Activitas Nervosa Superior Rediviva Volume 68 No. 1 2026

ORIGINAL ARTICLE

DOI: https://doi.org/10.31577/ansr.2026.68.1.2

Polypharmacy in Borderline Personality Disorder: Associations with Subjective Illness Severity, Self-Stigma, and Childhood Trauma

Matej Kasal [1,6], Jan Prasko [1-4], Marie Ociskova [1,2], Kamila Belohradova [2], Jozef Visnovsky [2,7], Vlastimil Nesnidal [2], Jakub Vanek [1,5], Zdenek Mate [1,2], Jan Pasztor [1,2], Jan Vevera [6]

[1] Centre for Mental Rehabilitation, Jessenia, Rehabilitation Hospital Beroun, Beroun, Czech Republic, [2] Palacky University Olomouc, Faculty of Medicine and Dentistry, University Hospital Olomouc, Department of Psychiatry, Olomouc, Czech Republic, [3] Constantine the Philosopher University in Nitra, Faculty of Social Sciences and Health Care, Department of Psychological Sciences, Nitra, Slovakia, [4] Department of Psychotherapy, Institute for Postgraduate Medical Education, Prague, Czech Republic, [5] Beskydy Mental Health Centre, Frydek-Mistek Hospital, Frydek-Mistek, Czech Republic, [6] Department of Psychiatry, University Hospital in Pilsen, Faculty of Medicine in Pilsen, Pilsen, Czech Republic, [7] AGE Centrum, Olomouc, Czech Republic.

Correspondence to: Prof. Dr, Jan Prasko, MD, PhD, Department of Psychiatry, Faculty of Medicine and Dentistry, Palacky University Olomouc, University Hospital, I.P.Pavlova, 77520 Olomouc, Czech Republic.
E-MAIL: praskojan@seznam.cz

Submitted: 2026-02-19 Accepted: 2026-03-02 Published online: 2026-04-15

Key words: **borderline personality disorder; polypharmacy; pharmacotherapy; self-stigma; childhood trauma; subjective severity**

Act Nerv Super Rediviva 2026; **68**(1): 16–25 68012602

Abstract

BACKGROUND: Despite limited evidence for pharmacological efficacy in core BPD symptoms, pharmacotherapy is frequently used and may become the dominant treatment modality, often resulting in clinically significant polypharmacy. We examined whether psychotropic pharmacological burden at hospital admission is associated with perceived illness severity, internalized stigma, and childhood trauma.

METHODS: In this cross-sectional study, 220 inpatients with ICD-10 BPD (mean age 30.8 years) were assessed during the first week of hospitalization. The total number of concurrently prescribed psychotropic medications at admission was extracted from medical records. Participants completed the patient-rated Clinical Global Impression–Severity scale (CGI-S-PV), the Internalized Stigma of Mental Illness scale (ISMI), and the Childhood Trauma Questionnaire–Short Form (CTQ-SF). Analyses included correlations, group comparisons, and multivariable linear and logistic regression.

RESULTS: The mean number of medications was 1.76 (SD = 1.37); 57% of patients received ≥2 psychotropic medications at admission. Medication count correlated with perceived illness severity (r = 0.21, $p = 0.002$) and increased with age (B = 0.05, $p = 0.002$). Patients prescribed ≥2 psychotropic medications reported significantly higher levels of emotional and sexual abuse (CTQ-SF) and higher scores in selected ISMI subscales: alienation, discrimination experience, and social withdrawal. In multivariable models, age (B = 0.05, $p = 0.002$) and CGI-S-PV (B = 0.19, $p = 0.017$) independently predicted medication count, whereas ISMI and CTQ-SF total scores did not. In subscale-level models adjusted for age and CGI-S-PV, ISMI Alienation (β = 0.21, $p = 0.031$) and Stereotype Endorsement

($\beta = 0.19$, $p = 0.042$) independently predicted medication count, and Stereotype Endorsement (OR = 1.59) and Discrimination Experience (OR = 1.52) predicted polypharmacy in logistic regression.

CONCLUSION: While childhood trauma and self-stigma contribute to between-group differences, they do not independently predict pharmacological burden after adjustment. These findings indicate that at admission, pharmacological burden is independently predicted by perceived illness severity and age, while trauma exposure and global internalized stigma do not contribute independently after adjustment.

Introduction

Borderline personality disorder (BPD) is a complex psychiatric condition characterized by emotional instability, impulsivity, chronic feelings of emptiness, and disrupted interpersonal relationships (APA 2013). A notable feature of this disorder is an elevated prevalence of dissociative experiences, negative self-appraisal, and heightened levels of stigma and self-stigma, which further complicate the treatment process (Kamaradova *et al.* 2016; Ociskova *et al.* 2024; Rüsch *et al.* 2006).

Self-stigma is defined as the process by which individuals internalize negative societal stereotypes and prejudices related to their mental disorder. It is associated with increased demoralization, reduced treatment motivation, and suboptimal adherence (Yanos *et al.* 2010; Corrigan & Rao 2012). This internalized stigma may influence patients' understanding of their disorder, coping strategies, and their preference for pharmacotherapy over psychotherapeutic interventions (Grambal *et al.* 2016; Ociskova *et al.* 2024).

Early adverse experiences, particularly emotional and sexual abuse, are extensively discussed in the etiology of BPD and are regarded as significant risk factors (Zanarini *et al.* 1997). These experiences may impact the development of personality and shape biological vulnerability and the clinical trajectory of the disorder, including symptom severity and treatment requirements (Cattane *et al.* 2017; Ociskova *et al.* 2024). Empirical evidence suggests that such developmental trauma may be linked to greater symptom severity and potentially increased pharmacological treatment (Kantor *et al.* 2024).

Pharmacotherapy is frequently employed in BPD to address comorbid anxiety, depression, dysphoria, and impulsivity. Despite clinical guidelines prioritizing psychotherapy as first-line treatment, polypharmacy occurs commonly in practice, often exceeding the scope of available evidence (Stoffers *et al.* 2012). This may reflect clinician uncertainty, limited access to psychotherapy, or reactive management of acute crises (Lieb *et al.* 2004; Paris 2010). Polypharmacy carries risks including adverse drug interactions, increased side effects, and reinforcement of passive coping; accordingly, guidelines recommend pharmacotherapy as a selective, time-limited measure (Gunderson *et al.* 2007; Kasal 2021).

Whether increased pharmacological intervention in BPD reflects greater clinical severity, heightened subjective distress, or broader psychosocial factors such as internalized stigma or diminished hope for recovery remains insufficiently studied — a gap the present study directly addresses.

The objective of this study was to examine the association between the number of psychotropic medications prescribed to patients with BPD at hospital admission and perceived illness severity, self-stigma, and retrospectively reported childhood trauma. We aimed to clarify how these variables interrelate and which factors are most strongly associated with pharmacological burden in this clinical population.

Hypotheses and methods

Research hypotheses

Based on previous clinical observations and available literature (Ociskova *et al.* 2024; Kantor *et al.* 2024), the following hypotheses were established:

(1) Hypothesis 1: Patients who subjectively rate their illness as more severe will be prescribed a higher number of psychotropic medications.

(2) Hypothesis 2: Higher levels of self-stigma positively correlate with higher levels of concurrent psychotropic medication use in patients with borderline personality disorder.

(3) Hypothesis 3: Higher scores on the Childhood Trauma Questionnaire (CTQ) are associated with higher levels of psychotropic medication use.

Patients

A total of 220 patients diagnosed with BPD according to ICD-10 criteria were recruited from the psychotherapy department of the University Hospital Olomouc. Inclusion criteria included:

- age 18–65 years,
- diagnosis of BPD according to ICD-10
- ability to understand research questionnaires,
- informed consent to participate in the study.

Exclusion criteria included:

- currently present psychotic symptoms,
- organic CNS damage,
- severe cognitive impairment,
- inability to cooperate in completing the questionnaires.

Patients completed the questionnaires as part of the standard diagnostic process during the first week of hospitalization.

Assessment tools

CGI-S-PV – Clinical Global Impression–Severity Rating Scale

The CGI-S-PV scale is used to assess the overall severity of mental illness. The assessment is carried out on

Tab. 1. Basic demographic characteristics of the sample (n = 220)

Variable	Mean (SD) / n (%)
Age (in years)	30.8 (8.6)
Female	148 (67.3%)
Male	72 (32.7%)
Education: Elementary / Apprenticeship / High School / College	36/47/105/27
Marital status: single/married/divorced/widowed	146/32/31/4
Partnership: yes/no	97/117
Employment: yes/no	196/24
CGI-S-PV	4.3 (1.3)
CTQ-SF – total score	54.7 (18.5)
ISMI – total score	67.8 (13.2)

Data are presented as mean ± SD for continuous variables and as n (%) for categorical variables. CGI-S-PV = Clinical Global Impression–Severity scale, patient-rated version (range 1–7; higher scores indicate greater subjective illness severity). CTQ-SF = Childhood Trauma Questionnaire–Short Form (range 25–125; higher scores indicate greater retrospectively reported trauma exposure). ISMI = Internalized Stigma of Mental Illness scale (range 29–116; higher scores indicate greater internalized stigma). All patients carried an ICD-10 diagnosis of borderline personality disorder (BPD) and were assessed during the first week of inpatient admission at the psychotherapy department, University Hospital Olomouc (2015–2023).

a unidimensional seven-point scale, where individual points represent different degrees of psychopathology - from 1 (normal state, completely without signs of illness) to 7 (the most serious state, the patient is among the most seriously ill) (Guy 2000). There are two versions of the scale - the report version (CV - clinician version) and the self-report version (PV - patient version). The question in the clinician version is: "Given your overall clinical experience with this group of patients, how seriously is this patient currently ill?" In contrast, the patient version asks: "To what extent do you currently feel ill?" (Rush *et al.* 2008). The clinician version was completed by a senior psychiatrist responsible for the patient's admission assessment. The scale is widely used for an overall assessment of the patient's current condition both in clinical practice and in research to compare the effectiveness of treatment or monitoring changes over time.

Internalized Stigma of Mental Illness (ISMI)

The Internalized Stigma of Mental Illness (ISMI) Scale is a self-report measure used to evaluate internalized stigma in people with mental disorders. It contains a total of 29 items divided into five thematic areas: feelings of alienation, acceptance of negative stereotypes, perceived discrimination, social withdrawal, and resistance to stigma (Ritsher *et al.* 2003). Respondents express their level of agreement with individual statements on a four-point Likert scale (1–4 points). Examples of statements include: "People with mental illness cannot lead good and fulfilling lives" or "I am disappointed in myself for having a mental illness" (Ritsher *et al.* 2003). The text of the statements can be adapted to the target group, for example by replacing the general term 'mental illness' with a specific diagnosis, such as 'borderline personality disorder'.

The total score ranges from 29 to 116 points, with individual subscales having different numbers of items and therefore different point ranges. An average score between 49 and 78 points corresponds to a moderate level of self-stigma compared to a diverse clinical sample (Ociskova *et al.* 2014). The interpretation of the average score for individual items is as follows: minimal self-stigma (1.0–2.0), mild (2.0–2.5), moderate (2.5–3.0) and severe (3.0–4.0) levels of self-stigma (Lysaker *et al.* 2007). The norms for individual subscales were determined based on standardized Sten scoring and are described in detail in the work of Ociskova *et al.* (2014). The instrument demonstrated good internal consistency in the present sample (Cronbach's $\alpha > 0.85$). The Czech version of the questionnaire was validated and verified on a clinical sample and is used to assess the level of internal stigma and its impact on mental health and access to treatment (Ociskova *et al.* 2014, 2024).

CTQ-SF – Childhood Trauma Questionnaire – Short Form

The CTQ-SF is a retrospective self-report instrument designed to assess the severity of selected negative childhood experiences. It focuses on five domains: emotional abuse, physical abuse, sexual abuse, emotional neglect, and physical neglect. It contains 28 items, three of which are used to check the validity of the responses and are not included in the total score (Bernstein & Fink 1998). Respondents indicate the degree to which each statement is true on a five-point scale (1 = never true to 5 = very often true). For example, the first item is: "I did not have enough to eat." The total score ranges from 25 to 125 points, with each subscale having a range of 5 to 25 points. The authors proposed the following cut-off values for detecting moderate to severe forms of trauma: emotional abuse ≥ 13 points, physical abuse

Tab. 2. Distribution of concurrent psychotropic medication use at hospital admission (n = 220)

NUMBER OF MEDICATIONS	NUMBER OF PATIENTS (N)	PROPORTION (%)
0	33	15.0
1	61	27.7
2	61	27.7
≥3	65	29.5

Medication count reflects the total number of psychotropic medications prescribed at the time of admission, as extracted from electronic medical records. Drug classes included: antidepressants, antipsychotics, mood stabilizers, benzodiazepines, and Z-hypnotics. Polypharmacy was defined as ≥2 concurrent psychotropic medications, present in 57.3% of patients (n = 126). Patients receiving zero medications (n = 33; 15.0%) were included in all analyses.

≥ 10 points, sexual abuse ≥ 8 points, emotional neglect ≥ 15 points, and physical neglect ≥ 10 points (Bernstein & Fink 1998; Scher *et al.* 2001). The instrument shows good internal consistency. The questionnaire is used in psychological research and clinical diagnosis and allows for the quantification of retrospective experiences with developmental trauma, which may affect psychological health in adulthood.

Pharmacotherapy

The number of psychotropic medications used at hospital admission was recorded by medical staff based on medical documentation. The following drug groups were included: antidepressants, antipsychotics, mood stabilizers, benzodiazepines, and Z-hypnotics. The total number of concurrently prescribed psychotropic medications was used as a quantitative indicator of pharmacological burden.

Data collection procedure and ethical aspects

Data collection took place as part of a routine diagnostic process at the psychotherapy department of the University Hospital Olomouc from January 1, 2015, to December 31, 2023. Patients completed questionnaires during the first week of their stay, with the questionnaires administered individually in the presence of a psychologist who provided support in case of uncertainty.

Medication data were systematically supplemented from the electronic medical records by the attending psychiatrist.

The study was conducted under the principles of the Declaration of Helsinki and was approved by the Ethics Committee of the Faculty of Medicine, Palacký University in Olomouc in June 2012 (registration number: MZ13-FNOL-Grant 152/12. VES2012). All research participants provided written informed consent. They were informed in detail in advance about the aim of the study, the methods used and the individual aspects of their participation. Informed consent was obtained from all participants before the start of data collection.

Statistical analysis

Descriptive statistics were used to characterize the sample (means, standard deviations, relative frequencies). The following statistical methods were used to assess the relationship between the number of medications used and individual variables:

- Pearson's correlation was used to assess the linear relationship between the number of medications and continuous variables, such as subjective assessment of condition severity (CGI-S-PV scale) or stigma score (ISMI).
- A two-sample t-test was used to compare patient groups according to the number of medications (<2 vs. ≥2) in the total ISMI scores and the scores of its (Alienation, Discrimination, Social Withdrawal) and the total scores of CTQ and its subscales.
- Simple and multiple linear regression was applied to predict the number of medications used based on age, subjective assessment of the condition (CGI-S-PV), self-stigma (ISMI), and developmental trauma (CTQ).
- Binary logistic regression was used to predict the probability of using ≥2 medications based on the same predictors.

Statistical significance was set at the $p < 0.05$ level. IBM SPSS Statistics version 28 statistical software was used for data processing.

Given the exploratory nature of the study, no formal correction for multiple comparisons was applied to the main models (approximately 18 statistical tests were conducted across all analyses); however, the interpretation of subscale analyses was made cautiously and results are presented with uncorrected *p*-values. Readers should note that at a Bonferroni-corrected threshold of $p < 0.003$, only age (B = 0.05, $p = 0.002$) and the logistic age predictor ($p = 0.002$–0.003) retain significance, while subscale-level effects should be considered preliminary.

Results

Description of the research sample

A total of 220 patients with a diagnosis of borderline personality disorder (BPD) were included in the analysis. The mean age of the patients was 30.8 years (SD = 8.6). The sample consisted mainly of women. Detailed demographic data are presented in Table 1.

Pharmacotherapy

The average number of medications used per patient was 1.76 (SD = 1.37). The distribution by number of medications is shown in Table 2.

The most frequently prescribed group of drugs was antidepressants (n = 115; 52.3%), followed by antipsychotics (n = 74; 33.6%), benzodiazepines and Z-hypnotics (n = 49; 22.3%), mood stabilizers excluding lamotrigine (n = 22; 10%) and lamotrigine (n = 7; 3.2%; classified separately due to its distinct indication profile in BPD).

Gender difference

No significant gender differences were found in any of the assessed variables.

Women (n = 148) and men (n = 72) did not differ in age (30.5 ± 8.4 vs. 31.3 ± 9.1 years; $p = 0.514$) or in the total number of prescribed medications (1.82 ± 1.41 vs. 1.68 ± 1.25; $p = 0.437$). Similarly, no gender-related differences were observed in subjective disorder severity (CGI-S-PV: 4.29 ± 0.91 vs. 4.21 ± 0.86; $p = 0.553$), self-stigma (ISMI total: 2.45 ± 0.56 vs. 2.39 ± 0.53; $p = 0.462$), or childhood trauma (CTQ total: 47.8 ± 14.9 vs. 45.9 ± 13.8; $p = 0.326$). The prevalence of polypharmacy (≥2 medications) was comparable between women (47.2%) and men (45.6%) ($p = 0.61$).

Medications, perceived illness severity, and age

A weak but statistically significant positive correlation was found between the subjective assessment of psychiatric severity (CGI-S-PV) and the number of medications used (r = 0.21; $p = 0.002$). The results are also supported by linear regression analysis (B = 0.19; $p = 0.017$), see Figure 1.

Number of medications and self-stigma

The total ISMI score was not significantly associated with the number of prescribed medications (r = 0.09; $p = 0.17$). However, in a between-group comparison (<2 vs. ≥2 medications), patients receiving ≥2 medications (n = 126) reported significantly higher scores than patients receiving <2 medications (n = 94) on the Alienation ($t(218) \approx 2.43$, $p = 0.016$, Cohen's $d \approx 0.33$, $r^2 \approx 0.026$), Discrimination Experience ($t(218) \approx 2.20$, $p = 0.029$, $d \approx 0.30$, $r^2 \approx 0.022$), and Social Withdrawal ($t(218) \approx 2.10$, $p = 0.037$, $d \approx 0.28$, $r^2 \approx 0.020$) subscales. All three effects correspond to small to moderate magnitudes by conventional benchmarks (Cohen, 1988), indicating that the differences, while statistically reliable, account for only about 2–3% of the between-group variance.

Number of medications and childhood trauma

Patients with ≥2 medications (n = 126) showed significantly higher scores than patients with <2 medications (n = 94) on the Emotional Abuse subscale ($t(218) \approx 2.13$, $p = 0.034$, Cohen's $d \approx 0.29$, $r^2 \approx 0.020$), the Sexual Abuse subscale ($t(218) \approx 2.56$, $p = 0.011$, $d \approx 0.35$, $r^2 \approx 0.029$), and the CTQ SF total score ($t(218) \approx 2.17$, $p = 0.031$, $d \approx 0.29$, $r^2 \approx 0.021$). The other subscales (Physical Abuse, Emotional Neglect, Physical Neglect) did not reach significance. The magnitude of the significant effects was small, suggesting that childhood trauma contributes to group differences but explains only a modest proportion of the variance in pharmacological burden, consistent with its non-significant role in the multivariable models reported in Section 3.7.

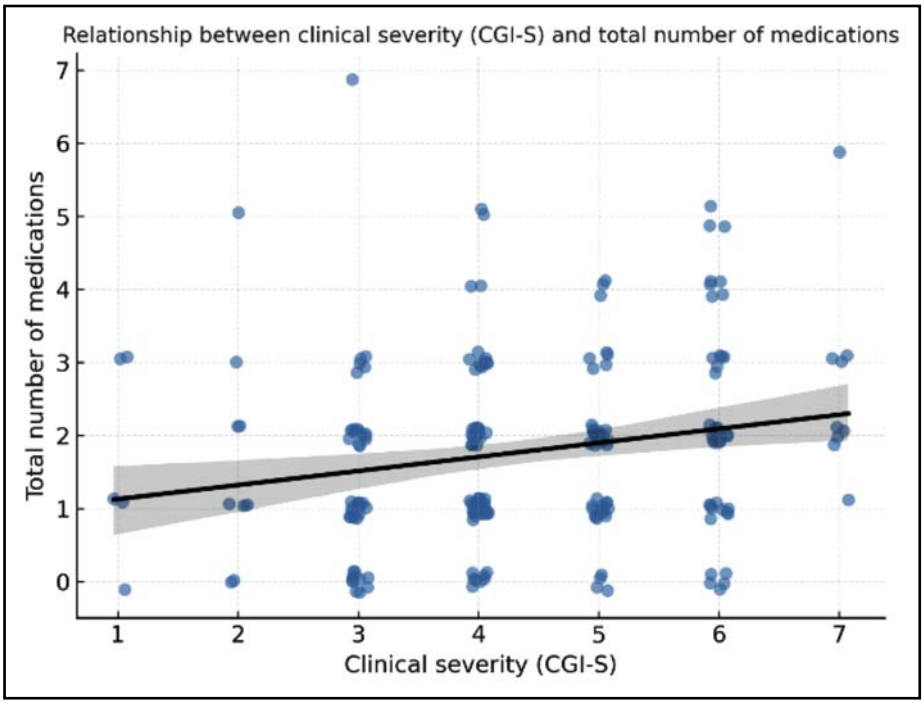

Fig. 1. Scatterplot of total psychotropic medication count at admission and subjectively rated illness severity (CGI-S-PV) in 220 inpatients with BPD. Each point represents one patient. The regression line reflects a weak but statistically significant positive association (r = 0.21, $p = 0.002$; linear regression B = 0.19, $p = 0.017$). CGI-S-PV scores range from 1 (not ill) to 7 (most severely ill). Medication count ranges from 0 to ≥3. The model explained approximately 11% of variance in medication count ($R^2 = 0.11$) when age, CGI-S-PV, ISMI, and CTQ were included as predictors.

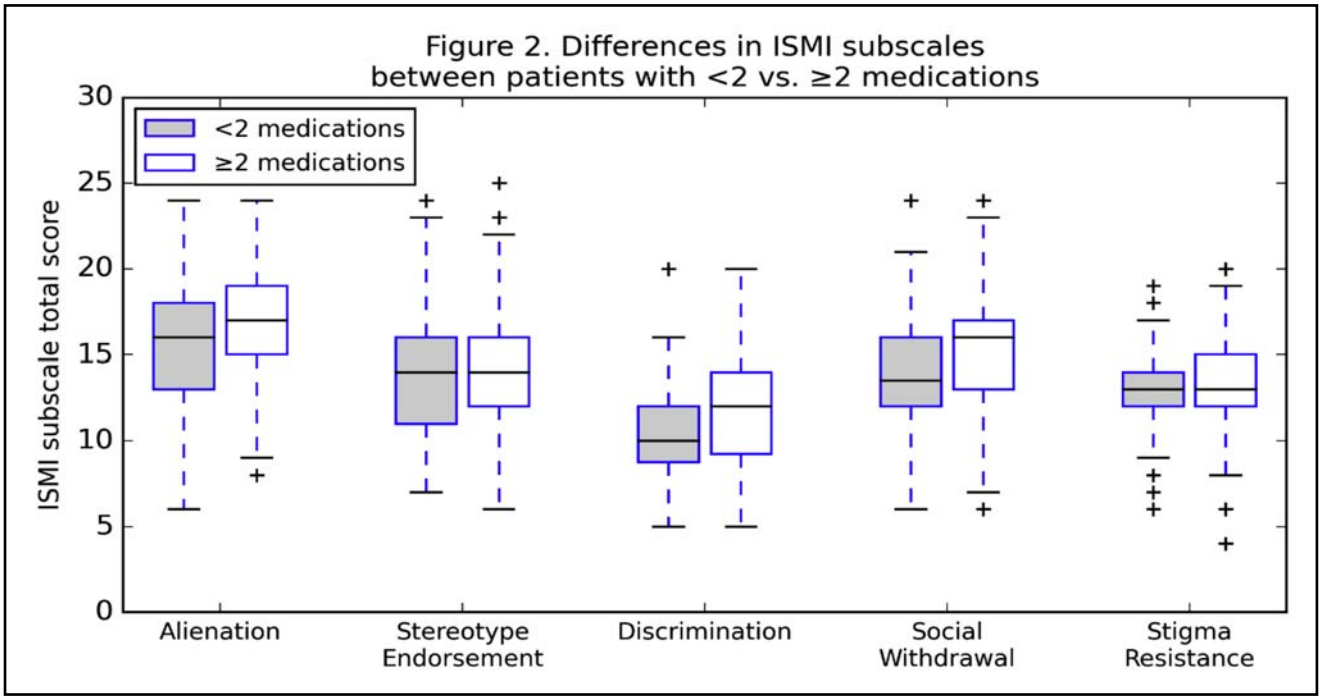

Fig. 2. Mean scores on ISMI subscales by polypharmacy status (<2 vs. ≥2 psychotropic medications at admission) in 220 inpatients with BPD. Error bars represent standard deviations. Asterisks indicate statistically significant between-group differences on independent-samples t-tests: Alienation ($p = 0.016$), Discrimination Experience ($p = 0.029$), and Social Withdrawal ($p = 0.037$). The remaining subscales (Stereotype Endorsement, Stigma Resistance) did not reach significance. Total ISMI score did not differ significantly between groups ($r = 0.09$, $p = 0.17$). All *p*-values are uncorrected for multiple comparisons. ISMI = Internalized Stigma of Mental Illness scale; subscale scores reflect mean item ratings (range 1–4).

Multivariate analyses

In the multivariable linear regression predicting the total number of concurrently prescribed psychotropic medications, two variables emerged as statistically significant independent predictors: age (unstandardized B = 0.05, standardized β = 0.2451, $p = 0.002$) and subjective severity of the disorder as measured by the CGI-S-PV (unstandardized B = 0.19, standardized β = 0.198, $p = 0.017$). Expressed on the standardized metric, these two predictors were of comparable magnitude: a one standard-deviation increase in age (≈ 8.6 years) was associated with an increase of roughly 0.21 SD in medication count, whereas a one standard-deviation increase in CGI-S-PV (≈ 1.3 points) was associated with an increase of roughly 0.18 SD. In practical terms, each additional decade of age corresponded to about half a medication more ($0.05 \times 10 \approx 0.5$), and each one-point rise on the CGI-S-PV was associated with approximately 0.19 additional medications. Due to missing questionnaire data, multivariable regression analyses were conducted on complete cases (N = 157). Reporting both B and β makes the magnitudes of these two effects directly comparable and is consistent with the standardized coefficients presented for the ISMI and CTQ subscale models in Section 3.8.

A binary logistic regression was then conducted with polypharmacy (≥2 concurrently prescribed psychotropic medications) as the dichotomous outcome and the same set of predictors entered simultaneously (age, CGI-S-PV, ISMI total, CTQ SF total). Consistent with the linear model, age was an independent predictor of polypharmacy (B = 0.054, SE ≈ 0.018, 95% CI for B [0.018, 0.090]; OR = 1.06, 95% CI 1.02–1.09; $p = 0.003$), indicating that each additional year of age was associated with an approximately 6% increase in the odds of receiving two or more psychotropic medications at admission. Self-reported severity of the disorder (CGI-S-PV) showed a trend toward significance (B = 0.27, SE ≈ 0.141, 95% CI for B [−0.007, 0.547]; OR = 1.31, 95% CI 0.99–1.72; $p = 0.056$), suggesting a clinically plausible but statistically non-conclusive increase of roughly 31% in the odds of polypharmacy per one point rise on the CGI-S-PV. Neither the ISMI total score nor the CTQ-SF total score reached statistical significance in this model (both $p > 0.05$), mirroring the pattern observed in the linear regression reported above.

Subscale-level analysis of ISMI and CTQ

To refine the interpretation of total ISMI and CTQ scores, additional models were calculated using individual subscales as regressors.

The ISMI model was adjusted for age and the CGI-S-PV scores (OLS with HC3 robust SE, N = 184, $R^2 = 0.16$). Higher scores in the Alienation (β = 0.21, $p = 0.031$) and Stereotype Endorsement (β = 0.19, p = 0.042) subscales were independently associated with a higher total number of prescribed medications.

The logistic regression model predicting polypharmacy (≥2 medications; Pseudo-R^2 = 0.10, N = 184) confirmed significant effects of age (OR = 1.68, 95% CI 1.22–2.32, p = 0.002), Stereotype Endorsement (OR = 1.59, 95% CI 1.05–2.43, p = 0.028), and Discrimination Experience (OR = 1.52, 95% CI 1.02–2.27, p = 0.041).

In contrast, the CTQ models, including all subscales (R^2 = 0.12) identified age (β = 0.19, p = 0.004) and CGI-S-PV (β = 0.17, p = 0.021) as the only significant regressors, with no individual CTQ subscale reaching significance after adjustment (all $p > 0.10$).

The values of the variance inflation factors were acceptable (all < 2.6), indicating no relevant multicollinearity (Kim 2019).

These results suggest that specific components of self-stigma — particularly alienation, endorsement of stereotypes, and perceived discrimination — are more strongly related to medication intensity than global ISMI or CTQ total scores, while childhood trauma dimensions did not retain independent predictive value.

Summary

Results showed that a higher number of psychotropic medications in patients with BPD was associated primarily with older age and subjectively assessed illness severity. Childhood trauma and self-stigma — specifically alienation, discrimination experience, and social withdrawal — reached significance in group comparisons but not in regression models.

Discussion

The present study aimed to explore the relationships between psychotropic medication count, self-stigma, and childhood trauma in inpatients with borderline personality disorder (BPD).

Hypothesis 1 was confirmed: subjective illness severity (CGI-S-PV) was a significant independent predictor of medication count (B = 0.19, p = 0.017). Hypothesis 2 was only partially confirmed: global ISMI did not correlate with medication count (r = 0.09, p = 0.17), but specific subscales — alienation, stereotype endorsement, and discrimination experience — showed independent associations in adjusted models. Hypothesis 3 was not confirmed: CTQ total score and all individual trauma subscales failed to predict medication count independently after adjustment (all $p > 0.10$).

Our findings suggest that a higher number of prescribed psychotropic medications is significantly associated with older age and subjectively assessed disorder severity, but not with the overall levels of self-stigma or childhood trauma in multivariate models. These results are consistent with previous reports

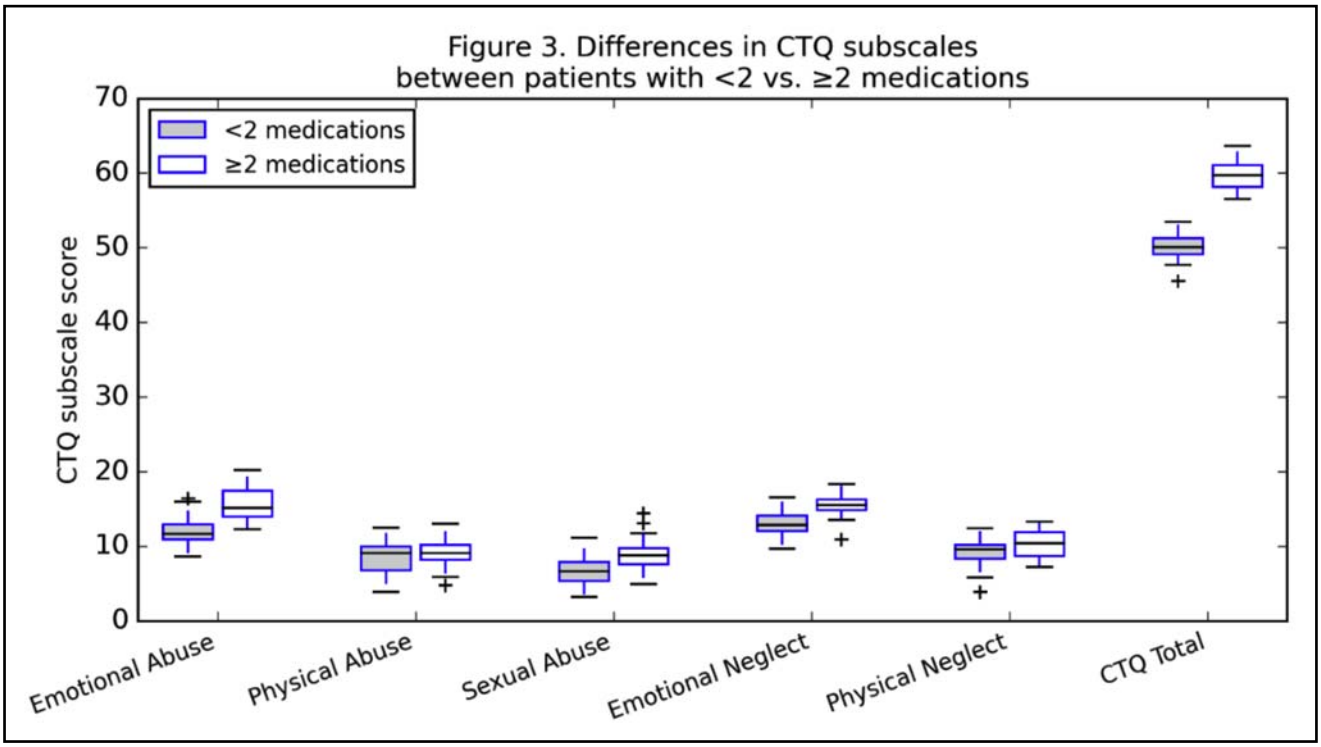

Fig. 3. Mean scores on CTQ-SF subscales by polypharmacy status (<2 vs. ≥2 psychotropic medications at admission) in 220 inpatients with BPD. Error bars represent standard deviations. Asterisks indicate statistically significant between-group differences on independent-samples t-tests: Emotional Abuse (p = 0.034), Sexual Abuse (p = 0.011), and CTQ-SF total score (p = 0.031). Physical Abuse, Emotional Neglect, and Physical Neglect subscales did not reach significance. No CTQ-SF subscale retained independent predictive value in multivariable regression models after adjustment for age and CGI-S-PV (all $p > 0.10$). All p-values are uncorrected for multiple comparisons. CTQ-SF = Childhood Trauma Questionnaire–Short Form; subscale scores range from 5 to 25.

showing that patients with BPD are frequently treated with multiple medications, reflecting both symptom complexity and frequent comorbidities (Zanarini *et al.* 2002; Grant *et al.* 2008; Stoffers *et al.* 2012).

In our sample, over 57% of patients were taking two or more psychotropic medications at admission, which is in line with international data indicating high rates of polypharmacy in BPD populations. For instance, a large-scale study from New Zealand revealed that more than half of BPD patients were prescribed three or more psychotropic medications, with quetiapine and benzodiazepines being the most common (Tennant *et al.* 2023). Such trends point to the potential overuse of pharmacotherapy, which often exceeds the scope of evidence-based recommendations and may signal insufficient access to psychotherapeutic interventions or efforts to manage acute crises pharmacologically.

Although two-thirds of the sample were women, no significant gender differences were observed in the number of prescribed medications, clinical severity, self-stigma, or childhood trauma. Likewise, the likelihood of polypharmacy did not differ between men and women. These findings suggest that in the context of admission to a therapeutic inpatient setting, prescription patterns are primarily determined by clinical burden and age rather than gender. The absence of a gender-by-severity interaction indicates a similar link between perceived illness severity and pharmacotherapy in both sexes.

Importantly, while clinical guidelines emphasize psychotherapy as the first-line treatment for BPD (Linehan 1993; Gunderson *et al.* 2007), medication is often used in response to affective instability, impulsivity, or distress intolerance. Our findings support this clinical reality: the positive correlation between the number of medications and the Clinical Global Impression–Severity (CGI-S-PV) scale suggests that medication intensity may partly reflect subjective disorder burden. However, given the modest strength of this correlation and the non-causal nature of cross-sectional data, it is equally plausible that extensive pharmacotherapy reflects therapeutic uncertainty or a reactive approach to severe symptom presentation (Paris 2010).

The hypothesis that higher self-stigma would be associated with greater medication use was only partially confirmed. Although the total ISMI score did not correlate with medication count, patients prescribed two or more medications reported significantly higher levels of alienation, perceived discrimination, and social withdrawal. These subdimensions may indicate specific domains of negative self-concept associated with more intensive pharmacological treatment. One plausible explanation is that frequent contact with mental health services, side effects, and exposure to psychiatric labelling may reinforce internalized stigma and social anxiety (Ritsher *et al.* 2003; Rüsch *et al.* 2006). Conversely, it is also possible that individuals with higher self-stigma are more likely to adopt a passive treatment stance and rely more heavily on pharmacotherapy than on psychotherapy.

Polypharmacy in BPD thus appears to be less a direct consequence of trauma exposure or internalized stigma, and more likely reflects illness chronicity, perceived severity, and cumulative treatment history. Trauma and self-stigma may contribute indirectly, shaping patients' illness representations, treatment expectations, and engagement in psychotherapy, rather than directly driving medication count.

Comparable between-group differences emerged for childhood trauma: patients receiving ≥2 medications reported significantly higher emotional and sexual abuse scores (CTQ-SF; $p = 0.034$ and $p = 0.011$, respectively). These results are consistent with prior literature linking early adversities with more severe symptomatology, affective dysregulation, and poorer treatment adherence (Zanarini *et al.* 2002; Opel *et al.* 2019). However, these trauma-related variables did not independently predict medication intensity in regression models, suggesting indirect or mediated effects – potentially through emotional instability, dissociation, or therapy motivation (Kantor *et al.* 2024; Lyssenko *et al.* 2018).

Self-stigma and childhood trauma may therefore influence pharmacotherapy decisions indirectly, by shaping patients' disorder perceptions, relational dynamics with therapists, or their engagement in psychotherapy. Future studies should therefore investigate mediating and moderating variables using longitudinal designs or structural equation modeling to better understand these complex interactions.

From a clinical perspective, our findings underscore the importance of comprehensive assessment upon admission, including not only symptom severity but also childhood trauma and self-stigma. These factors may influence patients' attitudes toward treatment, coping strategies, and trust in therapeutic relationships. Targeted psychoeducation and early therapeutic alliance-building may help reduce the risk of excessive pharmacotherapy and enhance engagement in evidence-based psychotherapeutic modalities.

Moreover, the high prevalence of polypharmacy in our sample raises important concerns. Although pharmacotherapy can serve a useful short-term role in managing acute distress or comorbid symptoms, excessive or prolonged use of multiple medications may result in adverse drug interactions, reduced adherence, and reinforcement of passive coping and negative self-identity. This is particularly salient in BPD, where identity disturbances and self-stigma are core features. As suggested by Soler *et al.* (2022), structured psychotherapeutic interventions — such as dialectical behavior therapy (DBT) skills training — may reduce reliance on medications and promote more adaptive self-regulation strategies.

Finally, future research should also explore potential gender differences in stigma internalization and

pharmacotherapy patterns in other clinical settings. The present sample showed no significant gender differences in ISMI, CTQ, CGI-S-PV, or polypharmacy prevalence, suggesting that in psychotherapy-oriented inpatient settings, prescription patterns converge across sexes. Whether this homogeneity holds in less treatment-motivated or outpatient populations remains an open question.

Conclusion

This study demonstrates that inpatients with BPD who receive a higher number of psychotropic medications tend to be older and perceive their disorder as more severe. Although childhood trauma and overall self-stigma did not independently predict medication count in multivariate analyses, specific facets – particularly emotional and sexual abuse and subcomponents of internalized stigma such as alienation and social withdrawal – were associated with increased pharmacotherapy in group comparisons.

These findings underscore the importance of individualized and context-sensitive treatment planning. Pharmacotherapy may serve as a supportive intervention in acute phases, but it should not become a substitute for structured psychotherapeutic work (Prasko *et al.* 2016). Clinicians should remain attentive not only to current symptomatology but also to patients' developmental histories and internalized beliefs about illness and identity. Overreliance on medication may inadvertently reinforce passive coping, increase dependence on external regulation, and perpetuate negative self-concepts in vulnerable individuals.

Conflict of interest declaration

The authors confirm that they have no relevant financial or non-financial interests that could be perceived as a conflict of interest concerning this article.

REFERENCES

1 American Psychiatric Association (2013). Diagnostic and Statistical Manual of Mental Disorders. 5th ed. Arlington, VA: American Psychiatric Publishing.

2 Bernstein DP & Fink L (1998). Childhood Trauma Questionnaire: A retrospective self-report manual. San Antonio, TX: Harcourt Brace & Company.

3 Cattane N, Rossi R, Lanfredi M, Cattaneo A (2017). Borderline personality disorder and childhood trauma: exploring the affected biological systems and mechanisms. *BMC Psychiatry.* **17**(1): 221.

4 Corrigan PW & Rao D (2012). On the self-stigma of mental illness: Stages, disclosure, and strategies for change. *Can J Psychiat.* **57**(8): 464–469.

5 Grambal A, Prasko J, Kamaradova D, Latalova K, Holubova M, Marackova M, et al. (2016). Self-stigma in borderline personality disorder - cross-sectional comparison with schizophrenia spectrum disorder, major depressive disorder, and anxiety disorders. *Neuropsychiatr Dis Treat.* **12**: 2439–2448.

6 Grant BF, Chou SP, Goldstein RB, Huang B, Stinson FS, Saha TD, et al. (2008). Prevalence, correlates, disability, and comorbidity of DSM-IV borderline personality disorder: Results from the Wave 2 National Epidemiologic Survey on Alcohol and Related Conditions. *J Clin Psychiatry.* **69**(4): 533–545.

7 Gunderson JG, Bender DS, Zanarini MC, et al. (2007) World Federation of Societies of Biological Psychiatry (WFSBP) guidelines for biological treatment of personality disorders. *World J Biol Psychiatry.* **8**(4): 212–244.

8 Guy W (2000). Clinical Global Impressions (CGI) Scale, Modified. In Rush JA, editor. Task Force for the Handbook of Psychiatric Measures. Handbook of Psychiatric Measures (1st ed.). Washington, DC: American Psychiatric Association.

9 Kamaradova D, Latalova K, Prasko J, Kubinek R, Vrbova K, Mainerova B, et al. (2016). Connection between self-stigma, adherence to treatment, and discontinuation of medication. *Patient Prefer Adherence.* **10**: 1289–1298.

10 Kantor K, Prasko J, Ociskova M, Vanek J, Hodny F, Belohradova K, et al. (2024). Childhood trauma and dissociation in patients with panic disorder, obsessive-compulsive disorder, and borderline personality disorder. Part 1: Relationships between demographic, clinical, and psychological factors. *Neuro Endocrinol Lett.* **45**(6): 365–378.

11 Kasal M (2021). Současný pohled na doporučení ohledně farmakoterapie hraniční poruchy osobnosti. *Čes a Slov Psychiat.* **117**(3): 144–149.

12 Kim JH (2019). Multicollinearity and misleading statistical results. *Korean J Anesthesiol.* **72**(6): 558–569.

13 Latalova K, Kamaradova D, Prasko J (2014). Perspectives on perceived stigma and self-stigma in adult male patients with depression. *Neuropsychiatr Dis Treat.* **10**: 1399–1405.

14 Lieb K, Zanarini MC, Schmahl C, Linehan MM, Bohus M (2004). Borderline personality disorder. *Lancet.* **364**(9432): 453–461.

15 Linehan MM (1993). Cognitive-behavioral treatment of borderline personality disorder. New York: Guilford Press, ISBN 978-0898621839, 558 p.

16 Lysaker PH, Roe D, Yanos PT (2007). Toward understanding the insight paradox: internalized stigma moderates the association between insight and social functioning, hope, and self-esteem among people with schizophrenia spectrum disorders. *Schizophr Bull.* **33**(1): 192–199.

17 Lyssenko L, Schmahl C, Bockhacker L, Vonderlin R, Bohus M, Kleindienst N (2018). Dissociation in psychiatric disorders: A meta-analysis of studies using the Dissociative Experiences Scale. *Am J Psychiatry.* **175**(1): 37–46.

18 Ociskova M, Prasko J, Kamaradova D, Latalova K, Kurfürst P, Dostalova L, Cinculova A, Kubinek R, Mainerova B, Vrbova K, Tichackova A (2014). Self-stigma in psychiatric patients-standardisation of the ISMI scale. *Neuro Endocrinol Lett.* **35**(7): 624–32.

19 Ociskova M, Prasko J, Kantor K, Vanek J, Nesnidal V, Belohradova K (2024). Structural Equation Modeling of Childhood Trauma and Self-Stigma in Adult Inpatients with Borderline Personality Disorder. *Psychol Res Behav Manag.* **17**: 3761–3777.

20 Opel N, Redlich R, Dohm K, Zaremba D, Goltermann J, Repple J, et al. (2019). Mediation of the influence of childhood maltreatment on depression relapse by cortical structure: a 2-year longitudinal observational study. *Lancet Psychiatry.* **6**(4): 318–326.

21 Paris J (2010). Effectiveness of different psychotherapy approaches in the treatment of borderline personality disorder. *Curr Psychiatry Rep.* **12**(1): 56–60.

22 Prasko J, Ociskova M, Grambal A, Sigmundova Z, Kasalova P, Marackova M, et al. (2016). Personality features, dissociation, self-stigma, hope, and the complex treatment of depressive disorder. *Neuropsychiatr Dis Treat.* **12**: 2539–2552.

23 Ritsher JB, Otilingam PG, Grajales M (2003). Internalized stigma of mental illness: psychometric properties of a new measure. *Psychiatry Res.* **121**(1): 31–49.

24 Rüsch N, Hölzer A, Hermann C, Schramm E, Jacob GA, Bohus M, et al. (2006). Self-stigma in women with borderline personality disorder and women with social phobia. *J Nerv Ment Dis.* **194**(10): 766–773.

25 Rush AJ, First MB, Blacker D, editors (2008). Handbook of Psychiatric Measures (2nd edition). Washington, DC: American Psychiatric Publishing
26 Scher CD, Stein MB, Asmundson GJ, McCreary DR, Forde DR (2001). The childhood trauma questionnaire in a community sample: psychometric properties and normative data. *J Trauma Stress.* **14**(4): 843–857.
27 Soler J, Vega D, Trujols J, Soto A, Elices M, Ribas J, et al. (2022). "Skills for pills": the dialectical-behavioural therapy skills training reduces polypharmacy in borderline personality disorder. *Acta Psychiatr Scand.* **145**(4): 332–342.
28 Stoffers JM, Völlm BA, Rücker G, Timmer A, Huband N, Lieb K (2012). Psychological therapies for people with borderline personality disorder. *Cochrane Database Syst Rev.* **8**: CD005652.
29 Tennant R, Cameron C, Siskind D, Kisely S (2023). Polypharmacy in the treatment of people diagnosed with borderline personality disorder: repeated cross-sectional study using New Zealand's national databases. *BJPsych Open.* **9**: e200.
30 Yanos PT, Roe D, Lysaker PH (2010). The Impact of Illness Identity on Recovery from Severe Mental Illness. *Am J Psychiatr Rehabil.* **13**(2): 73–93.
31 Zanarini MC, Williams AA, Lewis RE, Reich RB, Vera SC, Marino MF, et al. (1997). Reported pathological childhood experiences associated with the development of borderline personality disorder. *Am J Psychiatry.* **154**(8): 1101–1106.
32 Zanarini MC, Yong L, Frankenburg FR, Hennen J, Reich DB, Marino MF, et al. (2002). Severity of reported childhood sexual abuse and its relationship to severity of borderline psychopathology and psychosocial impairment among borderline inpatients. *J Nerv Ment Dis.* **190**(6): 381–387.