

Exploring the Presence of Personality Disorders in a Sample of Psychiatric Inpatients

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Abstract

Objective: The study sought to explore the presence and determine the prevalence of personality disorders and their psychiatric comorbidities in a Slovakian psychiatric inpatient sample. Secondary goals were to describe the demographic determinants of personality disorders and to compare the prevalences of the particular personality disorders over the past two decades.

Methods: This was a retrospective chart review study of psychiatric inpatients admitted to the 1st Department of Psychiatry, University Hospital of Louis Pasteur in Kosice, Slovakia during the years 2016-2017 who met the inclusion criteria and underwent psychological examination using the Structured Clinical Interview for DSM-IV Axis II (SCID-II).

Results: Personality disorder was diagnosed in 146 (76%) of the 192 enrolled inpatients. The most prevalent were borderline (37.7%), obsessive-compulsive (15.8%), dependent (10.3%), and narcissistic (10.3%) personality

disorder. Cluster B comprised 80 subjects (58%), followed by Cluster C with 50 subjects (36.2%) and Cluster A with 8 subjects (5.8%). The most common psychiatric comorbidities were code F40-F48 Neurotic, stress-related and somatoform disorders (27.6%), followed by F10-F19 Mental and behavioral disorders due to psychoactive substance use (24.6%), and F30-F39 Mood (affective) disorders (23.9%). The prevalence of Cluster C increased, whereas Cluster A prevalence decreased over the past two decades. There was an increase in the prevalence of borderline and obsessive-compulsive personality disorder; the schizoid and the other personality disorders prevalences considerably decreased.

Conclusion: The findings of high prevalence of personality disorders highlight the need for interviewing psychiatric inpatients for both personality disorders and psychiatric disorders in order to optimize their treatment.

1. Introduction

Personality disorders belong to the most frequent disorders treated by psychiatrists and now emerge as a mental health priority. They are associated with impairments in social and occupational functioning [1-3], overall disability [4, 5], suicide attempts [6], and premature mortality [7].

Multiple studies have reported widely ranging community prevalence rates estimates of personality disorders. According to a recent meta-analysis, the worldwide prevalence of personality disorders is 7.8% with a 95% Confidence Interval (95% CI) of 6.1 to 9.5% [8]. Prevalence rates of personality disorders in community populations in Western countries are even higher (12.16%; 95% CI, 8.01-17.02%) [9]. Clinically based evidence indicates that the rate of any personality disorder is 45.5% among psychiatric outpatients [10]. Epidemiological studies on personality disorders in psychiatric inpatients are rare [11, 12]. Therefore, prevalence rates remain less-well known and may vary depending on samples and methods. Stevenson and colleagues reported that personality disorder was present in 73.7% of young, 71.9% of middle-aged and 58.8% of older psychiatric inpatients [11]. Molinari and colleagues reported a 56.5% rate of personality disorders for older geropsychiatric inpatients [12].

The associated psychiatric comorbidities and prevalence of personality disorders among patients in mental health settings have been insufficiently studied [11-16]. Specifically, there appears to be an elevated rate of personality disorders among individuals with alcohol misuse and depression [14, 15]. It could be estimated from the review by Corruble and colleagues [16] that 20% to 50% of inpatients and 50% to 85% of outpatients with a current major depressive disorder have an associated personality disorder. Given the close link between personality disorders and psychiatric comorbidities, personality disorders can affect the course, treatment, and clinical outcomes in mental disorders, e.g. unipolar major depression [14-16]. The findings suggest that greater attention needs to be paid to particular personality disorders during the assessment and treatment of individuals with co-occurring mental disorders. Therefore, it is important to better understand the psychiatric inpatient prevalence, distribution and associated characteristics of personality disorders in order to plan and maximize optimal management strategies,

potentially tailored to the characteristics and needs of individual participants.

The primary aim of the present study was to explore the presence and determine the prevalence of personality disorders and their psychiatric comorbidities in a Slovakian psychiatric inpatient sample. Secondary goals were to describe the demographic determinants of personality disorders and to compare the prevalences of the particular personality disorders over the past two decades.

2. Subjects and Methods

2.1 Study Design and Setting

This was a retrospective chart review study of psychiatric inpatients who underwent psychological examination at the 1st Department of Psychiatry, Pavol Jozef Safarik University Faculty of Medicine and University Hospital of Louis Pasteur in Kosice, Slovak Republic in 2016-2017. Patients' charts were reviewed and psychiatric diagnoses (given in discharge summaries from the inpatient psychiatric unit) and demographics were extracted. The study was approved by the local ethics committee and all procedures followed were in accordance with the ethical standards laid down in the 1964 Declaration of Helsinki and its later amendments.

2.2 Subjects

Out of 527 admitted psychiatric inpatients who underwent psychological examination from September 2016 till September 2017, 192 patients were enrolled. The main inclusion criterion was a psychological examination of adult inpatients focused on examination of the personality using the Structured Clinical Interview for DSM-IV Axis II (SCID-II) questionnaire. Subjects with mental/cognitive impairment, acute psychosis, and incomplete questionnaires were excluded.

2.3 Defining personality disorder

Interview schedules were used to establish personality disorder prevalence in the study; the schedules included Slovak translation of the German version of the Structured Clinical Interview for DSM-IV Axis II [17]. The particular personality disorders determined were as follows: avoidant personality disorder, dependent personality disorder, obsessive-compulsive (anankastic) personality disorder, passive-aggressive (negativistic) personality disorder, paranoid personality disorder, schizotypal personality disorder, schizoid personality disorder, histrionic personality disorder, narcissistic personality disorder, borderline (emotionally unstable) personality disorder, antisocial personality disorder, and mixed personality disorder.

The ten types of personality disorders were organized into three Clusters, based on shared key features, characteristics and symptoms [18]. Cluster A personality disorders included: schizotypal, paranoid, and schizoid personality disorders. Cluster B personality disorders included: borderline, histrionic, antisocial, and narcissistic personality disorders. Cluster C personality disorders included: dependent, obsessive-compulsive, and avoidant personality disorders.

2.4 Statistical analysis

Descriptive statistics were used to describe the basic features of the data in a study. The Chi-Square test was used to examine the differences between categorical variables. Data are expressed as frequencies and percentages for categorical variables and as means with standard deviations for continuous variables. Statistical analysis was performed using SPSS statistical package (version 22, IBM Corp., Armonk, NY, USA).

3. Results

The study sample comprised 192 enrolled inpatients, 97 (50.52%) men and 95 (49.48%) women. The average age \pm standard deviation was 39 ± 14.4 years. Majority (62 subjects; 32.3%) of the enrolled inpatients completed middle school (lower secondary school), 61 (31.8%) completed secondary education, 54 (28.1%) completed higher education, and 15 (7.8%) completed primary education.

Personality disorder was diagnosed in 146 (76%) out of 192 enrolled inpatients. Particular personality disorders included 55 cases (37.7%) of borderline personality disorder, 23 cases (15.8%) of obsessive-compulsive personality disorder, 15 cases (10.3%) of dependent personality disorder, 15 cases (10.3%) of narcissistic personality disorder, 12 cases (8.2%) of avoidant personality disorder, 9 cases (6.1%) of histrionic personality disorder, 7 cases (4.8%) of mixed personality disorder, 5 cases (3.4%) of paranoid personality disorder, 3 cases (2%) of schizoid personality disorder, 1 case (0.7%) of antisocial personality disorder, and 1 case (0.7%) of other/passive-aggressive personality disorder. There were no cases of schizotypal personality disorder in the study sample.

Equal numbers of 73 men (50%) and 73 women (50%) were diagnosed with personality disorder. The average age \pm standard deviation of the subjects with personality disorder was 37 ± 13.8 years. There were 39 (26.7%) inpatients with personality disorders aged 18-25 years, 20 (13.7%) aged 26-30 years, 30 (20.5%) aged 31-40 years, 27 (18.5%) aged 41-51 years, 21 (14.4%) aged 51-60 years, and 9 inpatients (6.2%) older than 60 years. Further, we characterized the subjects according to the education level. Majority (51 subjects; 34.9%) of the inpatients with personality disorder completed middle school (lower secondary school), 46 (31.5%) completed secondary education, 35 (24%) completed higher education, and 14 (9.4%) completed primary education. The frequency distribution of the education level was similar ($p=0.796$) to the distribution in all enrolled inpatients.

Next, Clusters [18] were determined from the study population – inpatients diagnosed with one of the ten particular personality disorders ($n=138$; 66 men, 72 women). Prevalence by age and the association with mood-, anxiety-, and substance misuse disorders was also examined. Cluster B personality disorders comprised 80 subjects (58%) and was followed by Cluster C with 50 subjects (36.2%) and Cluster A with 8 subjects (5.8%). Cluster B included 40 women (50%) and 40 men (50%), Cluster C 30 women (60%) and 20 men (40%), and Cluster A 2 women (25%) and 6 men (75%). The sex distribution was similar across the three Clusters ($p=0.154$). In males, Cluster B was the most common and affected 60.6% of men, Cluster C 30.3% of men, and Cluster A occurred in 9.1% of men. In

females, Cluster B was the most common and affected 55.5% of women, Cluster A 41.7% of women, and Cluster C occurred in 2.8% of women. Table 1 shows the age distribution in each of the Clusters. Cluster B was most common in young adults aged 18-25 years, Cluster A and Cluster C had an equal distribution among the inpatients.

	18-25 years (n=38)	26-30 years (n=20)	31-40 years (n=28)	41-50 years (n=24)	51-60 years (n=20)	61-80 years (n=8)	Total (n=138)
Cluster A, n (%)	2 (5.3)	1 (5)	2 (7.1)	2 (8.3)	1 (5)	0 (0)	8 (5.8)
Cluster B, n (%)	29 (76.3)	12 (60)	14 (50)	10 (41.7)	10 (50)	5 (62.5)	80 (58)
Cluster C, n (%)	7 (18.4)	7 (35)	12 (42.9)	12 (50)	9 (45)	3 (37.5)	50 (36.2)

Table 1: Age distribution by clusters.

Table 2 presents the education level by Clusters. The education level frequency distribution was significantly different ($p=0.026$) across the three Clusters. Interestingly, all subjects with completed primary education were diagnosed with Cluster B; 50% of subjects with Cluster A completed middle school (lower secondary school), the other levels of education were equally distributed among the Clusters.

	Primary education (n=14)	Middle school (n=47)	Secondary education (n=44)	Higher education (n=33)	Total (n=138)
Cluster A, n (%)	0 (0)	4 (8.5)	1 (2.3)	3 (9.1)	8 (5.8)
Cluster B, n (%)	14 (100)	26 (55.3)	25 (56.8)	15 (45.45)	80 (58)
Cluster C, n (%)	0 (0)	17 (36.2)	18 (40.9)	15 (45.45)	50 (36.2)

Table 2: Education level by clusters.

Further, we aimed to describe personality disorder's comorbidity with other psychiatric disorders. The most common were code F40-F48 Neurotic, stress-related and somatoform disorders (27.6%), followed by F10-F19 Mental and behavioral disorders due to psychoactive substance use (24.6%) and F30-F39 Mood (affective) disorders (23.9%). Less common were F20-F29 Schizophrenia, schizotypal and delusional disorders (11.6%), F60-F69 Disorders of adult personality and behavior (7.2%), F00-F09 Organic, including symptomatic, mental disorders (2.2%), F90-F98 Behavioral and emotional disorders with onset usually occurring in childhood and adolescence (2.2%), and F80-F89 Disorders of psychological development (0.7%). Table 3 shows the distribution of the

particular personality disorders by the categories of the International Classification of Mental and Behavioral Disorders [19].

	PAR	SCHZ	AS	BORD	HIS	NAR	AVOI	DEP	OC	Total, n (%)
F00-F09	0	0	0	0	0	2	0	0	1	3 (2.2)
F10-F19	1	0	0	17	2	4	2	6	2	34 (24.6)
F20-F29	2	1	0	6	1	1	2	1	2	16 (11.6)
F30-F39	0	2	0	14	1	5	3	3	5	33 (23.9)
F40-F48	1	0	1	13	3	1	4	4	11	38 (27.6)
F60-F69	0	0	0	3	2	2	1	1	1	10 (7.2)
F80-F89	0	0	0	1	0	0	0	0	0	1 (0.7)
F90-F98	1	0	0	1	0	0	0	0	1	3 (2.2)
Total, n (%)	5 (3.6)	3 (2.1)	1 (0.7)	55 (39.9)	9 (6.5)	15 (0.9)	12 (8.7)	15 (0.9)	23 (16.7)	138 (100)

Legend: PAR, paranoid personality disorder; SCHZ, schizoid personality disorder; AS, antisocial personality disorder; BORD, borderline personality disorder; HIS, histrionic personality disorder; NAR, narcissistic personality disorder; AVOI, avoidant personality disorder; DEP, dependent personality disorder; OC, obsessive-compulsive personality disorder. F00-F09, Organic, including symptomatic, mental disorders; F10-F19, Mental and behavioral disorders due to psychoactive substance use; F20-F29, Schizophrenia, schizotypal and delusional disorders; F30-F39, Mood (affective) disorders; F40-F48, Neurotic, stress-related and somatoform disorders; F60-F69, Disorders of adult personality and behavior; F80-F89, Disorders of psychological development; F90-F98, Behavioral and emotional disorders with onset usually occurring in childhood and adolescence.

Table 3: The distribution of the particular personality disorders by the categories of the International classification of mental and behavioral disorders.

Finally, we sought to compare the prevalences of the particular personality disorders over the past two decades. We compared the prevalence data obtained from the same hospital psychiatric unit in 1998, 2008, and 2017 using the same methodology. In 1998 (n=119), the prevalence of histrionic personality disorder was 25.21%, borderline

personality disorder 13.45%, schizoid personality disorder 11.76%, avoidant personality disorder 10.92%, other personality disorders 9.24%, narcissistic personality disorder 8.4%, dependent personality disorder 7.56%, schizotypal personality disorder 5.88%, paranoid personality disorder 5.04%, mixed personality disorder 1.7%, and obsessive-compulsive personality disorder 0.84%. There were no cases of antisocial personality disorders in the study sample. In 2008 (n=65), the prevalence of borderline personality disorder was 32.31%, narcissistic personality disorder 16.92%, schizoid personality disorder 15.38%, avoidant personality disorder 10.77%, histrionic personality disorder 7.69%, schizotypal personality disorder 6.15%, paranoid personality disorder 4.62%, antisocial personality disorder 1.54%, obsessive-compulsive personality disorder 1.54%, dependent personality disorder 1.54%, and other personality disorders 1.54%. Figure 1 compares the Clusters over the past two decades. We observed an increasing trend in the prevalence of Cluster C, whereas Cluster A prevalence decreased.

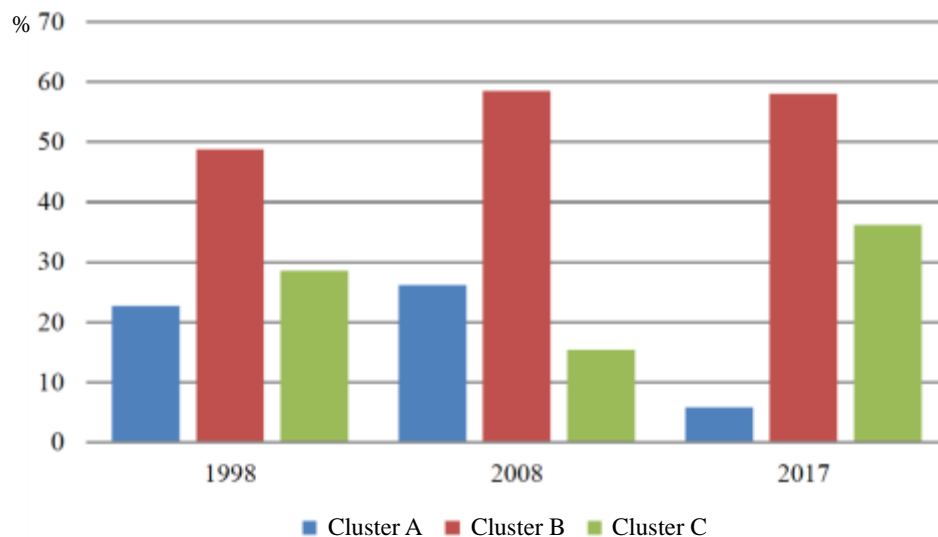
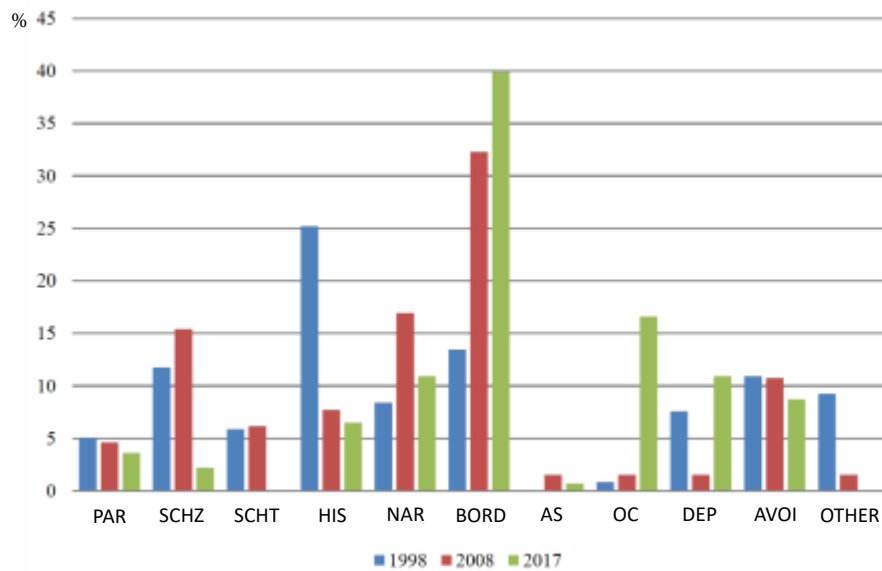


Figure 1: Comparison of Clusters over the past two decades.

Figure 2 compares the prevalences of the particular personality disorders over the past two decades. There was a considerable increase in the prevalence of the borderline and obsessive-compulsive personality disorders. On contrary, the prevalence of the schizoid and the other personality disorders considerably decreased.



Legend: PAR, paranoid personality disorder; SCHZ, schizoid personality disorder; SCHT, schizotypal personality disorder; HIS, histrionic personality disorder; NAR, narcissistic personality disorder; BORD, borderline personality disorder; AS, antisocial personality disorder; OC, obsessive-compulsive personality disorder; DEP, dependent personality disorder; AVOI, avoidant personality disorder; OTHER, other personality disorders.

Figure 2: Comparison of the prevalences of the particular personality disorders.

4. Discussion

The primary finding of the present study is the high prevalence of personality disorders in a Slovakian psychiatric inpatient sample. The secondary finding is the increasing prevalence of the borderline and obsessive-compulsive personality disorders over the past two decades. High burden of personality disorders across the age groups among the psychiatric inpatients provides further evidence for the high prevalence of personality disorders in psychiatric inpatients and shows some remarkable associations between personality disorders and psychiatric comorbidities.

Personality disorders are associated with numerous socio-demographic correlates [20]. Our findings are consistent with previous results by Stevenson and colleagues who reported that personality disorder was present in 73.7% of young, 71.9% of middle-aged and 58.8% of older psychiatric inpatients [11]. In our sample, the prevalence of personality disorder was 76% with majority affecting young and middle-aged adults. The Clusters of personality disorders differed in different age groups in our sample with the young having more Cluster B (the „dramatic, emotional, erratic“ cluster) personality disorders and middle-aged and older patients having more Cluster B and Cluster C (the „anxious, fearful“ cluster) personality disorders. These findings are in accordance with the theory that personality disorders decrease with gradually lowering energy levels in older age, remit or remain stable [18, 21]. In

our study, the prevalence of Cluster A (the paranoid, schizoid, and schizotypal personality disorders) and Cluster C (the avoidant, dependent, and obsessive-compulsive personality disorders) gradually increased and then decreased with age, whereas Cluster B (the borderline, narcissistic, histrionic, and antisocial personality disorders) remained stable with age. These findings are partially in contrast with previous results reported in the literature. Specifically, „immature“ forms (e.g. borderline and antisocial personality disorders) were reported to decrease with age [22, 23]. In our study, the prevalence was measured with the SCID-II, which is not specifically designed for the elderly (some questions might be inappropriate for the older) resulting in possible overdiagnosis of some disorders and under diagnosis of others.

The rate of Cluster A disorders (5.8%) we found is interesting given the common clinical impression that such disorders are rare in hospital samples owing to their tendency not to seek treatment [24]. On the other hand, our prevalence rate for Cluster B disorders (58%) suggests that Cluster B disorders might actually be overrepresented in clinic samples, which can be due to their tendency to display striking and clinically salient symptomatology (e.g., suicidal attempts, self-mutilation, aggression and impulsive dyscontrol) [24]. In contradiction with earlier findings [1], the Cluster A was more prevalent in women and Cluster C was more prevalent in men in our study sample, while Cluster B was as common in men as in women. Cluster A is known to be associated with lower social class rather than with sex, and individuals are more likely to be separated or divorced, unemployed or with a low weekly income [1]. We did not collect this type of information, which precludes making inferences.

Our study showed considerable associations between the code F40-F48 Neurotic, stress-related and somatoform disorders and avoidant, dependent, and obsessive-compulsive personality disorders. The findings indicate that personality scales of neuroticism and anxiety constitute a risk factor for neurotic disorders. Also, it is possible that personality disorders appear with stressors typical for age groups and are affected by life's cumulative experiences. Interestingly, the most common borderline personality disorder had the highest prevalence of the F10-F19 Mental and behavioral disorders due to psychoactive substance use and the F30-F39 Mood (affective) disorders followed by the F40-F48 Neurotic, stress-related and somatoform disorders. These observations correlate well with Frankenburg and Zanarini [25] and further support the idea that nonremitted borderline patients are more likely than remitted patients to report daily consumption of alcohol [25]. The findings further implicate that psychological therapies should be used to lower modifiable personality trait anxiety/neuroticism as a preventive and therapeutic approach [22].

The prevalence of personality disorders in the hospital sample might be subject to change. In our study, the increasing prevalence of the borderline and obsessive-compulsive personality disorders over the past two decades was observed. Specifically, we observed 13.45% prevalence of borderline personality disorder in 1998, 32.31% prevalence in 2008, and 37.7% prevalence in 2017. It may be assumed that the observed increasing prevalence trend can be attributed to different environmental factors or biological factors determining the onset of borderline

personality disorder. Also, given the period of 20 years, it remains unclear whether the treatment of adults with personality disorders and psychiatric comorbidities was the same. Literature on the prevalence of borderline personality disorders among psychiatric inpatients is scarce. Castaneda and colleagues reported 6.4% prevalence [26] and Molinari and colleagues 6.5% prevalence of borderline personality disorder among geropsychiatric inpatients [12].

Strengths of the study include a large subject population, exclusion of patients with cognitive impairment and the use of the structured and reliable interview. Limitations include the overlap of personality disorders with psychiatric comorbidities. Symptoms of psychiatric disorders can affect DSM-IV personality disorder assessment; the clinically depressed state may strongly influence assessment of emotional strength, interpersonal dependency, and extraversion [27]. The results of the present study are based on DSM-IV multi-axial diagnosing of personality disorders. While the DSM-IV used multi-axial diagnosis, DSM-5 [18] did away with the axis system to eliminate the distinctions between diagnoses and streamline information. Yet, the multi-axial diagnosis gives more detail, highlighting conditions that convey important additional diagnostic information. Finally, our results cannot be generalized to outpatients because our clinical sample involved only psychiatric inpatients who were severely ill and therefore required hospital admission. The exact nature of personality disorder and factors that could affect development and course of personality disorders warrant further studies.

5. Conclusion

To conclude, our study has demonstrated a high prevalence of personality disorders in all age groups, affecting 76% of the entire sample of the enrolled psychiatric inpatients. The findings of the high prevalence of the borderline, obsessive-compulsive, narcissistic and dependent personality disorders highlight the need for interviewing psychiatric inpatients for both personality disorders and psychiatric disorders in order to optimize their treatment. The observations presented here highlight the need to identify personality disorders as early as possible so that timely therapeutic modification can occur. This is particularly important for the management of pharmaco-resistant or less-responsive patients with psychiatric comorbidities.

Declaration of Interest Statement

The authors declare that they have no conflict of interest.

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None.

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