

Positive and negative urgency and sleep quality among patients with borderline and antisocial personality disorders

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Summary

Aim. The aim of the present study was to compare positive and negative urgency as well as sleep quality among patients with borderline personality disorder (BPD) and antisocial personality disorder (ASPD).

Sample and method. This was a causal–comparative study. The sample included 50 patients diagnosed with ASPD and 50 patients diagnosed with BPD, as well as 50 healthy controls. All subjects were selected based on availability. The instruments used were Lynam et al.'s Impulse Control Scale and Pittsburgh's Sleep Quality Index.

Results. The results show that the mean of negative urgency is significantly higher in BPD patients than in ASPD patients, whereas the mean of positive urgency is significantly higher in ASPD patients than in BPD patients. Dimensions of sleep quality in both BPD and ASPD patients are significantly higher than for healthy controls ($p < 0.01$).

Discussion. a significant difference exists among the BPD and ASPD patients and healthy controls in the positive and negative urgency and sleep quality.

Conclusion. We found that BPD and ASPD patients manifest reckless behaviours both due to more negative urgency when experiencing negative emotional situations and due to positive urgency when experiencing positive emotional situations. Both patient groups show lower sleep quality, which has diagnostic and therapeutic implications.

antisocial personality disorder/borderline personality disorder/positive urgency/negative urgency/sleep quality

INTRODUCTION

Almost half of the patients with psychological disorders suffer from personality disorder [1]. According to DSM-5, Cluster B personality dis-

orders include antisocial, borderline, histrionic and narcissistic personality disorders. Individuals with these disorders often appear dramatic, emotional or erratic [2]. Impulsive and aggressive behaviours are a common symptom of Cluster B personality disorders [3]. Antisocial personality disorder (ASPD) and borderline personality disorder (BPD) frequently overlap in terms of symptoms, personality dimensions, community prevalence, risk factors and treat-

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ment outcomes. Both have in common impulsive personality traits but there are behavioural differences [4].

One of the important factors in borderline and antisocial personality disorders is positive and negative urgency. Positive and negative urgency are new forms of impulsiveness. Negative urgency refers to an individual's tendency to engage in impulsive behaviour when experiencing emotion [5]. In both clinical and non-clinical samples, negative feelings are found to be related to maladaptive behaviours such as alcoholism [6, 7, 8]. Evidence shows that negative urgency can predict secondary psychopathy and the correlation between negative urgency and secondary psychopathy is significantly higher than the correlation between negative urgency and primary psychopathy, which can be used as an axis for disintegration of psychopathy components [9]. Also, individuals who show higher levels of negative urgency might develop suicidal thoughts very quickly and resort to painful, self-harming behaviours while experiencing negative emotional situations [10]. Negative urgency is the best predictor of drug abuse [11]. It is often related to cocaine use, to Cluster B personality disorders involving negative mood, negative urgency, impulsiveness, inappropriate functional performance and belief as well as to a deterioration in the temporal lobe [12].

It should be noted that negative urgency and lack of perseverance are uniquely related to borderline personality traits [13]. Fossati et al. [14] have shown a significant relationship between emotional dysregulation and positive-negative urgency with the characteristics of borderline personality. Evidence shows that positive emotions impact impulsive behaviours. Research in this field of psychology attributes positive emotional moods to individual differences in reckless actions. Positive urgency refers to a tendency in an individual to dangerous and risky behaviours when experiencing intense positive emotions. This variable can predict some problematic behaviours such as obesity, drug abuse, alcohol abuse and risky sexual behaviours [15, 16].

The present study sought to analyze sleep quality in BPD and ASPD patients as a biological process. Sleep quality is regarded as the satisfac-

tion individuals derive from sleep and how they feel after they wake up [17]. Evidence shows that individuals with borderline personality disorder have lower sleep quality than healthy individuals [18]. There is a relationship between mental sleep disorders and an improvement of BPD patients [19]. Personality disorder has a significant correlation with sleep quality as most patients suffering from personality disorder have poor sleep quality [20]. Sleep disorder is associated with aggressive behaviours and impulsiveness, as revealed by forensic psychiatry [21].

The symptoms of BPD are significantly correlated with three serious problems of sleep: i) the difficulty with falling asleep, ii) the difficulty with staying asleep, and iii) waking up early [22]. Research shows that BPD patients stay awake in bed longer and wake up one hour later than others [23]. Poor sleep quality leads to sleepiness during the day [24], mood shifts [25], and higher risk of drug abuse [26]. Furthermore, daily activities of these patients are also disordered and chaotic. Also, the day-night rhythm and sleep in BPD patients are disordered and their REM and NREM sleep is altered [27].

Findings of varied behavioural and personality disorders, as reviewed above, signify their importance in the diagnostic processes. Despite high prevalence of sleep-related disorders among patients with personality disorder, this aspect has largely remained neglected in the medical and empirical research [28]. The impact of sleep disorders transcends individual health and longevity; family, community and society are equally affected [29]. It is therefore abundantly clear that this study, comparing positive and negative urgency and sleep quality among BPD and ASPD patients and healthy controls, is highly relevant.

METHOD

Sample

This is a causal-comparative study. The statistical population includes all patients suffering from borderline and antisocial personality disorders and healthy controls in Ardabil city in 2014. Sample populations were randomized and included: 50 male patients with antisocial disorder

in the Central Prison of Ardabil City; 50 male patients with borderline personality disorder who were referred to Isar and Fatemi psychological hospitals; and 50 healthy controls, selected from the healthy population of Ardabil city (i.e. people with no history of mental illness).

Instrument

Impulse Control Scale (ICS)

The ICS, created by Lynam et al., comprises 59 items which measure five dimensions of impulsive behaviour (negative urgency, positive urgency, (lack of) perseverance, (lack of) premeditation, sensation-seeking), rated on a 4-point Likert scale (ranging from 'completely agree' to 'completely disagree') [30]. Lynam & Miller [31] showed that ICS subscales are diagnostically correlated with alcohol abuse in a non-medical sample of young people. Their alpha coefficients are reported above 0.80: Cronbach's alpha = 0.83 for negative urgency, 0.88 for premeditation, 0.64 for perseverance, and 0.87 for sensation-seeking [30]. Basharpour & Abbasi [32] reported Cronbach's alpha of 0.87 for negative urgency and 0.92 for positive urgency, and in our study those values were, respectively, 0.83 and 0.95.

Pittsburgh Sleep Quality Index (PSQI)

The PSQI was developed by Buysse et al. in 1989 to measure sleep quality, helping those with a poor quality of sleep [33]. This questionnaire includes 18 items, which examine people's views about their sleep quality during the last four sessions. It calculates seven points for these subscales: 1) the individual's general description of sleep quality; 2) sleep latency; 3) sleep duration; 4) sleep disturbances; 5) use of sleep medicines; 6) habitual sleep efficiency; and 7) day-

time dysfunction [33]. Scores 0, 1, 2, 3 on each scale refer to natural, small, average, and severe problems. The sum of the seven scales gives a total score ranging from 0 to 21 [34]. This questionnaire has 89.6% sensitivity and its reliability alpha coefficient is reported at 0.83. The validity of this index is confirmed using content validity and its reliability was tested by retest ($r=0.87$) by Soleimani et al. [35].

Procedure

First, patients suffering from borderline and antisocial personality disorders and healthy controls were identified in Ardebil city in 2014. At the next stage, to ensure correct patient diagnosis, subjects were administered the Composite International Diagnostic Interview for BPD and ASPD. After diagnosis, patients were given research inventories and asked to carefully answer each item. Then, the collected data were analyzed using the SPSS software.

Results

The mean and standard deviation age of BPD patients was 28.48 years (4.33), for ASPD patients 29.72 years (5.07) and for controls 25.88 years (3.97). As regards education, participants in the borderline disorder group included 37 (74%) without a diploma, 10 (20%) with a diploma, and 3 (6%) with an associate diploma and higher. The antisocial personality group included 42 (84%) without a diploma, 6 (12%) with a diploma, and 2 (4%) with an associate diploma and higher. In healthy controls group the numbers were respectively 22 (44%), 19 (38%) and 9 (18%). Table 1 presents means and standard deviations of positive and negative urgency and sleep quality in the BPD, ASPD and control groups.

Table 1. Means and standard deviations of positive and negative urgency as well as sleep quality in the BPD, ASPD and healthy groups

Variables	BPD patients		ASPD patients		Healthy controls	
	Mean	SD	Mean	SD	Mean	SD
Positive urgency	37.42	2.89	46.38	3.63	24.80	8.37

Negative urgency	39.56	3.56	35.78	2.47	25.54	5.10
Sleep quality	1.68	0.89	1.94	0.93	0.98	0.62
Sleep latency	3.04	1.46	3.10	1.28	2.14	1.36
Sleep duration	0.90	0.84	1.44	0.81	0.74	0.75
Habitual sleep efficiency	2.88	2.03	4.14	1.82	2.04	1.43
Sleep disturbance	15.58	4.31	15.40	3.91	6.42	3.74
Use of sleep medicines	1.70	1.04	1.66	0.96	0.18	0.52
Daytime dysfunction	3.10	1.54	3.50	1.39	1.32	1.06

Before using the MANOVA parametric test, the homogeneity assumption of variances in the negative and positive urgency and the dimensions of sleep quality variables were confirmed,

which made using parametric tests feasible. Also, the results of the Ljung–Box test showed that the equality assumption is true for variance-covariance matrixes.

Table 2. Multivariate analysis of variance for positive and negative urgency and sleep quality in the BPD and ASPD patient group and healthy controls

Dependent variable		SS	DF	MS	F	P	Eta
Urgency	Positive urgency	11754.04	2	5877.02	192.41	0.01	0.724
	Negative urgency	5261.77	2	2630.89	176.17	0.01	0.706
Sleep quality	Sleep quality	24.65	2	12.33	17.99	0.001	0.197
	Sleep latency	28.92	2	14.46	7.75	0.001	0.095
	Sleep duration	13.45	2	6.73	10.47	0.01	0.125
	Habitual sleep efficiency	111.72	2	55.86	17.73	0.001	0.194
	Sleep disturbance	2742.97	2	1371.49	85.99	0.001	0.539
	Use of sleep medicines	75.04	2	37.52	49.64	0.001	0.403
	Daytime dysfunction	134.68	2	67.34	37.23	0.001	0.336

As indicated in Table 2, the results of MANOVA showed that a significant difference exists between the mean scores of BPD and ASPD patients and healthy persons in positive urgency and negative urgency ($p < 0.01$). Also, a significant difference

exists among the mean scores of BPD and ASPD patients and controls in the variables of sleep quality, sleep latency, sleep duration, habitual sleep efficiency, sleep disturbance, use of sleeping medication and daytime dysfunction ($p < 0.01$).

Table 3. Comparing the means of positive and negative urgency and sleep quality in the three groups using LSD test

Variables	Group	1.BP	2.ASPD	3.Controls	Variables	Group	1.BPD	2.ASPD	3.Controls
Positive urgency	1.BPD	-	-8.96*	12.62*	Habitual sleep efficiency	1.BPD	-	-1.26*	0.84*
	2.ASPD	8.96*	-	21.58*		2.ASPD	1.26*	-	2.10*
	3.Controls	-12.62*	-21.58*	-		3.Controls	-0.84*	-2.10*	-
Negative urgency	1.BPD	-	3.78*	14.02*	Sleep disturbance	1.BPD	-	0.18	9.16*
	2.ASPD	-3.78*	-	10.24*		2.ASPD	-0.18	-	8.98*
	3.Controls	-14.02*	-10.24*	-		3.Controls	-9.16*	-8.98*	-

Sleep quality	1.BPD	-	-0.26	0.70*	Use of sleep medicines	1.BPD	-	0.04	1.52*
	2.ASPD	0.26	-	0.96*		2.ASPD	-0.04	-	1.48*
	3.Controls	-0.70*	-0.96*	-		3.Controls	-1.52*	-1.48*	-
Sleep latency	1.BPD	-	-0.06	0.90*	Daytime dysfunction	1.BPD	-	-0.40	1.78*
	2.ASPD	0.06	-	0.96*		2.ASPD	0.40	-	2.18*
	3.Controls	-0.90*	-0.96*	-		3.Controls	-1.78*	-2.18*	-
Sleep duration	1.BPD	-	-0.54*	0.16					
	2.ASPD	0.54*	-	0.70*					
	3.Controls	-0.16	-0.70*	-					

*. The mean difference is significant at the $p < 0.01$ level.

The results of Fisher's Least Significant Difference test (LSD) show that The mean of positive urgency in the BPD and ASPD patients is significantly higher than in the healthy group; it is also higher in ASPD than in BPD patients ($p < 0.01$). the mean of negative urgency in BPD and ASPD patients is significantly higher than in healthy controls. Also, it is higher in BPD patients than in ASPD patients ($p < 0.01$). As regards the dimensions of sleep quality, the scores of sleep quality, sleep latency, sleep duration, habitual sleep efficiency, sleep disturbance, use of sleeping medication, and daytime dysfunction, these are significantly higher in BPD and ASPD patients than in healthy controls ($p < 0.01$); only the mean score of sleep duration and habitual sleep efficiency is significantly higher in ASPD patients than in BPD patients ($p < 0.01$).

DISCUSSION

The present investigation was conducted to compare positive and negative urgency and sleep quality among BPD and ASPD patients and healthy persons. Results show that negative urgency in BPD patients is significantly higher than in ASPD patients. This finding is consistent with: a) Albein-Urios et al. [12] indicating a co-occurrence of Cluster B personality disorder, impulsivity and maladaptive behaviours; b) Anestis & Joiner [10] indicating that negative urgency leads to self-damaging and suicidal behaviours; and c) Fossati et al. [14] reporting that positive and negative urgency are correlated with BPD. In congruence with our findings, Selby et al. [22] and Cheavens et al. [36] have revealed that BPD patients' reaction to negative feeling is very intense; they also suffer from emotional dysreg-

ulation. Negative feelings associated with BPD [37, 38].

It may be concluded that impulsiveness is a basis for aggressive behaviour, drug abuse, anger and self-harm [cf. 39]. Studies have shown that impulsive people use emotion-based strategies to cope with environmental stressors [40]. Impulsiveness and emotional dysregulation are considered the elements of BPD affecting negative urgency. By considering high negative urgency in BPD patients, some of their characteristics can be explained in terms of self-damaging behaviours, chronic feeling of emptiness, the intention or acts of suicide, paranoid thoughts, and lack of anger control (which are BPD diagnostic criteria). BPD patients, as they suffer emotionally, manifest high level of negative urgency. Their affective instability – aggressive and extreme reactions – makes other people slightly agitated in response. The stressors of modern society contribute to the development of BPD amongst individuals. Lack of mental integrity in such patients, societal insecurities, lack of norms and expectations clearly reflect on a culture where people develop impulsive, reckless behaviour and become vulnerable to drug abuse, overweight, suicide, self-harm and other risky behaviours. These anomic conditions may lead to negative feelings including agony, fear, confusion, abandonment, loss, anxiety, and intense stress.

Another important finding of this study is that positive urgency seems dominant in the ASPD patients compared with BPD patients. This finding is consistent with Cyders' study [15] indicating that positive urgency can predict problematic behaviours such as obesity, drug and alcohol abuse, and risky sexual behaviours; it is also congruent with Zapolski et al. [41] reporting that positive urgency predicts the use of illegal drugs and risky sexual behaviour. Since antiso-

cial patients are diagnosed with low self-regulation, low self-control and poor self-management, they have high positive urgency. When these patients experience emotions, they show risky maladaptive behaviours such as overindulgence in alcohol drinking, which can lead to serious consequences such as physical aggression, alcohol-related self-harm and even death, drink-driving, and unwanted sex.

Since antisocial patients lack emotional responses and are not able to feel anger and anxiety [42], they do not feel anxious while experiencing positive emotions and manifest reckless-impulsive behaviours. Evidently, antisocial patients in our study had been prisoners for a long time and had a record of arrests. Obviously, it is their low self-esteem that compels them to proving themselves aggressively while confronting an emotional situation.

Our results show that both the BPD and ASPD patients show lower sleep quality than healthy subjects. This finding is consistent with Sansone et al. [18], indicating that the quality of sleep is lower in patients with BPD compared with healthy people, with Zhang & Lu [20] reporting a strong correlation of personality disorder with sleep quality, and Kamphuis et al. [21] showing a relationship between poor quality sleep and insomnia, aggressiveness and impulsiveness.

It may be noted that circadian sleep rhythm is disrupted in patients with personality disorders [27]; also, sleeplessness and insomnia affect the functioning of the frontal lobe, which is potentially a reason for aggressive and violent behaviours [21] in BPD and ASPD. However, other factors such as socio-psychological conditions and individual lifestyles – aside from physiological factors – also had an impact on sleep quality differences amongst the population of this study [1, 43].

In conclusion, it can be said that BPD and ASPD patients experience more sleep problems than others. Quality of sleep may well determine pleasant and unpleasant behavioural outcomes. Our study stresses the relevance of urgency and sleep problems in the diagnostic and therapeutic processes.

The study has certain limitations. Limited access to BPD and ASPD in Ardebil city posed conditions on tools and methods of data

collection. Future studies conducted elsewhere may factor in these considerations. However, therapists and other mental health professionals dealing with BPD and ASPD may certainly benefit from our findings at various stages of the therapeutic process.

CONCLUSIONS

Based on the study results, it can be concluded that BPD and ASPD patients experience problems with impulsive behaviour control. They show reckless behaviour due to higher negative urgency when experiencing negative emotional situations and due to positive urgency when experiencing positive emotional situations. Both patient groups show lower sleep quality, which has diagnostic and therapeutic implications and can exacerbate the symptoms of BPD and ASPD. Thus, therapists should have special regard for these variables in the diagnosis and pathology of personality disorder.

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