Psychiatry Research 237 (2016) 1–8

Contents lists available at ScienceDirect

Psychiatry Research

journal homepage: www.elsevier.com/locate/psychres

Temperament and character dimensions in male patients with substance use disorders: Differences relating to psychiatric comorbidity

Julia E. Marquez-Arrico [a], Silvia López-Vera [a], Gemma Prat [a], Ana Adan [a,b,*]

[a] Department of Psychiatry and Clinical Psychobiology, School of Psychology, University of Barcelona, Barcelona, Spain
[b] Institute for Brain, Cognition and Behavior (IR3C), Barcelona, Spain

ARTICLE INFO

Article history:
Received 23 September 2015
Received in revised form
25 January 2016
Accepted 25 January 2016
Available online 28 January 2016

Keywords:
Dual diagnosis
Temperament
Character
Personality
Comorbid mental disorder
Substance use disorder

ABSTRACT

Previous research has not considered the influence of the Comorbid Mental Disorder (CMD) among Substance Use Disorders (SUD) patients. We explored the possible differences in personality dimensions among SUD patients taking into account their CMD (Schizophrenia, SZ; Bipolar Disorder, BD; Major Depressive Disorder, MDD); and elucidated clinical factors related to personality dimensions according to the CMD. The Temperament and Character Inventory Revised was used to assess a sample of 102 SUD male patients, considered in three groups according to their CMD: SUD+SZ ($N=37$), SUD+BD ($N=30$) and SUD+MDD ($N=35$). SUD+BD patients had the highest levels of Novelty Seeking and Persistence, SUD+SZ patients showed the highest levels of Harm Avoidance, and SUD+MDD patients reported a lower level of Self-transcendence. Novelty Seeking was positively associated with severity of addiction for SUD+BD; Harm Avoidance was positively associated with psychiatric symptoms for SUD+SZ; and the age of SUD onset was positively linked to Cooperativeness for SUD+BD and to Self-transcendence for SUD+MDD. The different personality characteristics associated to the type of CMD among SUD patients are related to several clinical variables. Interventions in these patients should be tailored according the personality traits that could influence treatment outcomes and patients' prognoses.

1. Introduction

The presence of a Substance Use Disorder (SUD) and a Comorbid Mental Disorder (CMD) in the same individual is called Dual Diagnosis (DD). Scientific interest in DD is based on observations made in clinical samples which found patients with both SUD and mental disorders to clinically be more severe and treatment resistant than patients with only one disorder (Margolese et al., 2004; Kessler, 2004). Previous studies have consistently found that SUDs and mental disorders are very likely to co-occur (Drake and Mueser, 2000; Buckley, 2005; Lechner et al., 2013). In population-based surveys the lifetime prevalence of DD has been found to be 18–50% with higher rates have been found in clinical samples (Weaver et al., 2003; Kessler, 2004; Bizzarri et al., 2009; Arias et al., 2012). For instance research on a clinical sample in Spain found prevalence rates of 43.9% for Schizophrenia (SZ) and Schizophreniform Disorder, 16.3% for Major Depressive Disorder (MDD), and 14.0% for Bipolar Disorder (BD) among patients with a SUD (Rodríguez-Jiménez, 2008).

DD is commonly linked to multiple clinical features that demand a multidisciplinary approach from the psychopathological, medical, and social perspectives. Studies have shown that compared to patients with single diagnosis, DD patients are prone to adverse clinical characteristics such as increased symptom severity (Aharonovich and Liu, 2002; Szerman et al., 2012), more relapses (Kessler, 2004; Olivares et al., 2013), poorer prognosis (Fenton et al., 2012), more hospitalisations (Curran et al., 2003; Baena and López, 2006), higher suicide rates and suicide attempts (Aharonovich and Liu, 2002; Szerman et al., 2012), and poor treatment adherence (Dixon, 1999; Bergman et al., 2014; Casadio et al., 2014). In addition, DD patients report poorer quality of life (Astals et al., 2008; Benaiges et al., 2012), are more likely to have cognitive impairments (Benaiges et al., 2013), be unemployed, homeless, or marginalised (Farris et al., 2003; Torrens et al., 2011), and present history of violence or criminal acts (Godley et al., 2000; Durcan and Wilson, 2009; Lukasiewicz et al., 2009). Despite data showing personality traits/dimensions to be important factors in both SUD

* Correspondence to: Department of Psychiatry and Clinical Psychobiology, School of Psychology, University of Barcelona, Passeig de la Vall d'Hebron, 171, 08035 Barcelona, Spain.
E-mail address: aadan@ub.edu (A. Adan).

http://dx.doi.org/10.1016/j.psychres.2016.01.061
0165-1781/

and DD conditions (Liraud and Verdoux, 2000; Ball, 2005; Zoccali et al., 2007; Kotov et al., 2010; Mandelli et al., 2012; Marquez-Arrico and Adan, 2013), little research has been conducted on this subject. To our knowledge, no previous research has explored possible personality differences among SUD patients considering their CMD. This data could potentially inform the development of treatment approaches and therapeutic tools for DD patients. The study of personality from a dimensional perspective provides information that facilitates a deeper understanding of several psychopathological conditions and may lead to better clinical care (Liraud and Verdoux, 2000; Ball, 2005; Kotov et al., 2010).

Taking into account the three most severe and prevalent CMDs in patients with a SUD (Schizophrenia, Bipolar Disorder and Major Depressive Disorder) (Ogloff et al., 2004; Rodríguez-Jiménez, 2008) some studies have assessed personality in DD *vs.* SUD only patients, or in DD *vs.* patients with one mental disorder. Such studies have found DD patients show higher levels of Sensation Seeking, Novelty Seeking, Impulsivity (Liraud and Verdoux, 2000; Dervaux et al., 2001, 2010b; Swann et al., 2004; Bizzarri et al., 2007, 2009; Kim et al., 2007; Zhornitsky et al., 2012), Harm Avoidance (Lukasiewicz et al., 2009; Mandelli et al., 2012) and Neuroticism (Reno, 2004; Boschloo et al., 2013); and lower levels of Persistence, Self-directedness, Self-transcendence and Cooperation (Reno, 2004; Lukasiewicz et al., 2009) compared to patients with single diagnosis. Thus, DD is associated with personality characteristics that suggest more disruptive behaviours, fewer resources for recovering and maintaining abstinence, and poorer prognosis (Marquez-Arrico and Adan, 2013).

Among SUD patients with SZ (SUD+SZ), high Novelty Seeking and Impulsivity are associated with alcohol and cannabis misuse (Kim et al., 2007; Dervaux et al., 2010a,2010b; Zhornitsky et al., 2012), while higher Harm Avoidance, lower Self-directedness and Cooperation are associated with suicidal behaviours and more severe symptomatology (Miralles et al., 2014). SUD patients with BD (SUD+BD) reported high scores on Novelty Seeking which is associated with poorer recuperation (Strakowski et al., 1993), and high scores on Harm Avoidance and Self-directedness are associated with poorer medium-term treatment outcomes and residual depressive symptoms (Loftus et al., 2008; Mandelli et al., 2012). Despite the high comorbidity between SUDs and MDD (SUD+MDD) (Swendsen and Merikangas, 2000; Leventhal et al., 2007), very few studies have explored personality dimensions in these patients. Previous research has shown that compared to those with single diagnosis, SUD+MDD show higher levels of Neuroticism (Boschloo et al., 2013), higher levels of Harm Avoidance and lower levels of Self-directedness, Self-transcendence and Cooperation which are related to greater dysphoria (Rosenström et al., 2014) and poorer emotional intelligence (Hansenne and Bianchi, 2009).

For all of these reasons, we established two aims for this study. First, to explore the possible differential profile in temperament and character dimensions in a sample of SUD patients considering their CMD (SUD+SZ, SUD+BD, SUD+MDD) and to compare such profiles with population norms. Second, to elucidate the SUD and psychiatric variables related to personality according to the CMD.

2. Materials and methods

2.1. Subjects

The sample consisted of 102 male patients with a SUD recruited from public and private SUD treatment centres in Barcelona, who were referred to our study by their treating psychiatrists and psychologists. Participants were divided into three groups based on their CMD: SUD+SZ ($N=37$), SUD+BD ($N=30$) and SUD+MDD ($N=35$). Participants providing informed consent and meeting the following criteria were included in the study: (1) current diagnosis of SUD in remission for at least three months but still receiving SUD treatment; (2) no SUD relapses for at least one month before their participation in the study; (3) male gender; (4) aged 18–55 years; and (5) current diagnosis of SZ, BD or MDD. The exclusion criteria were: (1) meeting DSM-IV-TR criteria for a current substance-induced psychiatric disorder or a psychiatric disorder due to a medical condition; (2) unstable or uncontrolled psychiatric symptomatology; and (3) inability to complete instruments.

Sociodemographic and clinical assessment of the participants was performed by a trained psychology postgraduate during two sessions. Participants self-completed the Temperament and Character Inventory alone or with the help of the psychologist if required due to literacy skills. This study was approved by the University of Barcelona meeting the ethical principles of the declaration of Helsinki. Participants were not compensated for their participation in the study.

2.2. Measures

2.2.1. Sociodemographic and clinical assessment

Current diagnosis of SUD and CMD was obtained by the treatment providers of each respective patient and confirmed using the Structural Clinical Interview for DMS-IV-TR Axis I Disorders (SCID-I) (First et al., 2002). Sociodemographic (e.g., age, marital status, social class, education, and economic status) and clinical variables (e.g., diagnosis, age of onset of the disorder and/or substance use relapses, abstinence period, type of drugs used, suicide attempts, presence of organic pathology and medication) were collected with the SCID-I and a clinical interview designed for our study.

Severity of the SUD was assessed using the Drug Abuse Screening Test (DAST-20) (Skinner, 1992) in its Spanish version as it has shown good psychometric properties (Gálvez and Fernández, 2010). Besides, we observed an adequate reliability for this scale in the present sample (Cronbach's $\alpha=0.817$). The DAST-20 provides a total score ranging from 0 to 20 (1–5 low; 6–10 intermediate; 11–15 substantial; 16–20 severe), with a higher score indicating higher severity and a more intensive recommended intervention. Psychotic symptomatology was measured in the SUD+SZ group using the Spanish version of the Positive and Negative Syndrome Scale (PANSS) which is one of the most reliable instruments (Peralta and Cuesta, 1994). The PANSS scale measures four areas related to different symptomatology: Positive Syndrome, Negative Syndrome, Composite Scale (PANSS C), and General Psychopathology (PANSS PG). The internal reliability (Cronbach's α) for the present sample was adequate being 0.835 for Positive Syndrome, 0.866 for Negative Syndrome, and 0.880 for General Psychopathology. We applied the Spanish version of the Young Mania Rating Scale (YMRS) (Young et al., 1978) for SUD+BD patients as it is one of the instruments most widely used to assess severity of manic symptoms (≤ 6 euthymic, 7–20 mixed episode and >20 maniac episode) and it showed an adequate reliability in the present sample (Cronbach's $\alpha=0.810$). The Spanish version of the Hamilton Depression Rating Scale (HDRS; 17 item) (Hamilton, 1960), which showed an adequate reliability in the present sample (Cronbach's $\alpha=0.840$),was used to measure depressive symptoms (0–7 no depression, 8–13 low, 14–18 mild, 19–22 severe, and >23 very severe) (Rush et al., 2008) for both SUD+BD and SUD+MDD patients.

2.2.2. Temperament and character assessment

The Temperament and Character Inventory Revised (TCI-R), which is based on Cloninger's psychobiological model of personality (Cloninger, 1999; Strakowski et al., 1993), and has proved to be sensitive to SUDs and DD personality characteristics. All participants completed the 240-item Spanish TCI-R (Cloninger, 1999)