

Screening for Impulse Control Disorders Among Patients Admitted to a French Psychiatric Emergency Service

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Abstract: *Objective:* The authors want to examine the prevalence of all impulse control disorders (ICD) among patients examined in a French psychiatric emergency ward and to compare patients with and without ICD.

Method: 210 consecutive patients examined in a psychiatric emergency ward were included. We used the Minnesota Impulsive Disorders Interview, a semi-structured clinical interview assessing impulse control disorders (ICD): compulsive buying, trichotillomania, compulsive sexual behavior, kleptomania, pyromania and intermittent explosive disorder. We assessed the DSM-IV-TR criteria for personality disorders and we used the Zuckerman scale to study the level of sensation-seeking. All patients answered in addition the South Oaks Gambling Screen (SOGS) for pathological gambling, the Lejoyeux scale of compulsive buying, the DETA questionnaire for alcohol use disorders and the Fagerström questionnaire for nicotine consumption.

Results: Fifty-four patients (25%) showed signs of at least one ICD. Fifteen patients (7%) reported current symptoms of two impulse control disorders. The most common impulse control disorders were compulsive buying (N=41, 19.5%), pathological gambling (N=13, 6.2%) and intermittent explosive disorder (N=11, 5.2%). Psychiatric comorbidity was not different between patients from the ICD+ and the ICD- groups. Alcohol, nicotine and cannabis consumption were equivalent in the ICD+ and ICD- groups.

Patients with co-occurring impulse control disorders were younger. They had a higher score of pathological gambling assessed with the SOGS and a higher level of sensation seeking. Sub-scores of disinhibition, experience seeking and boredom susceptibility were also significantly higher.

Conclusion: An important proportion of patients (25%) examined in a French psychiatric emergency service shows at least one diagnosis of impulse control disorder. Emergency ward may give them an opportunity for identifying ICD and offering information and treatment. Additional research could try to validate effective treatment for psychiatric patients with impulse control disorder.

Keywords: Impulse control disorders, compulsive buying, pathological gambling, intermittent explosive disorder, sensation seeking, psychiatric emergency.

INTRODUCTION

Impulse control disorders (ICD) are characterized by an impaired ability to resist impulses to engage in self-destructive behavior or behavior with deleterious long-term consequences [1]. Other clinical characteristics of ICDs are the drive or temptation to perform some acts harmful to oneself and/or to others, an increased sense of tension or excitement before acting out, a sense of pleasure, gratification, or release at the time of committing the act or shortly thereafter. The pathological types of behavior included in the group of ICD (DSM-IV-TR) are intermittent explosive disorder, kleptomania, trichotillomania, pyromania and pathological gambling [2, 3]. Possible prevalence of kleptomania is 0.6 and in most cases, the disease is underrecognized [4]. The lifetime prevalence of pathological gambling is estimated to range from 1% to 2% of adults [5]. Christenson *et al.* [6] have systematically assessed prevalence of

trichotillomania among 2579 students. They found a prevalence rate of 0.6% in men and in women. Recent data suggest that compulsive buying may be linked to other ICDs [7]. Compulsive buying corresponds to repetitive, uncontrolled urges to buy items that are not needed. Buying sprees induce financial difficulties, reproaches and conflicts with their families. Grant and Potenza [8] note that ICDs are relatively common, carry substantial morbidity and mortality and may be treated effectively with behavioral and pharmacological therapies.

Some studies were specifically devoted to pathological gambling. They showed that this disorder has a prevalence estimated to be similar to those for bipolar disorders and schizophrenia [9]. We have previously assessed the prevalence of ICDs among 107 depressed and 79 alcoholic inpatients. We found that 19% of patients with depression and 38% of patients with alcohol-dependence had positive screen for at least an ICD [10,11]. Types of ICD were: 19 cases of intermittent explosive disorder, 7 cases of pathological gambling, 3 cases of kleptomania, 1 case of trichotillomania. Alcohol-dependent patients showing concurrent ICDs had a

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higher level of sensation seeking as assessed by the Zuckerman Scale [12] than alcoholics without ICD.

Our goal in this study was to pursue the assessment of ICDs in a specific population: patients examined in a psychiatric emergency ward. Until now, ICDs are not systemically identified and treated among patients examined in emergency. The disorders are most often unrecognized in the context of psychiatric emergency. Since no study had assessed the prevalence of all ICDs in patients examined for a psychiatric emergency, we tried to answer the three following questions:

- (1) What is the current prevalence of all ICDs, including compulsive buying, in a sample of patients examined in a psychiatric emergency ward?
- (2) Do patients with a diagnosis of ICD more often display depression, bipolar disorder, alcohol and nicotine dependence and pathological personality than patients examined in the same emergency ward and free from ICDs?
- (3) Is the diagnosis of ICD associated with a higher level of sensation-seeking?

MATERIALS AND METHODOLOGY

Subjects

Two hundred and forty-two consecutive patients received in the emergency ward were invited to participate in the study. We interviewed patients during daytime hours between 9:00 a.m. and 7:00 p.m. Patients were interviewed between January and June 2008. Thirty-two patients refused the assessment and 210 patients were recruited. The group included 74 women (35.2%) and the mean age of the 210 patients was 40.2 years (SD=12, range=18-82). The group consisted of all consecutive patients examined in the emergency ward during the study period.

Inclusion criteria were stay in the emergency ward and ability to read and understand the consent form. We did not pre-select the patients and the population of the study strictly reflected population of patients usually examined in the emergency ward. Data were drawn from direct interviews. All patients were interviewed by the same psychiatrist (P.A.) trained on the study instruments and in the clinical aspects of ICDs. Patients were assessed during their stay in the emergency ward, in the six hours following their entry.

The study was reviewed and approved by the institutional review board of the hospital. All patients participated voluntarily in the study and provided written informed consent. To ensure confidentiality, all identifying data were removed and all records were kept locked. The study was conducted at the psychiatric emergency ward of the Clermont de l'Oise Hospital, an acute care hospital which receives psychiatric emergencies from cities located in the North of France (Creil, Chantilly, Clermont de l'Oise).

Instruments

Assessment of Impulse Control Disorders

The investigator assessed all subjects for current ICD with the Minnesota Impulsive Disorders Interview (MIDI) [13]. The MIDI is a 36-item semi-structured interview developed at the University of Minnesota. It includes separate screening modules diagnosing pathological gambling, trichotillomania, kleptomania, pyromania, intermittent explosive disorder, compulsive buying and compulsive sexual behavior. It evaluates each disorder beginning with a general question that, if answered affirmatively, allows the interviewer to ask a series of questions mirroring DSM-IV-TR criteria. For compulsive buying and compulsive sexual behavior, the questions of the MIDI reflect the impulse control disorder criteria of increasing tension before the related act followed by relief after act performance and subsequently evaluate related distress and impairment [1]. A subject's MIDI screen is positive for a disorder if all questions are answered affirmatively (except for pathological gambling screen). We checked, in addition, all the DSM-IV-TR criteria for pathological gambling, trichotillomania, kleptomania, pyromania and intermittent explosive disorder. To diagnose patients with true repetitive compulsive buying and not merely episodic impulsive buying, we used two clinical measurements: the Mc Elroy *et al.* criteria [14] and the Lejoux specific questionnaire [11]. This last questionnaire is especially designed for the assessment of compulsive buying. It allows for the assessment of the behavior itself and its consequences. Nineteen items (questions with yes or no answers) were used, representing major basic features of compulsive buying. These dimensions are: impulsivity, urges to shop and buy, emotions typically felt before, during and after purchasing, post-purchase guilt and regret, degree of implication of short-term gratification, tangible consequences of buying and avoidance strategies. Diagnostic criteria, according to Mc Elroy *et al.* [14], are the simultaneous presence of repetitive and impulsive buying behavior, euphoria or excitation before purchasing, post-purchase guilt, and negative consequences of buying. The South Oaks Gambling Screen (SOGS) was embedded in our questionnaire. This screen [15] is the most widely used measure of disordered gambling. The SOGS contains 20 items that assess lifetime gambling. Answers are scored 0 or 1 and scores range from 0 to 20.

Assessment of Nicotine and Alcohol Use and Dependence

Cigarette smoking was studied with the Fagerström questionnaire [16]. This test is designed to provide a measure of nicotine dependence related to cigarette smoking. It contains four yes-no and two multiple-choice questions. The average score in randomly selected smokers is approximately 4-4.5. In samples of cigarette smokers seeking treatment, mean scores are from 5.2 to 6.3. DSM-IV-TR criteria for nicotine dependence were also checked in all patients from the Nicotine+ and - groups.

All patients answered the Cut- Annoyed- Guilty- Eye Opener questionnaire (CAGE) [17]. Item responses of the CAGE are scored 0 or 1. A total score of 2 or more is considered clinically significant. In addition, the criteria of dependence and abuse to opiates, marijuana and stimulants were studied. The quantity of drinks taken within a 24 hour period during the last week was assessed with a specific Achour *et al.* questionnaire previously validated [18] — a drink being defined as the amount of alcohol (about 10 grams) found in 300 ml of beer, 100 ml of wine, or 25 ml of whisky. The number of days per week in which drinking occurred in the month before the interview was also quantified. We also assessed the number of acute alcohol intoxication occurring during the last month. We also assessed cannabis consumption with the same specific questionnaire [18] quantifying the number of joints smoked each day and the number of days of the week in which patients smoked cannabis. We finished this part of the assessment by checking the DSM-IV-TR criteria for alcohol, nicotine and cannabis abuse and dependence with a questionnaire specifically designed for the study.

Current Psychiatric State, Personality Disorders and Sensation Seeking

The psychiatric state of the patients was assessed with a structured psychiatric interview, the Mini International Neuropsychiatric Interview (MINI) [19]. Clinical domains investigated are depression, mania, anxious disorders, obsessive compulsive disorder, post-traumatic stress disorder, anorexia, bulimia alcohol and drug use disorders and schizophrenia. Diagnosis of antisocial, dependent, borderline, obsessive compulsive, histrionic, narcissistic and borderline personality was determined by using DSM-IV-TR criteria with a questionnaire specifically designed for the study. Finally, all patients filled in the Zuckerman Sensation-Seeking Scale (SSS) [12]. Since all of our patients were French-speaking, we used a French translation of the Sensation Seeking Scale [20]. This 72 item-scale gives five scores: F1: general factor, F2: thrill and adventure seeking, F3: experience-seeking, F4: disinhibition, and F5: boredom susceptibility. The French version has been previously validated [16].

Data Analysis: We compared patients presenting or not diagnostic criteria of ICD. Comparisons for continuous variables were made using unpaired two-tailed student t tests. For categorical data, differences in proportions were compared with the χ^2 -test. Statistical significance was determined at the 0.05 level of confidence.

RESULTS

Patients who agreed to participate did not differ significantly from those who refused to participate according to sex ratio and mean age. Frequencies of individual ICDs are presented in Table 1. Fifty-four patients (25%) displayed at least one ICD. Fifteen patients (7%) reported current symptoms of two ICDs. No patient displayed more than two ICDs. Compulsive buying was the most common current diagnosis of ICD. Patients were admitted to the psychiatric emergency ward for multiple reasons. Data related to motives of examination are illustrated in details in Table 2. Psychotic states, depressive states and suicide attempts were the most frequent

motives of referral to the emergency ward. These motives were not different between the ICD+ and ICD–group. ICD itself was not the reason for admission.

Table 1. Current Prevalence of Impulse Control Disorders Among 210 Patients Examined in a Psychiatric Emergency Ward

Impulse Control Disorder	N	%
Compulsive buying	41	19.5
Pathological gambling	13	6.2
Intermittent explosive disorder	11	5.2
Trichotillomania	2	1
Kleptomania	2	1
Compulsive sexual behavior	2	1
Pyromania	2	1

Study of socio-demographic characteristics (Table 2) revealed a difference between those patients showing criteria of ICD and those that didn't. Patients with ICD were significantly younger. Other characteristics were equivalent in the two groups.

Psychiatric comorbidity (see Table 2) was not different between patients from the ICD+ and the ICD– groups. Frequency of psychiatric disorders did not differ between the two groups. Antisocial personality was more frequent in the ICD+ group (9 vs 3.2%) and obsessive compulsive personality was less frequent in patients presenting ICD (0 vs 3.6%). These differences, however, were not statistically significant. Other personality disorders were as frequent in the two groups. Patients displaying ICD consumed equivalent amounts of alcohol and drank with the same frequency as the rest (Table 3). Nicotine and cannabis consumption were also comparable in the two groups.

Patients from the ICD+ group had higher scores with the SOGS scale assessing pathological gambling and with the Compulsive Buying Scale. They also had higher level of sensation-seeking assessed with the Zuckerman scale. Sub-scores of disinhibition, experience seeking and boredom susceptibility were significantly higher in the ICD+ group (see Table 4).

DISCUSSION

We found that 25% of patients examined in a psychiatric emergency ward displayed a concurrent ICD. To our knowledge, this is the first systematic study of all ICD in a sample of patients examined in a psychiatric emergency ward. The observed prevalence rate is consistent with findings from previous studies conducted in other populations. Grant *et al.* (2005) found 30.9% of ICD among psychiatric inpatients. In patients showing obsessive compulsive disorder, the rate of ICD was lower: 16.4% [1]. We previously found 37.9% of ICD in patients dependent on alcohol [10]. This study confirms that ICDs are also common among psychiatric patients examined in emergency for symptoms of depression, schizophrenia, anxiety disorders and alcohol use disorders. Prevalence estimates of ICDs did not differ for patients examined

Table 2. Characteristics of 210 Patients Examined in a Psychiatric Emergency Ward with or without a Diagnosis of Impulse Control Disorder

Characteristics	ICD+		ICD-		Statistics		
	N=54		N=156		t	df	p
	Mean	SD	Mean	SD			
Age (years)	37	10.4	41	12.4	-2.3	208	0.02
	N	%	N	%	Chi-square	df	p
<i>Gender</i>							
Women	20	37	54	34	0.1	1	0.74
Men	34	63	102	66			
<i>Education</i>							
Less than college	2	3.7	15	9.6	1.9	2	0.37
College graduate	41	76	108	69.2			
High school graduate	11	20.3	33	21.2			
<i>Work status</i>							
Student	6	11	11	7	2.7	3	0.4
Working	17	31.5	55	35			
Unemployed	30	55.5	80	51			
Retired	1	2	10	7			
<i>Family</i>							
Lives alone	30	55.5	73	46.8	0.9	1	0.3
Lives in family	24	44.5	83	53.2			
<i>Motive of examination</i>							
Anxiety	3	5.5	12	7.7	2.8	5	0.7
Depression	13	24.1	37	23.7			
Psychotic state	11	20.3	34	21.8			
Suicide attempt	11	20.3	19	12.2			
Withdrawal	3	5.5	14	9			
Other motives	13	24.1	40	25.6			
<i>Psychiatric diagnosis</i>							
Anxious disorders	4	7	7	4	2.4	4	0.6
Depression	21	39	52	33			
Mania	1	2	9	6			
Schizophrenia	19	35	58	38			
No diagnosis	9	16	30	19			
<i>Personality disorders</i>							
Antisocial personality	5	9	5	3.2	3.2	1	0.07
Borderline personality	5	9.2	9	5.7	0.7	1	0.37
Dependent personality	4	7.4	9	5.7	0.18	1	0.6
Histrionic personality	10	18	16	10	2.5	1	0.11
Narcissistic personality	0	0	3	2	1	1	0.3
Obsessive compulsive person	0	0	6	3.8	2.1	1	0.14
	Mean	SD	Mean	SD	t	df	p
Number of psychiatric hospitalization in the year	1.8	1.1	1.9	1.9	-0.46	208	0.64
Number of day of hospitalization in the year	27	49	21	38	0.86	208	0.38
Number of suicide attempts	1.6	2	1.3	2.9	0.7	208	0.48

Table 3. Alcohol, Nicotine and Cannabis Use Disorders, Gambling and Buying Characteristics and Level of Sensation Seeking Among 210 Patients Examined in a Psychiatric Emergency Ward with or without a Diagnosis of Impulse Control Disorder

Characteristics	ICD+ N=54		ICD- N=156		Statistics		
	Mean	SD	Mean	SD	t	df	p
<i>Alcohol consumption</i>							
Drinks/day	2.6	5.9	3.5	7.3	-0.8	208	0.41
Drinking days/week	1.7	2.9	2.2	3.1	-1	208	0.27
Acute alcohol intoxication/month	0.7	1.7	0.6	1.8	0.22	208	0.8
DETA score	1.3	1.4	1.3	1.6	0.29	208	0.77
<i>Nicotine consumption</i>							
Cigarettes/day	13.6	12.2	13.4	16.1	0.05	208	0.95
Day/week with cigarette	5.3	2.9	4.4	3.3	1.6	208	0.1
Fagerström score	5.4	3.5	4.8	3.6	1	208	0.3
<i>Cannabis</i>							
Joints/day	0.6	2.1	0.4	1.6	0.8	208	0.3
Days/week with cannabis	0.6	1.8	0.4	1.5	0.68	208	0.49
	N	%	N	%	Chi-square	df	p
Alcohol dependence	12	22	48	30	1.4	1	0.23

Table 4. Scores of the SOGS (Gambling), the Compulsive Buying and of the Zuckerman Scales of 210 Patients Examined in a Psychiatric Emergency Ward with or without a Diagnosis of Impulse Control Disorder

Characteristics	ICD+ N=81		ICD- N=129		Statistics		
	Mean	SD	Mean	SD	t	df	p
SOGS (gambling) score	2.5	3.4	0.6	1.2	6	208	<0.0001
Compulsive buying scale	8.9	4	3.7	2.6	10.6	208	<0.00001
<i>Zuckerman Scale scores</i>							
General factor	18.2	6.9	14.3	6.9	3.5	208	<0.0001
Disinhibition	3.9	2.1	3.2	2.2	1.9	208	0.05
Danger-adventure seeking	5.5	2.8	4.7	2.9	1.7	208	0.07
Experience seeking	4.8	2.4	4.1	2.1	2	208	0.04
Boredom susceptibility	3.9	2.1	2.3	1.7	5.4	208	<0.0001

for psychotic or depressive disorders suggesting that ICDs are common in most situations of psychiatric emergency. Diagnosis of bipolar disorder was not more frequent among patients with ICD. We did not confirm the previously suggested association between bipolar disorders and ICDs [21]. In our study, impulsive behavior did not correspond to a state of excitation induced by a manic state. Thus our findings suggest ICDs are not related to a specific psychiatric diagnosis.

Following Grant *et al.* [1], we included compulsive buying in the group of ICDs. The range of ICDs identified in our

study extends beyond those currently included in the DSM category. Compulsive buying is not included in the DSM-IV-TR diagnoses of ICD. Compulsive buying, however, was the most frequent ICD of our sample (19.5%). Our results corroborate Grant *et al.* suggestion to consider formal criteria for the compulsive buying disorder. Compulsive buyers feel, like gamblers or kleptomaniacs, increased sense of tension of arousal before their impulsive behavior. They experience pleasure, gratification or relief at the time of buying. Our study also confirms conclusions from previous studies suggesting that pyromania and kleptomania are rare [22-24].

No patient showing ICD was examined in the emergency ward for a motive directly related to this diagnosis. No patient carried an admission diagnosis for an ICD at his entry in the emergency ward. We thus confirm that ICDs are almost often unrecognized in the context of psychiatric emergency. Because ICDs appear common in patients examined in a psychiatric emergency ward, it seems important to screen them systematically.

Patients from the ICD group were younger. We also demonstrated an association between ICD and a higher level of sensation-seeking. The personality categories that we checked (antisocial, dependent, borderline, histrionic, narcissistic) were not overrepresented among patients with ICDs. Obsessive-compulsive personality was slightly less frequent in the ICD+ group (difference not statistically significant). This non-significant difference however suggests that this personality could be associated with a reduced risk of ICD [25, 26]. Whereas individuals with ICDs have high tendency of risk-taking, individuals with obsessive-compulsive disorder (OCD) or personality are generally risk-averse [27]. Grant *et al.* [28] also noted that kleptomania and pyromania were less frequent among patients presenting with OCD. Patients with OCD present specific forms of impulsive behaviors, more compulsive than impulsive: skin picking and nail biting. More studies on relations between personality disorder and ICD are clearly needed. They could identify general patterns of personality associated to ICD. Some personality traits appear more frequent: low directedness, higher harm avoidance and higher novelty seeking and sensation seeking [29]. Differential patterns of personality observed in ICD suggest that these disorders may emerge from multiple sources – one a more impulsively driven source marked by sensation seeking, novelty seeking and impulsivity (pyromania, intermittent explosive disorder, pathological gambling) and another more strongly associated with harm avoidance (compulsive buying). Both anxiety and impulsivity may contribute to the presence of ICD.

CONCLUSION

Our work shows that a significant proportion (25%) of patients examined in a French psychiatric emergency service show at least one diagnosis of ICD. ICD are commonly observed in psychiatric patients, whatever they are outpatients, hospitalized or examined in emergency. ICD complicate the clinical picture and the evolution of most psychiatric disorders [29]. They may indicate that patients present a higher level of anxiety or of impulsivity and are more prone to uncontrolled behavior. The most frequent form of ICD was compulsive buying and the major dimension of personality was a high level of sensation-seeking. Emergency units may give an opportunity for identifying ICDs among psychiatric patients and offering information and treatment. Recognition of ICDs and especially compulsive buying has an important clinical relevance [1]. Treating a psychiatric disorder alone may not be effective if a concurring ICD exists. Given that ICD are common yet understudied conditions [29], unrecognized and untreated ICD could compromised effective interventions in a psychiatric emergency ward. Additional research could try to evaluate effective treatments for psychiat-

ric patients with co-occurring ICDs and to standardize modes of recognition of these disorders in the context of psychiatric emergency.

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