

Personality Disorders Among Alcoholic Outpatients: Prevalence and Course in Treatment

Eugenia Zikos, MD, FRCPC¹; Kathryn J Gill, PhD^{2,3}; Dara A Charney, MDCM, FRCPC^{2,4}

Objective: To determine the prevalence of concurrent personality disorders (PDs) among alcoholic men and women seeking outpatient treatment, and to examine their effect on the course of alcohol treatment.

Method: Patients with alcohol use disorders ($n = 165$) were assessed by clinical and semi-structured interviews, as well as self-report scales, to measure levels of psychological distress, impulsivity, social functioning, and addiction severity at treatment intake. PD diagnoses were assessed using the Structured Clinical Interview for Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, Personality Disorder (SCID-II). Course in treatment was monitored prospectively for 12 weeks.

Results: Using the results of the SCID-II ($n = 138$), the sample was divided into 3 groups—that is, no PD 41% ($n = 57$), Cluster B PD 32% ($n = 44$), and other PD 27% ($n = 37$). The 3 groups did not differ in their alcohol use severity at intake. However, the Cluster B PD group achieved alcohol milestones at a younger age. Subjects with a PD had more severe psychological and social problems at intake. The Cluster B PD group showed significantly higher levels of impulsivity at intake, greater likelihood of early treatment dropout, and quicker times to first slip and to relapse.

Conclusions: This study supports the high prevalence of concurrent PDs, particularly Cluster B PDs, among treatment-seeking alcoholics. The relation between observed high levels of impulsivity and worse course in early alcohol treatment among people with a Cluster B PD merits further investigation.

Can J Psychiatry. 2010;55(2):65–73.

Clinical Implications

- Among our outpatient treatment-seeking alcoholic sample, 59% had a PD, underscoring the importance of screening for this comorbidity.
- Cluster B PDs were especially prevalent in our sample population (32%) and showed significantly higher levels of impulsivity at intake.
- Subjects with Cluster B PD showed significantly poorer course in early alcohol treatment, confirming the clinical experience of difficulty engaging this population into treatment.

Limitations

- Our findings are not generalizable to alcohol use disorders as a whole, given that subjects were treatment-seeking outpatients with no comorbid drug dependence.
- We were unable to examine outcomes for 20% of our sample owing to attrition, refusal to attend follow-up interviews, or missing data.
- The current sample size limits our ability to further examine the complex relation between Cluster B PD and impulsivity, and their impact on alcoholism.

Key Words: *personality disorders, alcoholism, alcohol treatment, alcohol use disorders, co-occurring disorders, prevalence, comorbidity, impulsivity, Cluster B personality disorders*

Psychiatric comorbidity appears to be the rule rather than the exception for treatment-seeking alcoholics, with concurrent PDs among the most prevalent diagnoses. In clinical settings, the rates of concurrent PDs among alcoholics range from 22% to 78%,¹⁻¹⁴ with most estimates around 60%.^{3,5,6,8,11-14} The variability in prevalence rates may be partly explained by differences in sample selection, treatment settings (residential, compared with outpatient), assessment instruments (self-report, compared with semi-structured interviews), and time of PD diagnosis (ongoing substance use, compared with remission). Nonetheless, prevalence rates for PDs in alcoholics are consistently higher than the estimated 9% to 16% PD lifetime rates in the general population,¹⁵⁻¹⁹ and appear even greater than the 45% PD rate in a psychiatric sample.²⁰

To date, no single DSM personality profile has characterized alcoholics. However, Cluster B PDs appear to be particularly prevalent among alcoholics,^{2,3,5-7,10,11,13} with both ASPD and BPD overrepresented in this population.^{1,6,8,11,21-24} In turn, alcohol use disorders are highly prevalent among people with Cluster B PDs. In the NESARC, alcohol use disorders were more frequently encountered among the 2 Cluster B PDs studied (in 28.7 % of people with ASPD and in 29.1% of those with histrionic PD) than those with other types of PDs.²¹

In terms of clinical presentation, a concurrent PD diagnosis is associated with an earlier age of onset of alcohol-related problems,^{6,7,10,11} increased addiction severity,^{6,11} more secondary drug use,^{7,9,10,12} more psychological distress,^{6,7,9} and

greater impairment in social functioning.¹⁰ As for course in addiction treatment, a concurrent PD diagnosis has been associated with premature discontinuation of treatment,^{10,13} earlier relapse,^{9,12,13} poorer treatment response,^{8,14} and worse long-term outcome.^{5,25}

However, few studies have looked at the impact of individual PD diagnoses (other than ASPD) on the course of alcoholism, or on the outcome of alcohol treatment. Moreover, there have been few attempts to clarify the differential impact of the seemingly more prevalent Cluster B PDs in this population.^{7,9,12,14} While some studies find greater addiction severity and poorer treatment outcomes among alcoholics with Cluster B PDs,^{6,7,11,14} others suggest that alcoholics with ASPD and other Cluster B PDs may fare as well in treatment as patients with no PD.^{7,26,27} Thus there is no clear consensus regarding the relation between alcoholism and the different PD diagnoses.

The main objectives of this 12-week follow-up study were to determine the prevalence of concurrent DSM-IV PDs among alcoholic men and women seeking outpatient treatment, and to examine their effect on the course of alcohol treatment. Based on literature trends, our main hypothesis is that Cluster B PDs will be overrepresented in our sample and will show more severe initial clinical presentation and worse course in early treatment, compared with those with no Cluster B PD.

Method

Participants and Procedures

Assessment and recruitment were conducted at the Addictions Unit of the MUHC. The Addictions Unit provides comprehensive care to adults with all forms of psychoactive SUDs, and pursues a treatment philosophy of total abstinence. On entering treatment, 177 consecutive patients with alcohol use disorders were approached to participate in a 12-week follow-up study evaluating clinical and biological predictors of early treatment outcome; 165 patients provided written informed consent, and 12 declined to participate. The study's procedure and consent form were approved by the MUHC Research Ethics Committee.

All research assessments were conducted by trained interviewers who were uninvolved in the subjects' clinical care. Intake interviews and questionnaires were completed within 1 week of entering treatment. All research assessments were reviewed by an Addictions Unit psychiatrist, who conducted a brief interview with each patient to apply study inclusion and exclusion criteria. Patients were eligible if they were aged between 18 and 65 years and met criteria for a DSM-IV diagnosis of alcohol abuse or dependence. Patients were excluded if they suffered from a second substance dependence (other than nicotine dependence), a psychotic or organic brain disorder; or if they required inpatient detoxification or psychiatric admission.

Follow-up interviews and questionnaires were completed at 12 weeks. All subjects, including those who had dropped out

Abbreviations used in this article

ASI	Addiction Severity Index
ASPD	antisocial PD
BAI	Beck Anxiety Inventory
BDI	Beck Depression Inventory
BIS-11	Barratt Impulsiveness Scale, Version 11
BPD	borderline PD
DSM	Diagnostic and Statistical Manual of Mental Disorders
MUHC	McGill University Health Centre
NESARC	National Epidemiological Survey on Alcohol and Related Conditions
NOS	not otherwise specified
PD	personality disorder
SCID-I	Structured Clinical Interview for DSM-IV Diagnosis (Axis I)
SCID-II	Structured Clinical Interview for DSM-IV Personality Disorder
SCL-90-R	Symptom Checklist-90-Revised
SUD	substance use disorder

of treatment, were recontacted and invited to attend follow-up interviews. At 12 weeks, 106 subjects attended all the follow-up interviews and completed questionnaires, 15 subjects provided information about their substance use during telephone interviews and returned completed questionnaires by mail, and 32 subjects (20%) refused to participate or could not be contacted.

Measures

Initial research assessments were conducted using the SCID-I²⁸ and the ASI.²⁹ The SCID-I was used to establish current and lifetime Axis I psychiatric diagnoses at intake. The ASI was used to collect a wide range of information, including sociodemographics, and problem severity in 7 areas: alcohol and drug use, family–social relationships, medical status, employment–support status, legal status, and psychiatric status. For each problem area, severity is measured in terms of number, duration, frequency, and intensity of symptoms experienced during the past 30 days, and a composite score is obtained with a range from 0 to 1. The psychometric properties of the ASI have been found to be excellent, with high interrater reliabilities for all composite scores.³⁰

At both the initial and 12-week assessments, subjects completed self-report questionnaires measuring psychological distress (SCL-90-R),³¹ depressive symptoms (BDI),³² and anxiety symptoms (BAI).³³ Levels of impulsivity were measured both at intake and at 12-week follow-up, using the BIS-11.³⁴ The BIS-11 is a 30-item self-report questionnaire measuring impulsivity in 3 domains: motor, nonplanning, and attention–cognitive. Items are scored on a 4-point Likert scale and sample items include: “I plan tasks carefully”; “I do things without thinking”; and “I am more interested in the present than the future.” The BIS has been widely used in adults and has been validated in impulsive and normal populations.³⁵ There is evidence of good internal consistency (Cronbach’s $\alpha = 0.79$ to 0.83) and test–retest reliability of 0.60 during 1 year³⁶; however, there are no standardized norms. Subjects also provided urine samples for drug screening (cloned enzyme donor immunoassay).

The 12-week follow-up assessment included the SCID-II interview for Axis II psychiatric diagnoses³⁷ and a second administration of the ASI to determine addiction severity at 12 weeks. The SCID-II is a widely used semi-structured interview designed to categorically and dimensionally (that is, Clusters A, B, or C) assess the DSM-IV PDs. Reliability and validity data of the SCID-II have been demonstrated, with excellent overall interrater reliability ($\kappa = 0.90$) as well as excellent diagnostic agreement at the Cluster level of analysis ($\kappa = 0.86$ for Cluster A, $\kappa = 0.87$ for Cluster B, and $\kappa = 0.92$ for Cluster C).³⁸ PDs were not assessed at intake, but rather at a time when subjects were in a more stable state, to increase diagnostic reliability,³⁹ particularly for subjects with an active mood or anxiety disorder, which has been shown to impact PD diagnoses.⁴⁰ Conversely, achieving abstinence from an SUD has not been found to co-occur with remission of Axis II

pathology.⁴⁰ Therefore, PD diagnoses established after the onset of alcohol treatment would be less subject to a substance-induced state effect, but rather reflect a stability of traits over time. Moreover, in the consideration of a PD diagnosis (and ASPD in particular), behaviours that were solely attributable to alcohol or drugs were excluded, as suggested by Gerstley et al.⁴¹ SCID-II interviews were conducted primarily by a psychiatrist, as well as a trained master’s-level research assistant. For subjects who could not be contacted at 12-week follow-up, a thorough independent chart review by 2 psychiatrists as well as interviews with the treating therapists were conducted and a PD diagnosis and (or) PD cluster was attributed if criteria were met using the SCID-II.

Data Recorded From Clinic Files

Data collected from subjects’ clinic files included information on clinic attendance (total number of group therapy sessions, individual therapy sessions, and psychiatric appointments attended); need for inpatient detoxification or psychiatric medication; results of random urine drug screens; self-reported relapses; duration and amount of substance use; and therapist-reported patient progress notes.

Standard Addiction Treatment

Subjects were offered standard treatment: Valium-based outpatient detoxification, a 90-minute group therapy session once or twice per week, a minimum of four 50-minute weekly individual therapy sessions, and random urine drug screens throughout treatment. The 90-minute group therapy sessions combined psychoeducational, supportive, and relapse-prevention interventions. The 50-minute individual psychotherapy sessions promoted self-efficacy and personal responsibility for change, evaluated and enhanced the motivational level of the patient and readiness for change, and educated the patients about strategies that produce change and prevent relapses. The expected duration of treatment was 6 to 9 months, divided into Phase 1 or acute treatment (corresponding roughly to 45 days) and Phase 2 or maintenance treatment. All addiction therapists had more than 5 years’ experience as certified addiction counsellors, and held degrees in nursing, occupational therapy, or psychology. All subjects received a psychiatric evaluation at intake. Further medical and psychiatric care was provided on an as-needed basis throughout treatment. If subjects were unable to tolerate or adhere to outpatient detoxification regimens, they were offered inpatient detoxification. Subjects were encouraged, but not required, to attend mutual help groups, such as Alcoholics Anonymous.

Data Analyses

Using the results of the SCID-II interview ($n = 138$; 106 face-to-face interviews and 32 chart reviews), the sample was divided into 3 groups—that is, no PD, Cluster B PD (narcissistic, histrionic, BPD, and ASPD), and other PD (paranoid, schizoid, schizotypal, avoidant, dependent, obsessive–compulsive, passive–aggressive, and depressive

Table 1 Addiction severity at intake

Addiction severity variable	No PD <i>n</i> = 57	Cluster B PD <i>n</i> = 44	Other PD <i>n</i> = 37	<i>P</i>
Age of onset of alcohol problems, years, mean (SD)	28.4 (10.0)	23.4 (7.4) ^a	23.9 (7.8)	0.007
Duration of alcohol problems, years, mean (SD)	30.6 (9.0)	24.2 (9.5) ^b	29.4 (7.3)	0.001
Alcohol use in last month, days, mean (SD)	21.0 (9.2)	17.1 (9.3)	19.8 (8.3)	ns
Number of drinks consumed per day, mean (SD)	10.2 (5.1)	12.0 (5.0)	11.9 (8.3)	ns
Severity of alcohol problems, mean ASI CS ^c (SD)	0.74 (0.18)	0.72 (0.18)	0.76 (0.13)	ns
Abuse of a secondary drug, %	26.3	56.8	32.4	0.005 ^d
Severity of drug problems, mean ASI CS ^c (SD)	0.03 (0.07)	0.06 (0.10)	0.02 (0.04)	ns

^a A significant difference from the no PD group, by post hoc Scheffe test
^b A significant difference from the no PD and the other PD group, by post hoc Scheffe test
^c ASI CS range from 0.00 to 1.00, with 1.00 being the most severe
^d A significant difference between groups, determined by chi-square test
CS = composite score; ns = not significant

PD). The personality groups were compared across numerous variables, including demographics, psychosocial functioning, and addiction severity using chi-square tests for categorical data and ANOVA techniques for continuous data, including MANOVA for multiple variables and repeated measures. Post hoc tests were conducted using Scheffe or *t* tests; in cases where multiple comparisons were conducted on the same set of data, corrections for Type I error were made using a Bonferroni correction. Data on retention in treatment and time to first slip and relapse were analyzed using the SPSS Survival program (SPSS Inc, Chicago, IL). Cox proportional hazards regression model was used to examine the relation between survival and other covariates. Subjects lost to follow-up (20%) were compared with the retained sample across a wide variety of intake variables including demographics, medical and employment status, psychological functioning, drug and alcohol use, as well as ASI composite scores. The only statistically significant differences across these multiple comparisons were for age and BAI scores.

Results

Prevalence of PDs

Fifty-nine percent of the sample (*n* = 81) presented with at least one PD diagnosis, and 10% of the sample (*n* = 14) had more than one PD. The sample was divided into 3 groups—that is, no PD (*n* = 57; 41%), Cluster B PD (*n* = 44; 32%), and other PD (*n* = 37; 27%). BPD was the most prevalent diagnosis (*n* = 19; 13%), followed by PD NOS (*n* = 18; 12%), narcissistic PD (*n* = 10; 7%), obsessive–compulsive PD (*n* = 10; 7%), avoidant PD (*n* = 9; 6%), and ASPD (*n* = 8; 5%). The rest of the DSM-IV PDs each accounted for 3% or less of the sample.

Demographic Characteristics

The sample was predominantly white (94%) and male (67%), with a mean age of 44.0 years, SD 9.7. The sample was largely employed (67% employed full-time, 13% employed part-time), married (43% married, 27% separated or divorced, 30% single), and had received some post-secondary education (mean level of education of 14.0 years, SD 2.8). The 3 personality groups differed in age ($F = 8.35$, $df = 2, 137$, $P < 0.001$), with the Cluster B PD group being younger than the other 2 groups. Otherwise, there were no significant differences among the 3 personality groups regarding demographics.

Substance Use Characteristics

The 3 personality groups did not differ in terms of their alcohol use severity at intake (amount consumed, frequency of use, and ASI composite score for alcohol problems). However, the Cluster B PD group seemed to have achieved alcohol milestones at a younger age. Specifically, they had a significantly earlier age of onset of alcohol problems than the no PD group ($F = 5.10$, $df = 2, 137$, $P = 0.007$), and a shorter period of alcohol use prior to entering treatment than both the no PD and other PD groups ($F = 6.99$, $df = 2, 137$, $P = 0.001$). The Cluster B PD group also presented with more frequent secondary drug abuse (*n* = 25; 56.8%), primarily cocaine (*n* = 11; 25.0%) and cannabis (*n* = 10; 22.7%) ($\chi^2 = 10.43$, $df = 2$, $P = 0.005$). Substance use characteristics of the sample are presented in Table 1.

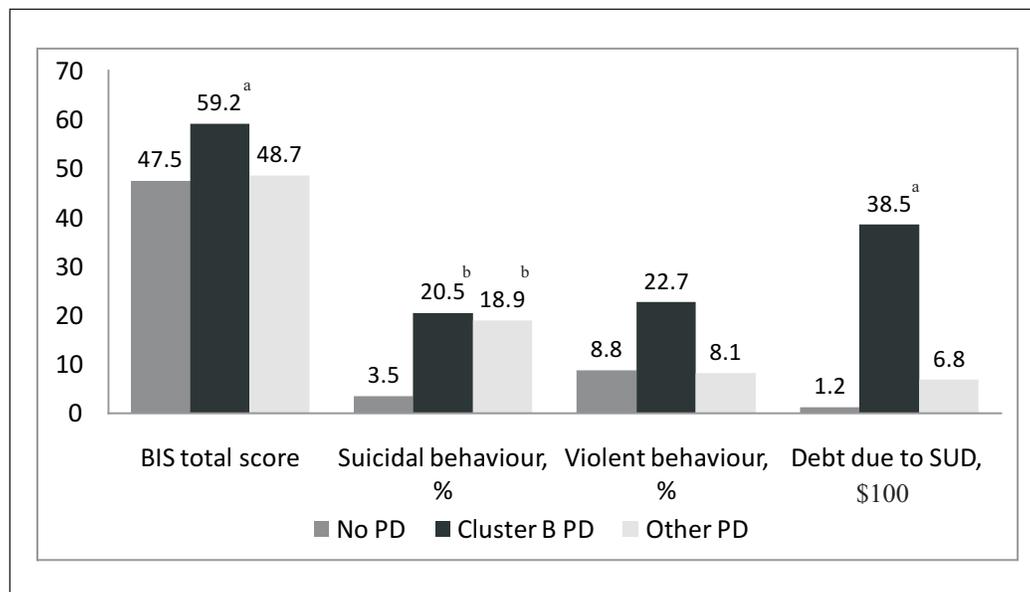
Psychosocial Functioning and Impulsivity Indices

The ASI interview revealed that both PD groups had more severe psychological problems ($F = 5.60$, $df = 2, 137$, $P = 0.005$) and social problems ($F = 7.36$, $df = 2, 137$, $P = 0.001$) than the no PD group at intake. However, only the Cluster B PD group had more severe employment problems ($F =$

Psychosocial measure	No PD <i>n</i> = 57	Cluster B PD <i>n</i> = 44	Other PD <i>n</i> = 37	<i>P</i>
Severity of psychiatric problems, mean ASI CS ^a (SD)	0.23 (0.22)	0.34 (0.21) ^b	0.38 (0.25) ^b	0.005
Severity of social problems, mean ASI CS ^a (SD)	0.16 (0.22)	0.33 (0.28) ^b	0.31 (0.23) ^b	0.001
Severity of employment problems, mean ASI CS ^a (SD)	0.34 (0.25)	0.55 (0.32) ^b	0.44 (0.29)	0.003
BDI score, ^c mean (SD)	16.6 (11.5)	22.1 (11.7)	23.1 (11.4) ^b	0.015
BAI score, ^d mean (SD)	16.2 (12.1)	24.4 (12.9) ^b	24.9 (16.3) ^b	0.002
SCL-90-R GSI, ^e mean (SD)	0.93 (0.66)	1.45 (0.80) ^b	1.49 (0.82) ^b	<0.001

^a ASI CS range from 0.00 to 1.00, with 1.00 being the most severe
^b A significant difference from the no PD group, by post hoc Scheffe test
^c Possible scores range from 0 to 63; scores of 10 to 18 indicate mild depression, 19 to 29 moderate depression, 30 to 63 severe depression
^d Possible scores range from 0 to 63, scores of 8 to 15 indicate mild anxiety, 16 to 25 moderate anxiety, 26 to 63 severe anxiety
^e GSI: possible scores range from 0 to 4, with higher scores indicating greater levels of psychological distress
 CS = composite score; GSI = Global Severity Index

Figure 1 Impulsivity indices at intake



^a A significant difference from No PD and other PD group

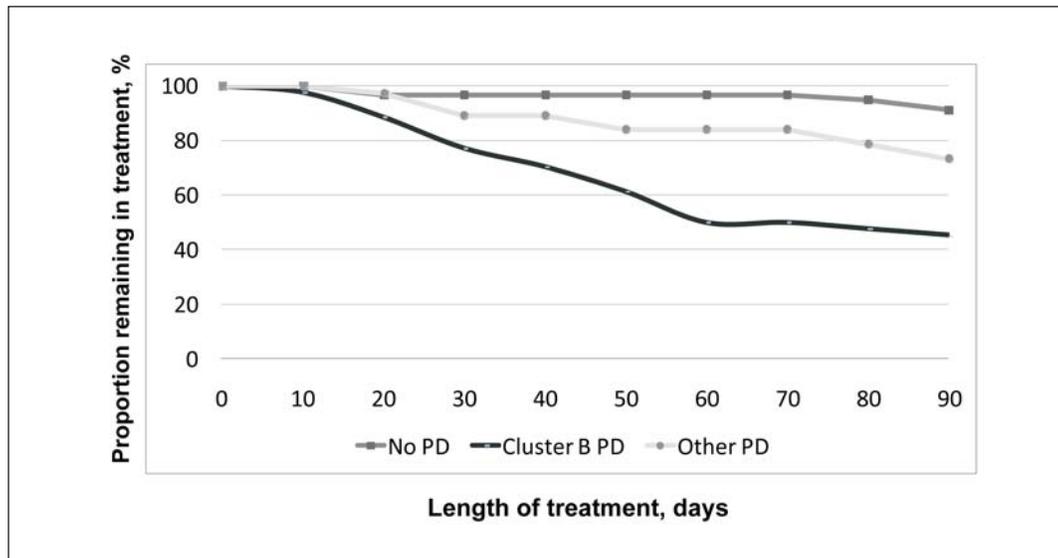
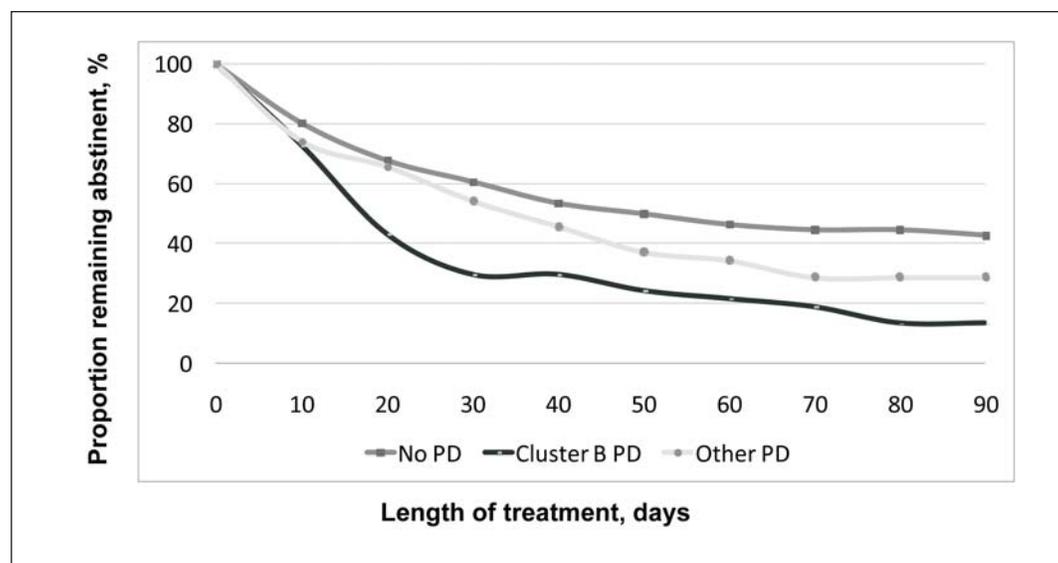
^b A significant difference from No PD group

5.98, *df* = 2,132, *P* = 0.003) than the no PD group at intake. Indicators of psychosocial functioning are presented in Table 2. There was a high degree of correlation between the PD groups and the psychiatric self-report measures at intake. Both PD groups (Cluster B PD and other PD) had higher scores on the BDI (*F* = 4.36, *df* = 2,133, *P* = 0.015), the BAI (*F* = 6.36, *df* = 2,134, *P* = 0.002), and the SCL-90-R Global Severity Index (*F* = 8.53, *df* = 2,132, *P* < 0.001) than the no PD group. The Cluster B PD group showed significantly higher levels of impulsivity at intake as evidenced by psychometric measures, such as the total BIS-11 score

(*F* = 6.66, *df* = 2,137, *P* = 0.002), by behavioural indices, such as suicidality ($\chi^2 = 7.83$, *df* = 2; *P* = 0.02), and by financial debt (*F* = 3.96, *df* = 2,131, *P* = 0.02) (Figure 1).

Course in Early Addiction Treatment

The Cluster B PD group showed greater likelihood of early treatment dropout (36.4% dropout before 45 days, compared with 16.2% for other PD group and 3.5% for those with no PD) ($\chi^2 = 18.71$, *df* = 2, *P* < 0.001). This 45-day cutoff corresponds to dropout before starting the maintenance phase of treatment. As shown in Figure 2, analysis of survival in

Figure 2 Time to treatment dropout**Figure 3 Time to first relapse**

treatment to 90 days of follow-up demonstrated that there were significant differences between groups overall (Wilcoxon survival analysis; Gehan statistic 25.131; $P < 0.001$). Pairwise comparisons of the survival curves showed that the patients with a Cluster B PD tended to drop out of treatment earlier than the no PD group ($P < 0.001$) and than the other PD group ($P = 0.008$); those in the other PD group dropped out earlier, compared with subjects with no PD ($P = 0.03$).

In addition, the Cluster B PD group showed an earlier return to drinking as measured by time to first slip (defined as the consumption of any alcohol). Survival analysis of time to first slip showed significant differences between groups overall (Wilcoxon survival analysis; Gehan statistic 7.727; $P = 0.02$). Pairwise comparisons revealed significant differences

between Cluster B PD and no PD ($P = 0.008$) as well as between Cluster B PD and other PD ($P = 0.04$). There was no statistically significant difference for time to first slip between no PD and other PD group ($P = 0.63$).

Finally, as illustrated in Figure 3, there were significant differences between the 3 groups in the rate of relapse to drinking (defined as 5 or more drinks per day for men and 4 or more drinks for women; or 5 or more consecutive days of slips for men and 4 or more days for women) (Wilcoxon survival analysis; Gehan statistic 7.151; $P = 0.03$). Pairwise comparisons showed that those with a Cluster B PD tended to relapse earlier than the no PD group ($P = 0.008$). Other pairwise comparisons for relapse rates did not reach significance ($P_s > 0.20$).

To examine the relation between survival in treatment and potential predictor variables other than PD, analysis using a Cox proportional hazards regression model was performed. Steps used in our model were severity of alcohol use, secondary drug use, psychological distress, impulsivity, and, finally, PDs. Cox regression analysis ranked PD as the largest predictor of retention in treatment ($\chi^2 = 21.72$, $df = 2$, $P < 0.001$), in particular a Cluster B PD diagnosis (Wald = 5.890, $df = 1$, $P < 0.02$). The only other variable that reached statistical significance (among multiple covariates analyzed) was the nonplanning domain of the BIS-11 (Wald = 5.387, $df = 1$, $P = 0.02$).

Discussion

PDs were highly prevalent (59%) in this outpatient treatment-seeking alcoholic sample, consistent with rates in most clinical studies using standardized instruments to determine DSM-IV Axis II diagnoses. This rate is twice as high as the 28.6% prevalence rate of PDs in alcohol use disorders found in the recent large NESARC study.²¹ This may be because BPD, narcissistic PD, schizotypal PD, and PD NOS were not screened for in that study, as well as by the fact that theirs was a community and not a clinical sample. In our study, Cluster B PDs were predominant (32%), compared with Cluster A and C PDs (27%), in keeping with our hypothesis and with numerous studies of alcoholics in clinical settings. The most prevalent PD in our study was BPD (13%), with a much higher prevalence rate than all the previously cited studies of alcoholics in clinical settings, except for one where most subjects were in an inpatient addictions setting.⁶ This may be partly because our Addictions Unit is part of the outpatient psychiatric department where some of the referrals originate. PD NOS was also highly prevalent (11.9%) in our sample. While this is a diagnosis overlooked by most studies, it has been found to be as prevalent when it was considered.^{2,5,13} This high proportion of PD NOS may be attributed to the inherently categorical instead of dimensional nature of DSM-IV PD diagnoses where many patients who present with longstanding maladaptive patterns of behaviour cannot be categorized neatly. Another notable finding was our sample's unexpectedly low rate of ASPD (5% of total sample), comparable to the general population rate of 3.6% found in the NESARC⁴² but lower than the 7% to 23% rate reported in most clinical samples of alcoholics.^{3,6,8-10,13,14} This lower than expected rate in our study may be because eligible study subjects were voluntarily treatment-seeking, treatable on an outpatient basis and having no comorbid substance dependence other than nicotine, as well as because care was taken to exclude drug- or alcohol-influenced behaviours from PD criteria.

As expected, alcoholic subjects with co-occurring PDs presented with increased psychological distress and social dysfunction at intake, much like PDs in community samples.¹⁶ Despite this, a PD diagnosis, including Cluster B, was not associated with worse alcohol addiction severity at intake.

However, subjects with Cluster B PD were significantly younger at clinical presentation, had fewer years of alcohol use, as well as an earlier age of onset of alcohol problems, suggesting that they reach alcohol milestones at a younger age. This is a significant finding given that earlier onset of alcohol problems has been associated with poorer long-term outcome.²⁵ Cluster B PDs also presented with more secondary drug abuse (56.8%), primarily cocaine. However, it should be noted that only subjects with comorbid drug abuse (not dependence) were included in the sample and that the overall severity of drug problems was not significantly different between groups as shown by the ASI drug composite scores. Moreover, although comorbid drug abuse, in particular, cocaine, has been associated with poorer alcohol treatment outcomes in some studies,⁴³ other studies have been inconclusive⁹ or have shown equivalent improvements after treatment for alcoholism.⁴⁴ Further, in our study, comorbid drug abuse was not a statistically significant predictor of early treatment dropout using Cox proportional hazards regression analysis.

Although causality cannot be inferred, there appears to be a dose-effect response with the no PD group showing a trend for better early treatment outcomes than the other PD group; however, this reached statistical significance only for time to dropout. Cluster B PDs fared significantly worse than both other groups for earlier dropout and earlier time to first slip and showed significantly quicker time to relapse than the no PD group. Regression analysis confirmed the large negative impact of Cluster B PDs, over other predictors, on treatment retention. These findings support the clinical impression that patients with Cluster B PDs are difficult to treat because they are more difficult to engage in treatment. Moreover, it has been shown that treatment attendance in alcoholics is favourably related to outcome and that great importance should be paid to client retention in programs to derive benefit from therapy.^{12,45}

The observation that Cluster B PDs are overrepresented in alcoholics, compared both with the general population^{17,46,47} and with psychiatric patients,²⁰ where Cluster C PDs prevail, raises the question of an underlying shared biological or environmental denominator. One predisposing factor that has been consistently linked to substance abuse is impulsivity.⁴⁸ Impulsivity is a complex construct that is difficult to define. It represents a predisposition toward rapid, unplanned actions that are unduly risky or inappropriate to the situation and often result in undesirable consequences.⁴⁸ Impulsivity appears to underlie numerous psychiatric disorders, including SUDs, conduct disorder, and PDs.⁴⁸ In fact, impulsivity is a DSM-IV diagnostic criterion for 2 of the 4 Cluster B PDs (BPD and ASPD). Very few studies have attempted to determine the impact of impulsivity on severity or mechanisms of substance abuse. However, higher levels of baseline impulsivity (as measured by BIS-11) were associated with earlier age of onset of alcohol problems⁴⁹ and early addiction treatment dropout.⁵⁰ In our sample, Cluster B PDs showed

significantly higher levels of impulsivity at intake both on psychometrics (BIS-11 score) and on behavioural indices such as suicide attempts and financial debt. Although the BIS is purported to measure trait impulsivity,^{34,35} it could be argued that intake BIS scores may reflect state impulsivity (that is, secondary to the effect of substances). However, in our sample, people with Cluster B PDs had significantly higher BIS scores, compared with the other 2 groups, despite no significant differences in consumption severity at intake. In our study, the observed early time to treatment dropout in Cluster B PDs may reflect an impulsive decision to start treatment at a time when they are not ready or not motivated. This also appears to be suggested by our findings on Cox regression that the nonplanning domain of the BIS at intake had some predictive impact on treatment retention. Reasons for early treatment dropout in alcoholics with Cluster B PD need to be further examined, using larger samples, as this is an important predictor of negative longer-term addictions outcome.⁴⁵ Finally, sample bias and generalizability also represent limitations to our findings as this was a treatment-seeking outpatient alcoholic population with no comorbid drug dependence and voluntary to research participation. As such, it is possible that even our high prevalence of Cluster B PDs represents an underestimate, although the direction of this bias remains to be determined.

Conclusions

Our study confirms the high prevalence of concurrent DSM-IV PDs, particularly Cluster B PDs, among treatment-seeking alcoholics. Subjects with Cluster B PDs differentiated themselves from the rest of the sample by reaching alcohol milestones at a younger age, displaying higher levels of impulsivity, and experiencing worse early treatment outcomes. These findings highlight the importance of screening for PDs in this population, particularly Cluster B PDs, and focusing on engaging and retaining these patients in treatment. Further studies using larger samples are required to clarify the nature of the relation between Cluster B PDs and poor adherence to addictions treatment, and to examine whether impulsivity mediates the observed differential impact of Cluster B and non-Cluster B PDs in treatment-seeking alcoholics.

Acknowledgements

Our study was supported by funds from the Canadian Institutes of Health Research, awarded to Dr Charney (grant # FRN 59634), and was presented in part at the 28th Annual Meeting of the Research Society on Alcoholism, June 25–30, 2005, Santa Barbara, California.

References

- DeJong CAJ, van den Brink W, Harteveld FM, et al. Personality disorders in alcoholics and drug addicts. *Compr Psychiatry*. 1993;34:87–94.
- Driessen M, Veltrup C, Wetterling T, et al. Axis I and Axis II comorbidity in alcohol dependence and the two types of alcoholism. *Alcohol Clin Exp Res*. 1998;22:77–86.
- Echeburúa E, De Medina RB, Aizpuri J. Comorbidity of alcohol dependence and personality disorders: a comparative study. *Alcohol Alcohol*. 2007;42:618–622.
- Fernandez-Montalvo J, Landa N, Lopez-Goni JJ, et al. Personality disorders in alcoholics: a comparative pilot study between the IPDE and the MCMI-II. *Addict Behav*. 2006;31:1442–1448.
- Krampe H, Wagner T, Stawicki S, et al. Personality disorder and chronicity of addiction as independent outcome predictors in alcoholism treatment. *Psychiatr Serv*. 2006;57:708–712.
- Morgenstern J, Langenbucher J, Labouvie E, et al. The comorbidity of alcoholism and personality disorders in a clinical population: prevalence rates and relation to alcohol typology variables. *J Abnorm Psychol*. 1997;106:74–84.
- Nordholm D, Nielsen B. Personality disorders among Danish alcoholics attending outpatient treatment. *Eur Addict Res*. 2007;13:222–229.
- Nurnberg HG, Rifkin A, Doddi S. A systematic assessment of the comorbidity of DSM-III-R personality disorders in alcoholic outpatients. *Compr Psychiatry*. 1993;34:447–454.
- Pettinati HM, Pierce JD Jr, Belden PP, et al. The relationship of Axis II personality disorders to other known predictors of addiction treatment outcome. *Am J Addict*. 1999;8:136–147.
- Powell G, Peveler R. Nature and prevalence of personality disorders amongst patients receiving treatment for alcohol dependence. *J Ment Health*. 1996;5:305–314.
- Preuss UW, Koller G, Barnow S, et al. Suicidal behaviour in alcohol-dependent subjects: the role of personality disorders. *Alcohol Clin Exp Res*. 2006;30:866–877.
- Verheul R, van den Brink W, Hartgers C. Personality disorders predict relapse in alcoholic patients. *Addict Behav*. 1998;23:869–882.
- Wagner T, Krampe H, Stawicki S, et al. Substantial decrease of psychiatric comorbidity in chronic alcoholics upon integrated outpatient treatment—results of a prospective study. *J Psychiatr Res*. 2004;38:619–635.
- Wölwer W, Burtscheidt W, Redner C, et al. Out-patient behaviour therapy in alcoholism: impact of personality disorders and cognitive impairments. *Acta Psychiatr Scand*. 2001;103:30–37.
- Crawford TN, Cohen P, Johnson JG, et al. Self-reported personality disorder in the children in the community sample: convergent and prospective validity in late adolescence and adulthood. *J Pers Disord*. 2005;19:30–52.
- Grant BF, Hasin DS, Stinson FS, et al. Prevalence, correlates, and disability of personality disorders in the United States: results from the National Epidemiological Survey on Alcohol and Related Conditions. *J Clin Psychiatry*. 2004;65:948–958.
- Lenzenweger MF, Lane MC, Loranger AW, et al. DSM-IV personality disorders in the National Comorbidity Survey Replication. *Biol Psychiatry*. 2007;62:553–564.
- Lenzenweger MF, Loranger AW, Korfine L, et al. Detecting personality disorders in a non-clinical population. Application of a 2-stage procedure for case identification. *Arch Gen Psychiatry*. 1997;54:345–351.
- Samuels J, Eaton WW, Bienvenu OJ 3rd, et al. Prevalence and correlates of personality disorders in a community sample. *Br J Psychiatry*. 2002;180:536–542.
- Zimmerman M, Rothschild L, Chelminski I. The prevalence of DSM-IV personality disorders in psychiatric outpatients. *Am J Psychiatry*. 2005;162:1911–1918.
- Grant BF, Stinson FS, Dawson DA, et al. Co-occurrence of 12-month alcohol and drug use disorders and personality disorders in the United States: results from the National Epidemiological Survey on Alcohol and Related Conditions. *Arch Gen Psychiatry*. 2004;61:361–368.
- Kessler RC, Crum RM, Warner LA, et al. Lifetime co-occurrence of DSM-III-R alcohol abuse and dependence with other psychiatric disorders in the National Comorbidity Survey. *Arch Gen Psychiatry*. 1997;54:313–321.
- Kranzler HR, Rosenthal RN. Dual diagnosis: alcoholism and co-morbid psychiatric disorders. *Am J Addict*. 2003;12(Suppl 1):26–40.
- Regier DA, Farmer ME, Rae DS, et al. Comorbidity of mental disorders with alcohol and other drug abuse. *JAMA*. 1990;264:2511–2518.
- Powell BJ, Landon JF, Cantrell PJ, et al. Prediction of drinking outcomes for male alcoholics after 10 to 14 years. *Alcohol Clin Exp Res*. 1998;22:559–566.
- Ralevski E, Ball S, Nich C, et al. The impact of personality disorders on alcohol use outcomes in a pharmacotherapy trial for alcohol dependence and comorbid Axis I disorder. *Am J Addict*. 2007;16:443–449.
- Verheul R, van den Brink W, Koeter MWJ, et al. Antisocial alcoholic patients show as much improvement at 14-month follow-up as non-antisocial alcoholic patients. *Am J Addict*. 1999;8:24–33.
- First MB, Spitzer RL, Gibbon M, et al. Structured Clinical Interview for DSM-IV Axis I Disorders. Patient edition. New York (NY): New York State Psychiatric Institute, Biometrics Research Department; 1996.
- McLellan AT, Parikh G, Braff A. Addiction Severity Index: administration manual. 5th ed. Philadelphia (PA): Pennsylvania Veterans' Administration Center for Studies of Addiction; 1990.
- Alterman AI, Brown LS, Zaballero A, et al. Interviewer severity ratings and composite scores of the ASI—a further look. *Drug Alcohol Depend*. 1994;34:201–209.
- Derogatis L. Symptom Checklist-90-Revised: administration, scoring and procedures manual II. Towson (MD): Clinical Psychometrics Research; 1992.

32. Beck AT, Steer RA. Beck Depression Inventory. New York (NY): Harcourt Brace; 1987.
33. Beck AT, Epstein N, Brown G, et al. An inventory for measuring clinical anxiety: psychometric properties. *J Consult Clin Psychol.* 1988;56:893–897.
34. Patton JH, Stanford MS, Barratt ES. Factor structure of the Barratt Impulsiveness Scale. *J Clin Psychol.* 1995;51:768–774.
35. Barratt ES. Barratt Impulsiveness Scale, Version 11 (BIS 11). In: Rush AJ, Pincus HA, First MB, et al, editors. *Handbook of psychiatric measures.* Washington (DC): American Psychiatric Association; 2000. p 691–693.
36. Luengo MA, Carrillo-de-la-Pena MT, Otero JM. The components of impulsiveness: a comparison of the I.7 Impulsiveness Questionnaire and the Barratt Impulsiveness Scale. *Pers Individ Dif.* 1991;12:657–667.
37. First M, Gibbon M, Spitzer RL, et al. *User's Guide for the Structured Clinical Interview for DSM-IV Axis I Personality Disorders.* Washington (DC): American Psychiatric Press; 1997. p 1–34.
38. Farmer RF, Chapman AL. Evaluation of DSM-IV personality disorder criteria as assessed by the Structured Clinical Interview for DSM-IV Personality Disorders. *Compr Psychiatry.* 2002;43:285–300.
39. Zimmerman M. Diagnosing personality disorders: a review of issues and research methods. *Arch Gen Psychiatry.* 1994;51:225–245.
40. Verheul R, Kranzler HR, Poling J, et al. Axis I and Axis II disorders in alcoholics and drug addicts: fact or artifact? *J Stud Alcohol.* 2000;61:101–110.
41. Gerstley LJ, Alterman AI, McLellan MT, et al. Antisocial personality in patients with substance abuse disorders: a problematic diagnosis? *Am J Psychiatry.* 1990;147:173–178.
42. Compton WM, Conway KP, Stinson FS, et al. Prevalence, correlates, and comorbidity of DSM-IV antisocial personality syndromes and alcohol and specific drug use disorders in the United States: results from the National Epidemiological Survey on Alcohol and Related Conditions. *J Clin Psychiatry.* 2005;66:677–685.
43. Brown TG, Seraganian P, Tremblay J. Alcohol and cocaine abusers six months after traditional treatment: do they fare as well as problem drinkers? *J Subst Abuse Treat.* 1993;10:545–552.
44. Brower KJ, Blow FC, Hill EM, et al. Treatment outcome of alcoholics with and without cocaine disorders. *Alcohol Clin Exp Res.* 1994;18:734–739.
45. Mattson ME, DelBoca FK, Carroll KM et al. Compliance with treatment and follow-up protocols in project MATCH: predictors and relationship to outcome. *Alcohol Clin Exp Res.* 1998;22:1328–1339.
46. Coid J, Yang M, Tyrer P, et al. Prevalence and correlates of personality disorder in Great Britain. *Br J Psychiatry.* 2006;188:423–431.
47. Torgersen S, Kringlen E, Cramer V. The prevalence of personality disorders in a community sample. *Arch Gen Psychiatry.* 2001;58:590–596.
48. Moeller FG, Barratt ES, Dougherty DM, et al. Psychiatric aspects of impulsivity. *Am J Psychiatry.* 2001;158:1783–1793.
49. Dom G, Hulstijn W, Sabbe B. Differences in impulsivity and sensation seeking between early- and late-onset alcoholics. *Addict Behav.* 2006;31:298–308.
50. Moeller FG, Dougherty DM, Barratt ES, et al. The impact of impulsivity on cocaine use and retention in treatment. *J Subst Abuse Treat.* 2001;21:193–198.

Manuscript received October 2008, revised, and accepted May 2009.

¹ Assistant Professor, Department of Psychiatry, McGill University, Montreal, Quebec; Psychiatrist, affiliated with the Addictions Unit, MUHC, Montreal, Quebec.

² Associate Professor, Department of Psychiatry, McGill University, Montreal, Quebec.

³ Director of Research, Addictions Unit, MUHC, Montreal, Quebec.

⁴ Psychiatrist, Addictions Unit, MUHC, Montreal, Quebec.

Address for correspondence: Dr E Zikos, McGill University Health Centre, 1025 Pine Avenue West, Montreal, QC H3A 1A1; eugenia.zikos@mail.mcgill.ca

Résumé : Troubles de la personnalité chez des patients ambulatoires alcooliques : prévalence et évolution en cours du traitement

Objectif : Déterminer la prévalence des troubles de la personnalité (TP) co-occurents chez les hommes et les femmes alcooliques qui cherchent un traitement ambulatoire et examiner leur effet sur le cours du traitement pour l'alcool.

Méthode : Des patients souffrant de troubles liés à l'utilisation d'alcool ($n = 165$) ont été évalués par des entrevues cliniques et semi-structurées, ainsi que par des échelles d'auto-évaluation, afin de mesurer les niveaux de détresse psychologique, d'impulsivité, de fonctionnement social, et de gravité de la dépendance, lors de l'admission au traitement. Les diagnostics de TP ont été posés à l'aide de l'entrevue clinique structurée pour les troubles de la personnalité selon le Manuel diagnostique et statistique des troubles mentaux, 4^e édition (SCID-II). Le cours du traitement a été surveillé prospectivement pendant 12 semaines.

Résultats : À l'aide des résultats de la SCID-II ($n = 138$), l'échantillon a été divisé en 3 groupes — soit aucun TP 41 % ($n = 57$), TP du groupe B 32 % ($n = 44$), et autres TP 27 % ($n = 37$). La gravité de la consommation d'alcool ne différait pas entre les 3 groupes à l'admission. Cependant, le groupe des TP du groupe B avait franchi des étapes de la consommation d'alcool à un plus jeune âge. Les sujets souffrant d'un TP avaient des problèmes psychologiques et sociaux plus graves à l'admission. Le groupe des TP du groupe B présentait des niveaux d'impulsivité significativement plus élevés à l'admission, une plus grande probabilité d'abandon précoce du traitement, et des délais plus courts avant le premier écart et la rechute.

Conclusions : Cette étude soutient la prévalence élevée des TP co-occurents, particulièrement des TP du groupe B, chez les alcooliques en traitement ambulatoire. La relation entre les niveaux d'impulsivité élevés observés et le cours plus difficile du début du traitement pour l'alcool chez les personnes souffrant d'un TP du groupe B mérite plus de recherche.

Copyright of Canadian Journal of Psychiatry is the property of Canadian Psychiatric Association and its content may not be copied or emailed to multiple sites or posted to a listserv without the copyright holder's express written permission. However, users may print, download, or email articles for individual use.