implementation in correctional settings are discussed.

## Introduction

Female prisoners with borderline personality disorder (BPD) are significantly over-represented in the prison population in England and Wales, at about 20% as opposed to 2% in the general population (Singleton, Meltzer, Gatward, Coid and Deasy, 1998). Because of the features of BPD, in particular interpersonal hostility and self-harm, these prisoners present a considerable management problem (Warren, Burnette, South, Chauhan, Bale, and Friend 2002). They are also often convicted of serious and violent crimes (Raine, 1993; Jones, 2001) and are therefore likely to be associated with high criminogenic risk. A high priority for Her Majesty's Prison Service (HMPS) in England and Wales, therefore, is to identify an intervention that can ameliorate the range of problems associated with this group. This paper presents the findings from a pilot study, commissioned by HMPS, of a promising intervention - Dialectical Behaviour Therapy (DBT) – in three women's prisons in the UK.

A recent review of treatments for severe personality disorder commissioned by the Dangerous and Severe Personality Disorder Programme<sup>1</sup> (DSPD) highlighted serious shortcomings in our knowledge of 'what works' with these populations (Warren, McGauley, Norton, Dolan, Preedy-Fayers, Pickering, and Geddes, 2003). Rather than suggesting that personality disordered offenders are untreatable, the authors underlined the continuing lack of robust evaluation of existing interventions as the main reason for this. However, DBT was identified as the treatment showing most promise for those diagnosed with BPD in the forensic context, probably due to its cognitive-behavioural underpinning. Cognitive-behavioural therapies have the greatest evidence-base with respect to addressing general offending behaviour, Lösel, 1995. While other potentially effective therapies for BPD are emerging, in particular psychodynamic approaches (Leichsenring and Leibing, 2003), and

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<sup>1</sup> This is a joint UK committee involving the Department of Health, Home Office and Prison Service Headquarters. 'Dangerous and Severe Personality Disorder' is a working definition describing a group of individuals who, because of their disorder, may pose a significant risk of serious harm to others. The

Cognitive Analytical Therapy (Ryle, 1997), evidence of their efficacy is limited to clinical and community populations. Evidence for DBT's effectiveness is beginning to accumulate, though this is also largely with respect to non-forensic populations and its worth in correctional settings has yet to be established. The findings of these first pilots represent a small but important step towards providing such evidence.

BPD is characterised by impulsivity, severely reactive mood swings, unstable interpersonal relationships, hostility, chronic feelings of emptiness and a tendency to self-harm (Morrison, 2001). Self-harm commonly takes the form of self-mutilation, para-suicidal, and suicidal behaviour, with about 10% achieving suicide. Substance related disorders and multiple Cluster B disorders are also often co-diagnosed (Warren et al, 2002). Parental neglect, verbal, and sexual abuse are also very common childhood features, in up to 90% in some samples (Perry and Herman, 1993; Zanarini, Gunderson, Marino, Schwartz and Frankenburg, 1989). BPD clients often appear 'in crisis' but bring about high therapist burn-out because of their difficulties with close relationships (Kiehn and Swales, 1995). Thus, BPD is a difficult condition to address even within the general population and the treatment and management of this group within a custodial setting provides a considerable challenge. It is interesting to note that many of the features and aetiological factors associated with BPD, such as impulsivity, mental health problems, substance misuse, and parental neglect are known to be related to criminogenic risk and need (Andrews and Bonta, 1998; Farrington, 2002). While it would be unwise and unethical to suggest a direct link between BPD and criminality *per se*, over-representation in the prison population alone suggests that, in severe cases, its existence increases criminogenic risk. Indeed, authorities in the field have suggested that any treatment which alleviates the general symptoms of personality disorder in offenders is likely to ameliorate their offending behaviour (Blackburn, 1993; Coid, 1993; McMurrin, 2001).

### **What is DBT and what evidence is there that it works?**

DBT was developed over two decades by Marsha Linehan (1993a; 1993b) as an intervention for BPD in the general population to improve quality of life for clients and reduce therapist burn-out. Linehan (1993a) proposed a biosocial aetiological model, which combines emotional vulnerability with an invalidating environment, as key to developing the disorder. The model maintains that, during formative years, lack of acknowledgement by family members of acute emotional distress results in concerted attempts by the child to suppress emotion. This results in adulthood in a pattern of emotional inhibition alternating with extreme emotional displays and severe mood swings. For Linehan, emotion dysregulation is the core dysfunction in BPD, underpinning the interpersonal, behavioural, cognitive and self-dysregulation characteristic of the disorder. The cognitive rigidity that often accompanies these mood swings is seen as a 'dialectical failure' in the Linehan model. 'Dialectics' in this context refers to the incremental reconciliation of two polar views. The central dialectic of DBT is on the one hand to fully accept the person/self as s/he is, while on the other hand believe in the ability to change. DBT encourages cognitive change from rigid and polar to tolerant of paradox by equipping the individual with the skills to confront and re-construe daily experiences, which would have been intolerably painful in the past. In this sense it is essentially a cognitive-behavioural treatment, but with strong philosophical undertones.

After a pre-treatment, 'orientation' phase, Stage 1 of DBT aims to increase behavioural control and improve quality of life and involves one group-skills training session plus one individual therapy session per week for one year. Group skills are in four modules: Core Mindfulness, Distress Tolerance; Emotion Regulation; and Interpersonal Effectiveness. Each is taught once in the first six months and repeated in the second. Individual therapy focuses on the application of skills and addressing the client's complex emotional needs. Target problem behaviours are recorded on daily individual diary cards and examined in individual

therapy, using behavioural chain analyses and solution analyses. Treatment modalities should also include 24-hour telephone access to the therapist in times of crisis, particularly during the desire to self-harm, and a weekly consultation meeting for the therapist to prevent burnout and protect treatment integrity.

Stages 2 and 3 of DBT deal with post-traumatic stress and self-esteem/ individual treatment goals consecutively and can take many years to complete, given the entrenched nature of the disorder. However, significant positive change has been seen in participants, in both psychometrics and behavioural indicators, using the standard year-long programmes in comparison to 'treatment as usual'. This has been seen in the USA (Linehan, Armstrong, Suarez, Allmon & Heard, 1991; Linehan, Heard & Armstrong, 1993; Linehan, Tutek, Heard and Armstrong, 1994; Linehan, Schmidt, Dimeff, Craft, Kanter and Comtois, 1999; Bohus, Haaf, Stiglmayr, Pohl, Bohme and Linehan, M., 2000; Koons, Robins, Tweed, Lynch, Gonzalez, Morse, Bishop, Butterfield and Bastian, 2001), and more recently in the Netherlands (Verheul, Van den Bosch, Koeter, de Ridder, Stijnen, and Van den Brink, (2003). In follow-up evaluations at 12 months (Linehan et al., 1993) and 16 months (Linehan et al., 1999) most improvements have been maintained. However as noted earlier, very few programmes have been attempted in a high-secure setting. Low, Jones, Duggan, Power, and MacLeod (2001) published case studies of women in a UK Special Hospital setting who had undergone the standard year-long programme of DBT. All three showed reductions in self-harm and improved on measures of dissociation, suicidal ideation and self-esteem by the end of treatment and two out of three maintained these at six-month follow-up. To our knowledge only one other trial of standard DBT in a prison setting is currently undergoing evaluation in Canada, which has yet to report.

In sum, while DBT outcomes so far are encouraging, evidence up to now can only be regarded as 'preliminary' (Verheul et al., 2003). Most previous studies have, by default,

measured changes in the risky behaviour of borderline clients and the degree to which DBT reduces this. However, none appear to have explicitly assessed reductions in behaviours associated with criminogenic risk in women with BPD known to be offenders. The efficacy of DBT in this sphere is not yet known, and we hope to provide some preliminary data regarding this.

### **Rationale for the Pilots**

Since DBT's underpinnings are cognitive-behavioural and multi-modal and evidence on its efficacy is promising, it was viewed favourably by HMPS in terms of the 'what works' evidence-based principles for effective treatment of offenders (McGuire and Priestley, 1995). An early short pilot in 1998 had produced encouraging (though not statistically significant) results. These factors, together with the high risk of re-offending associated with women diagnosed with BPD in prison and the high priority in reducing self-harm (Home Office, 2001) led HMPS to fund a full DBT pilot from late 2001 in three establishments. Two were in closed training prisons (one high security) for stage-one life-sentenced prisoners, which ran standard year-long programmes. The third was in a local allocation prison which ran a shortened programme format (one 16 and two 12 weeks) three times during the 20 month pilot period.

### **Method**

The aims of the evaluation were to look at the viability of delivering DBT in a prison setting. This included its impact on the general characteristics of BPD in the female participants, its impact on criminogenic risk and its impact on self-harm. We also set out to assess the suitability of the different sites for delivering DBT, including a comparison of different intervention lengths.

### *Inclusion Criteria*

Participants were referred from within their own establishments by prison psychologists and other prison staff for assessment. All participants had a SCID II diagnosis of BPD (most also had histories of physical and sexual abuse, relationship instability, and drug and alcohol problems). All were actively, recently or recurrently engaging in self-harm or other parasuicidal or suicidal behaviour. All presented a future serious offence risk. This was based on current or previous convictions including serious violence or arson, and/or whether their behaviour in prison or elsewhere included assaultative or threatening behaviour. Finally, all participants were deemed to be motivated and willing to enter a therapy agreement, which included participating in the evaluation.

### *Participant Numbers and Attrition Rates*

A total of 30 women embarked on the five DBT pilots with 16 completing. Five of the non-completers were transferred (despite a commitment from Governors to hold them for the entire pilot) or released, leaving a voluntary drop-out rate of 33% which is about average for non-custodial samples of 'borderline' patients (Linehan et al 1993; Linehan et al, 1999; Verheul et al 2003). We have data for 14 completers (two participants refused to complete their psychometrics). A waiting-list control group of eight women meeting the criteria for the pilots was also set up at Prison A, though only five of these controls completed all measures at the appropriate times.

### *Participant Characteristics*

Those who embarked on the programme had widely varying background characteristics. Ages ranged from 19 to 49 ( $M = 31$ ,  $SD = 9.7$ ), and all but three participants were white. The number of previous convictions ranged from none to thirty-nine. Index offences were serious, particularly in the closed training prisons where all but one was serving a life sentence. The sample had convictions of arson (8), murder (7), attempted murder (1),



manslaughter (2) or other violent offences (4). There were no significant differences on any background variables between those who embarked on the programme and the completers, or between the completers and the controls.

### *Evaluation Measures*

Both qualitative and quantitative measures were taken, though the focus here is on the latter. A battery of 10 psychometric tests and two behavioural measures were taken at Time 1 (beginning), Time 2 (midway), Time 3 (end) and Time 4 (six months post-programme) from the training prisons, and the equivalent of Times 1, 3 and 4 in the prison running the short programme.

The test battery included the Borderline Syndrome Index (Conte, Plutchik, Karasu, and Jerrett, 1980), a global measure of BPD features. No standardised measure of risk of re-offending exists as yet for this population, and so psychometric measures considered to be strongly associated with criminogenic risk were used, including impulsivity (Robinson, Porporino and Beal, 1998), locus of control (Walters and White, 1989) and self-esteem (Ross and Fabiano, 1985). . A significant body of empirical evidence now also suggests that improvements in emotion control (inhibition and rumination) are linked to reductions in aggressive outbursts and avoidance of relapse (Roger, 1997), and so two measures of emotionality were included, as were measures of suicidal ideation and quality of life. Since a key aim of the pilots (and DBT) is to reduce self-harm, data were collected at the four time points from a hand trawl of prison self-harm records (F2052SH forms). Adjudications data were collected as a background measure of handling interpersonal conflicts. Data were collected from the control group up to Time 3, as at Time 4 controls were expected to have embarked on the second pilot of DBT. A reconviction study will be carried out in time, but will take longer to yield useful results with this population than is usually the case. Many

severely personality-disordered offenders serve very long sentences and a proportion are never released. For this reason psychometric tests linked to criminogenic risk are of particular importance here.

## **Analysis**

Because of the small numbers of completers and the fact that participants in the two closed training prisons were essentially subject to the same year-long programme, we have aggregated their data. Similarly we have aggregated the data for the three short programmes undertaken in the local allocation prison.

## **Results for closed training prisons – one-year programmes**

### *Psychometrics*

Analyses were undertaken both within the intervention group and between the intervention group and controls. This was because measures were taken at one extra time-point for the intervention group (six-months post-programme).

One-way repeated measures ANOVAs on the four data-points (pre, mid, post, 6-month post) for the intervention group (n=7) revealed statistically significant improvements on four psychometric tests as Table 1 shows. Pairwise comparisons indicate at which time-points significant changes occurred. Moreover, effect sizes were very encouraging.

### **Table 1 One year programmes: psychometrics showing significant improvements N=7**

There were smaller improvements on Rosenberg's Self-Esteem Inventory and the Anger Expression, State Anger and Anger Index subscales of the State-Trait Anger Expression Inventory (STAXI). There was little change on other tests except for measures of

dissociation which deteriorated notably in the follow-up period, from an average score of 30 pre- DBT to 40 post-DBT.

Repeated measures ANOVAs on the control group data showed no significant changes on any of the 10 psychometric tests over time. However, neither were there any significant differences between the control group and the intervention group when mixed factorial ANOVAs were carried out. While the control group were clearly not improving to the same degree as the DBT group, their scores were to some extent mirroring positive changes in them.

#### *Behavioural measures*

There were very few recorded incidents of self-harm from pre- to post-DBT, although these data were incomplete. It is important, however, to summarise the findings on self-harm as they contribute further to the generally positive outcomes of the pilots. A small increase was noted near the beginning of DBT for both the treatment and control groups (around the Christmas period) which quickly dropped to a negligible level by the mid-point and remained so until the end of the programme. Self-harm slightly increased again for the DBT group during the six-month follow-up period, but remained at a lower level than pre-DBT. Cutting and tying ligatures were most common during pilots at all three institutions. Finally, there were so few adjudications recorded for the DBT participants (or controls) in any of the pilot programmes or at any time point, it was not possible to detect a clear pattern in relation to treatment.

### **Results for the local allocation prison – short format programmes.**

#### *Psychometrics*

Only two of the original 17 that embarked on the three short format programmes at this prison dropped out voluntarily giving it the best voluntary attrition rate of only 12%.

However, a further four were transferred to another prison, two were unexpectedly released, and two completers refused to complete their psychometrics leaving data for only seven.

Comparisons of psychometric scores at Time 1 (pre) and Time 2 (post- DBT) showed positive change on the majority of measures. Table 2 indicates where most notable change was seen, with statistically significant improvements in the Rosenberg Self Esteem Inventory; Eysenck's Impulsivity Questionnaire and the Dissociative Experiences Scale. There was also a marginally significant improvement on the Survival and Coping Scale of the Reasons for Living Inventory (Linehan, 1993a)

**Table 2 Short programmes: means and standard deviations of six psychometric tests N=7**

There were less notable but nevertheless positive changes on the Personal Feelings Questionnaire, and the STAXI. Scores stayed around the same for the Custodial Adjustment Questionnaire, most scales on the Emotion Control Questionnaire and the remaining scales on the Reasons for Living Inventory.

*Behavioural measures*

Again very few incidents of self-harm were recorded here, but a reduction could be seen from pre-DBT to during the programme when almost no incidents were recorded. Lethality was measured at Prison C, using Linehan's (1993a) scale, and this also reduced, with the most lethal incident rated 9 pre-DBT (death highly probable) falling to 5 during DBT (death 50:50).

*Follow-up data*

Follow-up data were more difficult to collect at Prison C due to transfers and releases. One DBT participant, who had been moved to a different prison, continued to show improvement on measures of general borderline features, dissociation, self-esteem and some anger measures, though to a slightly lesser extent than at the end of the programme. However, locus of control, shame, and STAXI Outward and Inward Anger Control scores had notably declined six-months post DBT, perhaps as a result of her transfer. Scores stayed around the same for the remaining tests. Self-harm continued to reduce during follow-up.

## **Discussion**

Implementing a relatively new therapy designed for outpatients in North America in a British custodial setting was an ambitious undertaking. As is typical of pilot work, the programmes were not without their problems in terms of both programme delivery and broader institutional issues. It seems important to note these before we discuss the implications of the findings as they almost certainly affected the outcomes of the programmes negatively. The pilots were implemented very quickly in order to capture available funding. This resulted in a considerably reduced orientation period for the participants, which was strongly felt by delivery teams to have increased attrition. Pilots began a month before the difficult Christmas period, leaving participants particularly vulnerable over a two-week break. Although experienced in the delivery of other offending behaviour programmes, the three DBT delivery teams had only received one week of the split two-week training at the outset of the pilots. The experience of delivering a complex therapy, notably less structured than the typical accredited programmes, was considered daunting. Moreover, external supervision by DBT trainers was difficult to set up and very sparse throughout the pilots. Half of the original 13 staff trained in DBT had moved on by the end of the pilot, which naturally affected the continuity of the programmes. Adequate knowledge of the pilot by prison officers was imperative to enable officers to support, appropriately respond to, and reinforce skills in DBT

participants in their daily lives. In actuality, lack of resources on the part of delivery teams and the national staffing shortage in the UK prison service severely undermined efforts to train prison staff. However, at one site where greater DBT awareness amongst staff had been achieved, attitudes were more positive by the end of the pilot, which appeared to reap rewards.

Despite these limitations, results from the first pilots were very encouraging. Clear positive change was apparent in the psychometric data for the completers, with statistically significant improvements in four key psychometric tests. These included a measure of the global syndrome characterising BPD and measures of impulsivity, locus of control and emotion regulation, all three strongly linked to criminogenic risk. Effect sizes on these tests were also very favourable, ranging from 0.40 to 0.61. In comparison, studies on the effects of interventions with the general offender population on recidivism range from 0.10 to 0.29, while the effect of psychotherapy on the non-offending population averages at around 0.45 (Marshall and McGuire, 2003). Given the challenges experienced during the pilots, the custodial setting and the nature of the client group, the effect sizes achieved are not to be ignored.

Increased incidents of self-harm in the follow-up period are noteworthy, though still generally lower than pre-DBT, along with the slight deterioration in psychometric scores during follow-up. This may have been accounted for by two factors: the lack of any structured support after the programmes had finished, and the suicide of a fellow prisoner. The worsening of measures of dissociation during this time may well have been linked to the latter. In general, dissociation is not expected to improve during Stage 1, the first year of DBT, as it is often used as a crisis survival strategy in the face of trauma (Wagner and Linehan, 1998, Low et al., 2001). Clearly, follow-up support after a year of treatment is indicated as essential here.

Interesting trends emerged in relation to the control group at Prison A. While there were no statistically significant improvements, there was evidence of similar improvements to those of the DBT group for psychometric and self-harm data during the programme. All controls were held on the same wing as the treatment group and an explanation of improvement could be a generalisation of the positive impact of DBT to the wing in general. There was clear evidence of this in the interviews with participants and prison officers (Nee and Farman, 2003). The changes may, of course, be explained by a spontaneous improvement in the controls though we feel this is unlikely given the deeply entrenched nature of BPD, the relatively short time period, and the high-security custodial conditions.

In the short programmes, positive changes for most participants on the majority of measures were very encouraging. In particular, statistically significant changes on self-esteem, impulsivity and dissociation were remarkable over this short intervention period. Behavioural indicators also looked very positive with a general decrease in the frequency and lethality of parasuicidal and suicidal behaviour. Data for the one follow-up participant indicated she had managed to maintain most of her improvements despite settling in to a new prison environment with no extra support. Given the myriad of challenges associated with delivering a shortened version of DBT in this (mostly remand) setting, these indicators seem very promising.

The number of completers for whom we have data from these initial pilots is very small (n=14) so any conclusions are very tentative at this stage. However, despite the considerable setbacks described above, and certainly against the odds, the overall picture looks promising for the delivery of DBT in prisons. We feel the findings justify the further development and evaluation of such an intervention in correctional settings. To find any statistically significant change and large effect sizes with such small samples is very encouraging, and psychometric

improvements were endorsed by broader behavioural measures and the verbal reports of participants, prison officers and the delivery teams. Moreover, psychometric change was seen in areas linked to criminogenic risk (impulsivity, anger, locus of control, self-esteem and emotion regulation), as well as in the global BPD syndrome, which should help to reduce criminogenic tendencies in a more general sense, as well as improve quality of life and manageability. These positive findings compared to no significant change in the control group. There was a general reduction in self-harm and the challenge in future pilots will be to maintain these hard-earned improvements post-programme. It is worth remembering that all of this was achieved in the context of 50% delivery team attrition, lack of adequate pre-programme participant orientation and lack of support from staff on the wings – all problems which can be addressed in future pilots. While findings are preliminary, the promise of successful intervention with this especially high risk and resource-intensive population (in comparison with other offender groups) spells out a reason for continuing with development.

DBT seemed effective in the long-term format and also for most who participated in the short-term format, though follow-up data will take longer to accrue in the remand/short-stay setting. However, many lessons were learned for future delivery of DBT in any custodial setting and taking these on board is very likely to increase the efficacy of DBT and build on these positive outcomes. These include:

- An extensive orientation period is crucial to the selection (and de-selection), motivation and eventual treatment retention of participants
- Regular external supervision of the delivery team is essential for continued training, support and the quality control of the programme
- A 24-hour telephone back-up is virtually impossible in a prison setting, but an answerphone service is possible and effective



- Increased training of discipline staff to support participants on the programme is well worth the effort, especially in the prevention of self-harm and appears generalisable to other populations
- Follow-up support post-programme is essential to maintain and generalise skills. Research has already suggested that one year's therapy is unlikely to fully address the deeply entrenched behaviours of this multi-problematic group (Low et al, 2001; Linehan, 1993a), and further intervention of some kind is recommended (Verheul et al, 2003).
- A good partnership approach towards prisoner care between prison management and psychology teams will help enormously, particularly in relation to the erroneous transfer of prisoners undergoing DBT to other prisons.

Further pilots in the same UK establishments are now underway and many of the lessons learnt in relation to programme delivery have been implemented, though it may take longer to tackle broader, institutional problems.

The DSPD review of treatments for this population (Warren et al, 2003) has highlighted DBT as the only evidence-based cognitive behavioural treatment showing promise for individuals suffering from BPD, albeit mostly in the lower-security setting. The findings reported here will hopefully add to this body of evidence and, importantly, its relevance to the high security custodial setting. The general outcomes are positive and suggest it is possible to intervene with the many problematic features of BPD, including criminogenic risk, with this approach. However, much further work is required, with continuing robust evaluation, to fully substantiate the efficacy of DBT in the prison setting.

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