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CHAPTER 2

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Substance Abuse in Borderline Personality Disorder: Clinical and Etiological Correlates

Summary

**Objective:** To study differences between female borderline patients with and without substance abuse problems and between borderline patients from different treatment settings.

**Method:** Sixty-four female borderline patients were recruited from mental health services (n=44) and addiction treatment services (n=20); 35 had a substance abuse problem. Patient groups were compared with regard to both clinical and etiological factors using **MANOVA** for 47 continuous variables and logistic regression for 15 dichotomous variables.

**Results:** Borderline patients with substance abuse problems reported less hostility, suspicion and anger, but more anxiety, insufficiency and suicide attempts. Patients from addiction treatment services reported less avoidant and more antisocial behaviour.

**Conclusion:** The differences between borderline patients with and without substance abuse problems are limited in number and size. Therefore, there is no empirical justification for the exclusion of borderline patients with substance abuse problems from general treatment services or clinical trials.
Introduction

Several studies have shown high comorbidity between borderline personality disorder (BPD) and substance use disorders (SUD) (Trull et al., 2000; Links et al., 1995; Oldham et al., 1995). Reported prevalence rates of SUD among patients with BPD range from 39% to 84% with a median rate of 67% (Dulit et al., 1990; Links et al., 1995; Zanarini et al., 1990, 1998). Within substance abuse populations, the prevalence of BPD ranges from 2% to 66% with a median rate of 18% (Verheul et al., 1995). The observed comorbidity can partly be accounted for by overlapping diagnostic criteria, but prevalence rates of BPD remain high even when substance-related characteristics are not taken into account (e.g., Dulit et al., 1990; Rounsaville et al., 1998). It has been suggested that the comorbidity results from causal links between SUD and BPD (Verheul et al., 1997). For example, it has been hypothesized that both conditions share common aetiologies and, consequently, are in the same domain of psychopathology, i.e., impulse control disorders (Siever & Davis, 1991; Zanarini, 1993). Not surprisingly, many authors consider substance use as a manifestation of impulsivity that is seen as a core feature of borderline personality disorder (van Reekum et al., 1994; Links et al., 1999).

Since substance abuse is generally considered a typical borderline manifestation rather than an independent comorbid condition, it is rather striking that borderline patients with SUD tend to be treated differently from those without SUD. The differential treatment occurs both in scientific studies and in clinical practice. First, substance abusers tend to be excluded from studies examining efficacy of treatments designed to target borderline symptoms. For example, three of four randomised controlled trials of psychosocial interventions addressing BPD have excluded borderline patients with SUD (Evans et al., 1999; Linehan et al., 1991, 1999; Marziali and Munroe-Blum, 1994). Second, it has often been observed and reported that borderline patients with SUD experience great difficulties when applying for treatment. Anecdotal data indicate that this group may be caught in a therapeutic 'Catch-22' situation, in which they cannot enter the mental health service system until they stop using substances and cannot enter substance abuse treatment until suicidal and other self-destructive behaviours are under control (e.g., Verheul, 1997; van den Bosch, 1996; NIAAA, 1993).

The differential exclusion of borderline patients with SUD from both treatment programs and treatment efficacy studies is, however, poorly explained. Exclusion of substance abusers from BPD treatment research is often justified as a strategy to preserve the homogeneity in cohorts (Hull et al., 1996; Hull et al., 1993; Plakun, 1991). It could be argued that the observed differential exclusion practices might not be warranted if borderline patients with and without SUD do not differ in clinical
characteristics and/or etiological background. In this respect, it is at least remarkable that this issue has been rarely focused on empirically. Using multiple literature search strategies, we could not find studies that have addressed potential etiological differences between borderline patients with and without SUD, nor of studies that compared patients across treatment settings, e.g. psychiatric versus addiction treatment services. Only two studies compared the clinical characteristics of borderline patients with and without SUD admitted to acute psychiatric inpatient facilities (Links et al., 1995; Dulit et al., 1990), but the findings from these studies are not entirely consistent.

In the study of Links et al. (1995), including 34 borderline patients with and 53 without SUD, it was found that the two groups did not differ significantly in terms of social adaptation, affect, psychosis, interpersonal problems, and overall dysfunction. However, those with comorbid substance abuse more often showed a history of poor school performance, and tended to enter treatment for the first time at a younger age and expressed higher levels of borderline psychopathology, especially self-mutilation and parasuicidal ideation. In addition, comorbid borderline patients showed somewhat more impulse decontrol. However, the paper does not report on whether this finding remained after controlling for substance abuse as one of the indicators of impulsivity.

Applying chart review as a diagnostic method, Dulit et al. (1990) compared 45 borderline patients without SUD (pure BPD) versus 92 with SUD, while the latter group was subdivided into those who still met criteria for BPD after exclusion of substance use as a borderline criterion (substance-independent BPD diagnoses; n=60) and those who did not (substance-dependent BPD diagnoses; n=32). Patients with a substance-dependent borderline diagnosis were slightly older at first outpatient treatment and first hospitalisation, and less impulsive than pure borderline patients. Furthermore, patients with substance-dependent borderline diagnoses reported less identity disturbance, were less tolerant of being alone, and experienced less minipsychotic episodes. Patients with substance-independent borderline diagnoses, however, were found to be more similar to pure borderline patients, suggesting that those with substance-dependent borderline diagnoses constitute a rather specific, less severe subgroup of borderline patients.

The present study aims to investigate differences and similarities in clinical characteristics and etiological factors between female borderline patients with and without SUD. Clinical characteristics will include borderline symptom severity, Axis-I comorbidity, and treatment history. Etiological variables will include family history of SUD, and history of childhood trauma (e.g. emotional neglect, sexual abuse, and physical abuse) and adult victimization. This is the first study to include a mixed sample of borderline patients recruited from addiction treatment services and from general psychiatric services.
Method

Participants
Participants were recruited from a pool of 92 clinical referrals from mental health and addiction treatment services within the greater Amsterdam area. Those female patients who met criteria for DSM-IV borderline personality disorder according to both the Personality Diagnostic Questionnaire (PDQ-4+) and the Structural Clinical Interview for DSM-IV Axis-II Personality Disorders (SCID-II) were eligible. In addition, all research subjects were required to have sufficient command of the Dutch language, reside within a 25-mile radius of Amsterdam, and agree to the study conditions. Subjects under 18 years of age, who met DSM-IV criteria for bipolar or chronic psychotic disorder, or suffered from severe cognitive impairments were excluded. Of the remaining 64 patients, 20 (31%) were referred by addiction treatment services and 44 (69%) were referred by mental health services.

Instruments

- **PDQ-4+**: The Personality Diagnostic Questionnaire-4+ (Hyler, 1994; Dutch translation by Akkerhuis et al., 1996) is an update version of the PDQ-R. The PDQ-4+ is a 99-item, self-administered, forced-choice, true/false questionnaire, designed to assess the DSM-IV personality disorders.

- **SCID-II**: The Structured Clinical Interview for DSM-IV Axis-II Personality Disorders (First et al., 1996; Dutch translation by Weertman et al., 1996) is a (semi) structured interview of 108 questions, arranged according to diagnosis, yielding both categorical diagnoses and dimensional scores for each of the 10 DSM-IV personality disorders.

- **BPDSI**: The Borderline Personality Disorder Severity Index (Arntz, 1996) is a 52-item semi-structured interview measuring the frequency of borderline symptoms in the previous 3-month period. The instrument is an adaptation of an interview developed by Weaver and Clum (1993), and has proven to be highly reliable and internally consistent, and to have excellent concurrent validity (Arntz et al., 2003). It consists of nine separate sections, each including several items reflecting the manifestations of the personality traits underlying the respective nine DSM-IV diagnostic criteria of BPD.

- **SCL-90**: The Symptom Check List (Derogatis, 1977; Dutch translation by Arrindell and Ettema, 1986) is a 90-item self-report questionnaire covering eight domains of psychopathology: anxiety, agoraphobia, depression, somatization, feelings of insufficiency, interpersonal sensitivity, and hostility and sleep problems.

- **SCID-I**: The Structured Clinical Interview for DSM-III-R (Spitzer et al., 1990; Dutch translation by Arntz et al., 1992) is a semi structured interview, yielding both Axis-1 lifetime diagnoses (i.e. ever in life) and Axis-I current diagnoses (i.e. past month).

- **EuropASI**: The EuropASI (Kokkevi and Hartgers, 1995) is an European adaptation
of the Addiction Severity Index (ASI; McLellan et al., 1980), a multidimensional (semi) structured instrument for assessment of broad range of domains that could be affected by substance abuse (treatment), i.e. medical, employment, alcohol, drug, legal, family/social, psychiatric problems, and a section concerning family history of substance abuse. For each domain, a severity rating (range 0-9) reflects the interviewer's estimate of the problem severity within that section. In line with the manual, subjects who had an alcohol or drug severity score of five or more were considered to have clinically relevant substance abuse problems.

THI. The Treatment History Interview (Linehan, 1987) is a structured interview measuring the patient's current and past health care consumption. Both number and type of all treatments for psychiatric symptoms, substance abuse problems, and somatic complaints are examined.

STI. The Structured Trauma Interview, short version (Drayer, 1996), is a semi-structured interview measuring the frequency and severity of childhood and adulthood traumatic experiences such as sexual abuse and physical abuse.

Procedure

After consent and prior to randomisation, all patients were evaluated with a comprehensive assessment battery, including several (semi) structured interviews and self-report questionnaires, administered by clinically experienced and trained diagnosticians. The assessments were administered during a two-day intake session. Clinical variables were measured using the SCID-II, BPDSI, SCL-90, and the THI. Etiological variables were measured with the EuropASI and the STI.

Differences between groups with regard to continuous variables were examined using general factorial ANOVA. F-values for the main and interaction effects of substance abuse problems and referral setting are reported. Dichotomous variables were examined using chi-square and logistic regression. First, saturated models were tested including both main effects and the interaction effect. If the interaction effect (addiction*referral) appeared to be not significant, selective models were tested examining the main effects only. None of the interaction effects were significant. Thus, the logistic regression data are the result of selective models only. Odds ratios (OR's), degrees of freedom (df) and 95% confidence intervals (CI's) are reported.

This is an explorative study with a relatively small sample size. In order to prevent type II errors in this early stage of the investigation of this issue, we are reporting differences with a rather lenient level of significance (p<.05) and without correction for the multiple comparisons. All analyses were conducted using SPSS 8.0 for Windows.
Results

Sample Characteristics
The mean age of this all female sample was 34.9 years (sd. 7.7; range 28.6). More than half of the patients were on disability pension (58%) and were unmarried (63%). Less than half lived alone (35%) and had less than an elementary school education (30%). Thirty-five of the 64 subjects (55%) showed clinically significant addiction problems ('BPD/SUD+ group'), leaving 29 subjects (45%) to the 'BPD/SUD-' group. Substances used during the last thirty days were cannabis (30%), heroin (9%), cocaine (17%), methadone (13%), alcohol (50%) and medication (mostly sedatives, 64%). Polydrug use rated as high as 56%. The average number of years of substance abuse was 7.6 years; the average number of treatments for substance use was 4, ranging from detoxification only to long-term residential treatment.

Twenty females (31%) were referred by addiction treatment services (BPD/ATS), whereas 44 subjects (69%) were referred by mental health services (BPD/MHS). Strikingly, the proportion of BPD+SUD patients in the addiction treatment services group was not significantly larger than in the mental health services group (70% versus 47%; $\chi^2=2.7, df=1, p=0.10$). Six patients turned out not to be substance users [ASI > 5] although referred by the substance abuse services.

Neither the presence of addiction problems nor the referral setting appeared to be associated with the demographic characteristics.

Clinical Variables
No significant differences between subgroups (BPD/SUD+ vs. BPD/SUD- and BPD/ATS vs. BPD/MHS) were observed with regard to the problem domains of the Europasi, with the exception of alcohol and drug problem severity. Within the domain of Axis-I psychopathology (SCID-I; SCL-90; Europasi) BPD/SUD+ differed significantly from BPD/SUD- in only four out of 38 indicators: BPD/SUD+ patients were 9.5 times ($C=1.0-88.6$) more likely to meet criteria for an anxiety disorder than were BPD/SUD- patients, BPD-SUD+ also reported somewhat more feelings of insufficiency ($F=4.8, df=1, p=0.03$) and less hostility ($F=6.0, df=1, p=0.02$), and they were four times more likely to have attempted to commit suicide ($OR=4.3, df=1, C1 1.2-14.8$) than those without addiction problems. No significant differences in Axis-I psychopathology were observed between the BPS/ATS and the BPD/MHS group.

Comparison for type and severity of Axis-II psychopathology (SCID-II and BPSI) resulted in only five significant differences between groups (out of 46 comparisons). Individuals in the BPD/SUD+ group reported less paranoid personality disorder ($F=5.3, df=1, p=0.03$) and slightly less uncontrolled anger outbursts ($F=8.8, df=1, p=0.004$)
than their non-substance abusing counterparts. In addition, BPD/SUD+ patients seemed to be more impulsive ($F=8.3$, $df=1$, $p=0.005$). However, this difference was partly attributable to three out of the 11 items examining alcohol and drug intake as manifestations of impulsivity. When these three items are excluded, the difference was no longer statistically significant ($F=3.3$, $df=1$, $p=0.07$). Finally, BPD/MHS patients showed significantly more avoidant personality traits ($F=11.5$, $df=1$, $p=0.001$) and less adult antisocial behaviour ($F=7.9$, $df=1$, $p=0.007$).

There was no association between the presence of addiction problems and referral setting with the individual’s treatment history, as measured by the THI. The groups appeared to be very similar in terms of the proportion of subjects with a history of psychiatric hospitalisation, the age of first outpatient treatment and of first hospitalisation, the number of (different) treatments, and the number of crisis admissions.

**Etiological Factors**

The presence or absence of addiction problems and referral setting were not significantly associated with the individual’s history of traumatic events. However, the possibility that BPD/ATS patients are more frequently the victims of adult physical abuse than BPD/MHS patients could not be ruled out completely (OR 3.5; $df=1$; CI (0.3-34.8)). It is important to notice that borderline patients with and without substance abuse do not differ significantly in terms of a family history of alcoholism or childhood sexual abuse.

**Discussion**

In summary, this study revealed that the differences between BPD patients with and without SUD and between BPD patients recruited from different treatment settings were limited in number and rather small in size. Out of the 124 comparisons made in total, only 12 (10%) reached statistical significance. Comparisons between BPD/SUD+ and BPD/SUD- produced only 9 (15%) significant differences. It should be noted that these few significant results left would not have been detected if a correction for multiple testing had been applied. Accordingly, the findings should be considered with the necessary caution.

Our data corroborate earlier studies in which BPD/SUD+ patients were found to be more impulsive (Links et al., 1999; van Reekum et al., 1994). However, this difference disappeared when corrected for impulsive substance abuse. That however does not mean that impulsivity is not one of the core aspects of borderline personality
pathology. In fact, impulsivity may influence the decision in BPD patients to use psychoactive substances, to lose control over substance use and to cause long term substance abuse problems. In addition, we found that BPD/SUD+ patients were four times more likely to have attempted suicide than BPD/SUD- patients. Since we did not examine the temporal relationship between substance abuse and suicide attempts, this finding might either indicate that substance abuse lowers the threshold to engage in self-destructive behaviour and suicide attempts or reflect that non-intentional overdoses were mistaken for suicide attempts. Neither our study nor the studies of Links (1995) and Dulit (1990) are conclusive about the nature of the suicide attempts.

Our data show slightly lower levels of suspicion, anger and hostility and more maladaptive/self-destructive coping behaviour in BPD/SUD+ patients, while no difference is found when it comes to be sexually traumatized. This seems to indicate that BPD/SUD+ patients can at the most be defined as 'more pathetic' BPD patients.

The differences between groups discriminated by referral setting are even more limited than those between borderline patients with and without substance abuse problems. The findings suggest that conflict avoiding BPD patients are referred to or select themselves into the mental health circuit, whereas antisocial BPD patients are more often found in the addiction treatment circuit. Borderline patients with SUD can, however, be found in both circuits: 70% of the borderline patients in addiction treatment services and 47% of the borderline patients in mental health services. These data indicate that treatment allocation is a complex process in which the presence of a comorbid SUD is only one factor, and perhaps one of minor importance.

In conclusion, several studies have failed to find any consistent major differences between borderline patients with and without SUD in terms of clinical characteristics and etiological background. It seems fair to state that these empirical findings do at least not support the exclusion of borderline patients with substance abuse problems from regular treatment services or from clinical trials.
References


Arntz A. BPDSI. Borderline Personality Disorder Severity Index. Maastricht: University of Limburg, Department of Medical, Clinical and Experimental Psychology 1996.


Derogatis LR. sCL-90: administration, scoring and procedures manual-I for the revised version. Baltimore: John Hopkins University School of Medicine, Clinical Psychometrics Research Unit 1977.

Draijer N. Vragenlijst jeugdervaringen (korte versie). Amsterdam: Free University, department of psychiatry 1996.


*SPSS 8.0 for Windows,* Marketing department SPSS, Chicago 1997.


