Original Research Article

A study of the Overlap of Personality Traits and Comorbid Psychiatric Disorders in patients presenting with Cluster B Personality Disorders

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ABSTRACT

Background: Clinically there is a symptom overlap between cluster B personality disorders especially borderline personality disorder and other psychiatric disorders. There is a dearth of Indian studies in this regard. Hence the current study was aimed at assessing the presence of comorbidity of other psychiatric disorders in cluster B personality disorders.
Methodology: This was a cross sectional study where a sample consisting of 100 consecutive patients having traits of any of the cluster B personality disorders were recruited (convenient sampling). A semi structured proforma based on DSM-5 was used to assess the personality traits of the patients. With the help of PDQ-4 questionnaire, the personality disorders were objectively assessed. With the help of psychiatric interview, the presence of other comorbid psychiatric illness was checked. Data thus obtained was tabulated and analysed using appropriate statistical tests.
Results: The most common subtype of cluster B personality disorders in the study was antisocial personality disorder and borderline personality disorder. This was due to majority of population being males. A significant overlap of symptoms was seen among all the subtypes of cluster B personality disorders. Maximum co-occurring personalities were antisocial personality disorder and borderline personality disorder. Few patients also showed presence of symptoms of all the subtypes of cluster B patients. Several other psychiatric disorders were seen comorbid with cluster B personality disorder. Major comorbidity was substance use disorder, followed by major depressive disorder and anxiety disorder.
Conclusion: Clinicians must be aware of this overlap of symptoms and comorbidities in the planning of the long-term management of cluster B personality disorders.

Keywords: personality, personality disorders, cluster B personality disorders, depression, anxiety, PDQ-4.

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INTRODUCTION

Personality is used to refer to individual differences in patterns of thinking, feeling, and behaving [1]. The term "Personality" is derived from the Latin word "persona", that is the name given to masks worn by actors [2]. Extreme maladaptive variations of individual behaviour are clinically referred to as personality disorders. Personality disorder is important for all medical practitioners because it is highly prevalent, affects greatly the interaction between professionals and patients, is a strong predictor of treatment outcome.
The international classification of diseases tenth revision (ICD-10) [3] includes personality disorders with other health conditions and defines personality disorder as "deeply ingrained and enduring behaviour

patterns, manifesting as inflexible responses to a range of personal and social situations. They represent either extreme or significant deviations from the way in which the average individual in each culture perceives, thinks, feels, and particularly, relates to others. Such behaviour patterns tend to be stable and encompass multiple domains of behaviour and psychological functioning. They are frequently, but not always, associated with various degrees of subjective distress and problems of social performance." As per Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5) [4], "A personality disorder is an enduring pattern of inner experience and behaviour that deviates markedly from expectations of the individual's culture, is pervasive and inflexible, had an onset in adolescence or early adulthood, is stable over time, and leads to distress or impairment."

Currently, personality disorders are classified into three distinct categories in the DSM-5 known as cluster A (paranoid, schizoid, schizotypal), B (antisocial, borderline, narcissistic, histrionic), and C (avoidant, dependent and obsessive-compulsive). While clusters are helpful for easily identifying examples of these disorders, considerable overlap exists between the groups [5].

Within Cluster B personality disorders overlap of two or more personality disorder in the same individual is commonly seen. Antisocial personality disorder (ASPD) and borderline personality disorder (BPD) are very commonly seen to be comorbid among adult admissions to psychiatric wards [6]. The prevalence of ASPD/BPD comorbidity varies according to the sample being studied, being especially high in prisoners characterized by high degree of dangerousness [7]. For Kernberg, the antisocial personality represents the most severe form of pathological narcissism and is viewed as an aggressive form of narcissistic personality disorder (NPD) [8-9].

Some studies have found and overlap of ASPD with Histrionic Personality Disorder (HPD). The authors suggest that histrionic individuals develop antisocial personality if they are male and somatization disorder if female, suggesting a common underlying pathology [10-11]. HPD patients are also to have presence of BPD and NPD [12-13]. Clinically as well, there is a considerable overlap of personality traits within the subtypes of cluster B personality disorder.

Another considerably important finding in the cluster B personality disorders is the presence of other psychiatric comorbidities [14-16]. The presence of other mental health disorders further complicates the picture and results in poor treatment outcome [17]. The common comorbid conditions with Cluster B PDs are substance use disorder, bipolar mood disorder, depression, anxiety disorder, panic disorder, post-traumatic stress disorder (PTSD) [15-20]. A higher risk of self-harming behaviour and suicide is seen in patients of BPD and ASPD. Early onset dysthymia and cluster B personality disorder frequently co-occur, and it has been seen that cluster B personality disorder may be crucial in the development of some form of chronic depression [21-23]. Also Cluster B personality disorders shows high degree of comorbidity with substance use disorder. Across various studies, 57.4% of individuals diagnosed as BPD also received the diagnosis of substance use disorder. Even higher percentage of patients with ASPD have a lifetime prevalence of alcohol and drug abuse; 64-90% patients with BPD have a diagnosis of alcohol abuse or dependence and 57-93% have a diagnosis of drug abuse or dependence [24]. So, we can see that multiple studies have proved the co-occurrence of other psychiatric disorder with cluster B personality disorder. But very few in the Indian population.

Clinically it is seen that many patients of cluster B PD have presence of more than one subtype. And classifying them in a single subtype becomes difficult. There is a dearth of literature studying the overlap of more than one cluster B PD in patients. And very few studies have been done in the Indian populations. So, we took up this study to explore into this overlap of Cluster B PDs often seen in the clinical setting and, as there are few Indian studies done to study the comorbidity of other psychiatric disorders in cluster B PD. So, we also decided to study the presence of comorbidity of other psychiatric disorders in cluster B PD.

METHODOLOGY

This study was conducted in Psychiatry OPD of General Municipal Hospital attached to a medical college.

Sample: A sample consisting of 100 consecutive patients having traits of any of the cluster B personality disorders were recruited for the present study (convenient sampling) according to the selection criteria.

Sample size was calculated based on confidence level of 95% and confidence interval of 10. Accordingly required sample size with these two parameters was 96.

Inclusion Criteria:

1. Patients of either gender aged 18 or above.
2. Patients attending Psychiatry OPD of general municipal hospital attached to a medical college.
3. Patients having traits of any of the Cluster B personality disorder.

Exclusion Criteria: Patient not having objective data.

Study Design: Cross Sectional Study.

Duration of the Study: 12 months

A semi structured proforma to assess personality traits based on Diagnostic and Statistical Manual of Mental Disorders (DSM–5) [4] will be prepared. DSM–5 is the product of efforts by hundreds of international experts in all aspects of mental health. It is the 2013 update to DSM, the taxonomic and diagnostic tool published by the American Psychiatric Association (APA). It helps to define and classify mental disorders to improve diagnoses, treatment, and research.

Scale Used:

PDQ-4 questionnaire: Developed by Steven E.Hyler, M.D of the New York State Psychiatric Institute. The items included in the PDQ-4 were adapted from the diagnostic criteria for personality disorder of the American Psychiatric Association's Diagnostic and Statistical Manual of Mental Disorders, fourth edition, (DSM-IV) and contains items originally included in the PDQ and PDQ-R Questionnaires. It comprises of 99 questions in a true or false format. The answers will be evaluated at the end to conclude about the personality of the individual [25].

The study received the Institutional Ethics Committee clearance. Patients were selected after they met the inclusion and exclusion criteria. The patient and relatives were explained the purpose and nature of the study and assured of the confidentiality. An informed consent was taken from patient and relatives. Patients and their relatives were interviewed as per the specially prepared proforma for the study to collect the required demographic and clinical details. A semi structured proforma based on DSM-5 was used to assess the personality traits of the patients. With the help of PDQ-4 questionnaire, the personality disorders were objectively assessed. With the help of psychiatric interview, the presence of other comorbid psychiatric illness was checked. Data thus obtained was tabulated and analysed using appropriate statistical tests.

RESULTS

Table 1: Demographic details (N=100)

Parameters	**Results**
Age(years)	
Mean ± SD	32.41 ± 9.642
Minimum-Maximum	19-50
Sex	
Male	85
Female	15
Education status (years of education)	
Mean ± SD	8.87-2.744
Range	3-18
Religion	
Hindu	88
Non-Hindu	12
Employment status	
Employed	57
Unemployed	43
Marital status	
Married	63
Single	37
Family type	

Joint	23
Nuclear	77

As shown in table 1, the mean age of the study population was 32.41 ± 9.642 (Standard deviation) years. The age range of the study population was from a minimum of 19 years to a maximum of 50 years. The mean years of education in the study population was 8.87±2.744 (Standard deviation) years. The minimum was of 3 years to a maximum of 18 years of education. There were more males in the population than females. Majority of the study population belonged to the Hindu religion. 57 patients from the study population were employed, whereas the remaining 43 were unemployed. There were more patients that were married compared to the unmarried population. Majority of the study population belonged to nuclear families, i.e. 77 of them. And the rest 23 of them belonged to joint families.

Table 2 shows the number of patients meeting the DSM-5 criteria for subtypes of Cluster B personality disorder diagnosis. It should be noted that the results are overlapping as many patients were meeting the diagnosis of more than one personality disorder. Majority of the patients fulfilled the criteria for ASPD followed by BPD, NPD, HPD. It is seen that ASPD is more prevalent in men and HPD is more common in females. And as majority of our study population is male, it is possibly the reason why we have more ASPD patients as ASPD is more common in males than females. The low occurrence of HPD can also be due to less females in the study population as HPD is more prevalent in females. Another important finding noticed is that maximum overlap was seen between ASPD and BPD patients.

Table 2: Clinical diagnosis of Cluster B personality disorder according to DSM-5

Diagnosis	**Patients meeting the DSM-5 criteria**	**Males (N = 85)**	**Females (N = 15)**
Antisocial personality disorder (ASPD)	88	85	3
Borderline personality disorder (BPD)	80	65	15
Narcissistic personality disorder (NPD)	36	31	5
Histrionic personality disorder (HPD)	28	15	13

Table 3: Diagnosis of Cluster B personality disorder according to PDQ-4 questionnaire

Diagnosis	Patients meeting the criteria of PDQ-4	Males (N=85)	Females (N=15)
Antisocial personality disorder (ASPD)	89	85	4
Borderline personality disorder (BPD)	88	73	15
Narcissistic personality disorder (NPD)	43	36	7
Histrionic personality disorder (HPD)	40	25	15

Table 3 shows the number of patients meeting the PDQ-4 criteria for subtypes of Cluster B personality disorder diagnosis. It should be noted that here also the results are overlapping as many patients were meeting the diagnosis of more than one personality disorder. Our clinical diagnosis can be reflected on PDQ-4 as well. But as we can miss out on some patients in the clinical interview, PDQ-4 was more sensitive in picking up more patients. Majority still being ASPD followed by BPD, NPD, HPD. Here also maximum overlap was seen between ASPD and BPD. We can consider using PDQ-4 more often in the clinical setting as it was more sensitive.

There were very few patients that met the criteria of only single Cluster B personality disorder. And no single patient from our study population met the solitary diagnosis of HPD or NPD. This could be possible due to male dominant study population.

As shown in table 4, it was clear that many patients were showing symptoms meeting the diagnosis for more than one personality disorder. Maximum overlap was seen of ASPD and BPD in 68 patients. Then followed by ASPD and NPD which was seen in 34 patients. Some patients also showed overlap amongst other Cluster B diagnosis as well. And 10 patients showed overlap of all four personality disorders, i.e. ASPD, BPD, HPD and NPD.

Table 4: Overlap of Cluster B personality disorders in patients according to DSM-5 (N=100)

Overlapping personalities	No. of patients
ASPD+BPD	68
ASPD+ HPD	18
ASPD+NPD	34
HPD+NPD	17
BPD+HPD	23
BPD+ NPD	25
ASPD+NPD+BPD	23
ASPD+NPD+HPD	15
ASPD+BPD+HPD	13
NPD+HPD+BPD	12
NPD+HPD+BPD+ASPD	10

Table 5: Overlap of Cluster B personality disorders in patients according to PDQ-4 questionnaire

Overlapping personalities	No. of patient
ASPD+BPD	77
ASPD+ HPD	29
ASPD+NPD	36
HPD+NPD	32
BPD+HPD	36
BPD+ NPD	35
ASPD+NPD+BPD	28
ASPD+NPD+HPD	25
ASPD+BPD+HPD	25
NPD+HPD+BPD	28
NPD+HPD+BPD+ASPD	21

As shown in table 5, it was seen that similar results were obtained as by DSM 5. Many patients were meeting the diagnosis for more than one personality disorder as per PDQ-4 questionnaire as well. A maximum overlap of ASPD and BPD was seen in 77 patients. As PDQ-4 was more sensitive in picking up personality disorder a greater number of overlaps was seen in the patients amongst the Cluster B personalities.

Maximum comorbidity seen was that of substance use disorder. Even in our clinical settings we observe substance being a common finding along with cluster B personality disorders. As males were more in the study population, the substance use can be seen as the highest comorbidity. With no females showing the use of substance in the study population. It was seen that patients with substance use disorder had more often use of multiple substances as shown in table 13. The next common finding was of major depressive disorder (MDD). And it was seen that more commonly the females in the study population met the diagnosis of MDD. And so, as females were less in the study populations, its possibly the reason why the prevalence of MDD was low. And few female patients met with the diagnosis of mixed anxiety depression.

It was noted that multiple substances were used by many of the patients. Hence overlapping data was obtained. Majority of the patients were males. And alcohol use was the most common substance used. This was followed by cannabis, sedatives, and opioids. Few patients showed used of stimulants, inhalants, and hallucinogens.

DISCUSSION

In our study, ASPD was the most prevalent cluster B PD seen followed by BPD, NPD and HPD. Moreover, it was seen that PDQ-4 was more sensitive in picking up personality disorders. Studies done to test the

validity of PDQ-4 have reported high sensitivity of the instrument. It was suggested to have good screening properties [26-28]. Studies done to find the gender differences in cluster B PDs have reported that men have higher rates of antisocial personality disorder (ASPD) [29]. The borderline personality disorder was diagnosed either more frequently among females or equally in both sexes [30]. The same could be reflected in our study. As our study population was majorly comprising of males, this could have led to a higher prevalence of ASPD. Females usually predominated in Histrionic personality disorder (HPD). In our study, lower female population could have led to a low prevalence of HPD. Gender differences were also observed in the sample with male BPD manifesting more comorbidity with ASPD [31].

In our study, we found a significant overlap of symptoms of more than one cluster B personality disorder in a single individual. As shown in table 2, there is significant overlap of symptom criteria used to diagnose cluster B PDs. We were able to reproduce the overlap of symptoms within the cluster B PD subtypes in our study as well. Nearly all the patients met criteria for more than one cluster B PD. The maximum overlap was seen between antisocial personality disorder (ASPD) and borderline personality disorder (BPD), with considerable overlap seen among other cluster B PDs as well. The comorbidity of more than one cluster B PDs in a single individual is reported by many authors. ASPD/BPD comorbidity has been reported frequently, being especially high in prison population [33]. Researchers suggested that a common underlying vulnerability accounts for the comorbidity between BPD and ASPD [34]. In a Finnish sample of male violent alcoholic offenders, the prevalence of ASPD/BPD comorbidity was 28% [35]. In a sample of men and women admitted for assessment to a prison in the United States, the prevalence was 16% and 24% respectively [36]. High rates of PD were also seen in a youth sample in the United States, of whom some 16% showed ASPD/BPD comorbidity [37]. A Spanish study in out-patients with substance use disorders showed a greater co-occurrence of BPD with ASPD [38]. Similar results were seen in our study. Stuart et al. employed a much larger clinical study group and a structured interview for DSM personality disorders to examine personality disorder co-occurrence patterns and found BPD correlating significantly with all other cluster B disorders. They also found that HPD was highly correlated with NPD and BPD, and NPD was highly correlated with BPD. They found that HPD was diagnosed in 73.1% of the subjects diagnosed with NPD and in 50.9% of the BPD subjects. 51% percent of the ASPD subjects were also diagnosed with BPD [12] Similarly, we were even able to find a significant overlap of Cluster B PD in patients.

Few patients also showed presence of all the subtypes of cluster B PD. This is not a highly reported finding by many authors. There needs to be more study done in this area. Both DSM 5 and ICD-10 tried to acknowledge the need for a dimensional system and recognition of the need for change in personality disorder classification. The DSM-5 Personality and Personality Disorder Work Group's (PPDWG) approach for the revision of the DSM-IV classification of personality disorders was a hybrid model, which included the assessment of severity by assessing the impairments in personality functioning, a reduction from ten to six categories, and an assessment of five broad areas of pathological personality trait domains, composed of 25 trait facets [39]. The DSM-5 PPDWG's work began work on the revision of the personality disorders section in 2008, with the final proposal in 2012. The final proposal was approved by the APA DSM-5 Task Force but was rejected by the APA Board of Trustees. As a result, DSM-5 simply reproduces the personality disorders section of the prior edition (DSM–IV–TR). Whereas the PPDWG proposal is provided in Section III of the DSM-5 ("Emerging Measures and Models") [40-41]. Considering the high degree of overlap among the Cluster B PD, we also feel the need for a change in the diagnostic classification of them. It is more often difficult to classify an individual with a single Cluster B PD. We feel that the subtypes could be resolved and the use of a broader concept of cluster would be more suitable. In other way, looking at personality disorder from a dimensional concept also seems like a better alternative. More research needs to be done in the area and we should come up with a better way of identifying and classifying Cluster B PD.

We also studied other psychiatric comorbidities present with cluster B PD. In our study, substance use disorder was the most common comorbidity with Cluster B PD. Many authors have reported the high prevalence of substance use disorders in cluster B PDs [41]. The high prevalence of substance use disorder in our study could be accounted for as majority of the population was males. Clinically it more common to see men with substance use disorder than women. The gender difference in substance use disorder has been researched often. The Epidemiologic Catchment Area (ECA) study [42], showed that men were more than

five times as likely to have an alcohol-use disorder and two or three times more likely to have a drug-use disorder compared with women. In a more recent study, they found that males had a significantly higher prevalence of alcohol, sedative, cannabis, tranquilizers, opioids, hallucinogens and cocaine use disorders compared with females [43]. Within substance use disorders, alcohol was the most common substance used. Alcohol (apart from tobacco) has been reported by many studies to be the most prevalent substance used in India followed by cannabis and opioids. The National Household Survey of Drug Use reported that alcohol (21.4%) was the primary substance used (apart from tobacco) followed by cannabis (3.0%) and opioids (0.7%). 17%-26% of alcohol users qualified for ICD 10 diagnosis of dependence, meaning an average prevalence of about 4% [44]. The Drug Abuse Monitoring System, which evaluated the substance of abuse in inpatient treatment centers found that the major substances were alcohol (43.9%), opioids (26%) and cannabis (11.6%) [44]. According to the World Drug Report, of 81,802 treatment seekers in India in the year 2004-2005, 61.3% reported use of opioids, 15.5% cannabis, 4.1% sedatives, 1.5% cocaine, 0.2% amphetamines and 0.9% solvents [45]. It was seen that more than one substance was used by a single individual. Polysubstance use by a single patient is common, particularly in younger age groups. It is commonly seen in clinical settings that patients with cluster B personalities show use of multiple substances [46]. They have high risk-taking behavior, novelty seeking behavior which could lead to multiple use of substances.

The researchers suggest that female PDs tend to higher rates of comorbidity of mood disorders, depression, anxiety disorders. On the other hand, men tend to express an "externalizing" picture with higher rates of substance use disorders [47]. We have found similar results in our study. As male population was more in our sample and female population was less, this led to higher occurrence of substance use disorder and lower prevalence of depression. As presence of comorbid personality disorder with other psychiatric disorders is seen to be a strong predictor of poor outcome [48], professionals should always be vigilant to find such an underlying comorbidity.

CONCLUSION

The most common subtype of cluster B PD in the study was antisocial personality disorder and borderline personality disorder. This was due to majority of population being males. All males fulfilled the criteria for antisocial personality disorder. Thus, proving the high prevalence of antisocial personality disorder in males. A significant overlap of symptoms was seen among all the subtypes of cluster B personality disorders. Maximum co-occurring personalities were antisocial personality disorder and borderline personality disorder. Few patients also showed presence of symptoms of all the subtypes of cluster B PD. Several other psychiatric disorders were seen comorbid with cluster B personality disorder. Major comorbidity was substance use disorder, followed by major depressive disorder and anxiety disorder. All substance use disorder comorbidities were males. Thus, proving the high male prevalence in substance use disorder. A better way of classification of cluster B PD is the need of the hour. Or it can be better to consider cluster B PD as a single entity with no further subtypes. Greater clarity could be obtained by viewing cluster B PDs through the lens of dimensional classification.

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