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Suicidal ideation and attempts in patients who seek treatment for substance use disorder

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## **Abstract**

Patients with substance dependence have a great risk of suicidal ideation and attempts. The study of the specific risk characteristics of patients with substance use disorders who present with suicidal ideation and/or attempts becomes a crucial clinical issue in order to develop prevention strategies. The main goals of this study were to determine the prevalence rate of both suicidal ideation and attempts among patients receiving treatment for substance use disorder and to analyse the differential characteristics between these patients with and without suicidal behaviours. A sample of 334 patients (263 men-71 women) who sought treatment for substance use disorder in a Spanish clinical centre was assessed. In total, 43.7% of the patients presented with lifetime suicidal ideation (8.7% in the last month) and 17.7% with suicide attempts (1.5% in the last month). Patients with suicidal ideation or attempts showed a more severe addiction profile (assessed by the EuropASI), and more psychopathological symptoms (assessed by the SCL-90-R). Moreover the rate of suicidal ideation and attempts was significantly higher in inpatients than in outpatients. According to these results, systematic screening of suicidal risk in patients seeking treatment for substance use disorders is recommended, especially in those with a greater addiction severity.

**Keywords:** Substance use disorder; suicidal behaviours; assessment; prevalence; comorbidity.

## 1. Introduction

Suicidal behaviour is one of the most worrisome complications in clinical settings. Suicidal thoughts, planning, attempts and deaths by suicide represent a continuum of suicidal behaviour (Yuodelis-Flores and Ries, 2015). Although suicidal behaviour is mainly associated with mood disorders, it also occurs in other psychopathological conditions, such as psychotic, personality, or substance-related disorders (American Psychiatric Association, 2013; Oquendo and Baca-Garcia, 2014).

Regarding substance use disorders, recent studies indicate that patients with substance dependence have a great risk of suicidal ideation and attempts. High rates of suicide attempts have been consistently reported among patients with substance use disorders (Bakken and Vaglum, 2007; Carmel et al., 2016; Darke et al., 2012; Darvishi et al., 2015; Hung et al., 2013; Rodriguez-Cintas et al., 2018; Vaszari et al., 2011; Yuodelis-Flores and Ries, 2015). The rate of suicide attempts seems to be different depending on the type of substance involved. In the case of alcoholism, the rate of suicide attempts ranges from 16 to 29% (Hung et al., 2013; Pirkola et al., 2004). The rate found in patients with cocaine dependence ranges from 32 to 44% (Garlow et al., 2003; Roy, 2001, 2009; Roy and Janal, 2007; Vaszari et al., 2011). Other addictive behaviours studied include opiate dependence (Darke et al., 2015; Roy, 2002, 2010), with a rate ranging from 39.3 to 42.7%, and gambling addiction (Moghaddam et al., 2015; Petry and Kiluk, 2002), with a rate of approximately 18%.

Beyond suicide attempts, it is relevant to determine the rate of suicidal ideation, regardless of whether suicide has been attempted or not. Although most patients who think about killing themselves do not ultimately attempt suicide, identifying those at risk for such thought is clinically important (Hallgren et al., 2017) because these

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thoughts are often the only warning that is given before a fatal attempt is made (Vaszari et al., 2011).

Studies conducted with the aim of establishing a rate of suicidal ideation show alarming data. Specifically, between 17% and 50% of patients with substance use disorders present with suicidal ideation, with a wide variability depending on the specific type of addiction involved (Arribas-Ibar et al., 2017; Cottler et al., 2005; Darvishi et al., 2015; Garlow et al., 2003; Moghaddam et al., 2015; Petry and Kiluk, 2002; Vaszari et al., 2011).

Furthermore, the characteristics of patients with drug use disorder who present with suicidal ideation and/or attempts have been little studied. Data found to date show some differential characteristics. Patients with drug use problems who make suicide attempts are more frequently women (Ashrafioun et al., 2016; Darke et al., 2010; Fernández-Montalvo et al., 2014; Roy, 2003a, 2009, 2010; Roy and Janal, 2007); have a family history of suicide (Roy, 2009, 2010; Roy and Janal, 2007); report adverse childhood experiences (Fernández-Montalvo et al., 2015; Hung et al., 2013; Roy, 2010; Roy and Janal, 2007; Vaszari et al., 2011); show specific personality traits related to introversion, neuroticism and hostility (Roy, 2001, 2003a); and present a high comorbidity rate with other mental conditions (Carra et al., 2014; Petry and Kiluk, 2002; Vaszari et al., 2011). Moreover, from the perspective of substance use disorders treatment, a recent study has shown that women with both substance use disorders and suicidal ideation or attempts show worse therapeutic progression, with higher rates of treatment dropouts (Fernández-Montalvo et al., 2017).

From a prevention perspective, some of the factors associated with suicide attempts can be considered as distal (e.g., family history of suicide, childhood trauma or

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specific personality traits), and they could increase the risk of suicidal behaviour when patients experience a proximal factor or trigger (e.g., drug consumption, stressful life events, or the development of some psychopathological comorbidities) (Roy, 2003b; Roy and Janal, 2007; Yuodelis-Flores and Ries, 2015). Individuals with suicidal behaviours seem to differ from individuals without them primarily in distal risk factors. Thus, the study of the specific risk characteristics of patients with substance use disorders who present with suicidal ideation and/or attempts becomes a key public health goal in order to develop prevention strategies.

Most of the previous studies have focused either on suicidal ideation or on suicide attempts using different samples. This study analyses both phenomena in the same sample, taking into account the treatment setting (inpatient versus outpatient). Therefore, the main goals of this study were to determine the prevalence rate of both suicidal ideation and attempts among patients receiving treatment for substance use disorder and to analyse the differential characteristics between patients with and without suicidal ideation, and between patients with and without suicide attempts. Based on the literature, the main hypotheses of this study were that the rate of suicidal ideation and attempts will be high in these types of patients. In addition, patients showing suicide related behaviours will present with a more severe addiction profile, as well as more associated psychopathological symptoms compared to those without suicide related problems.

## **2. Methods**

The protocol for this study was approved by the ethics committees of the Universidad Pública de Navarra (PI-006/16) and of the Fundación Proyecto Hombre de Navarra (PHN2016-01). Informed consent was written and signed by all participants.

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## 2.1. Participants

The initial sample consisted of 375 consecutive patients who sought treatment for substance use disorder in one of the two programmes (outpatient and inpatient) of the Fundación Proyecto Hombre Navarra (Spain) from January 2014 to July 2016. These programmes have a cognitive behavioural basis and are geared towards abstinence. They are public and attend to patients who are representative of Spanish patients with substance use disorders. Both outpatient and inpatient modalities have been effective in the treatment of substance use disorders (Fernández-Montalvo and López-Goñi, 2010; Fernández-Montalvo et al., 2008). Every single new patient who consecutively sought treatment in the clinical centre during the selected period was considered for study inclusion, independent of the setting assigned by the therapeutic team (inpatient or outpatient).

The admission criteria for this study were: a) to meet the diagnostic criteria of alcohol and/or substance dependence according to the DSM-IV-TR (American Psychiatric Association, 2000), assessed by a clinical interview; b) to be between 18 and 65 years old; c) to give their informed consent to participate in the study; and d) to complete the two assessment sessions.

Forty-one (10.9%) of the 375 initial subjects did not meet the criteria mentioned above: 30 cases (8%) dropped out before completing the two assessment sessions and 11 (2.9%) did not give their informed consent. Therefore, the final sample was composed of 334 subjects. The mean age of the individuals included in the study was 37.3 years (SD = 9.2); the sample included 263 (78.7%) men and 71 (21.3%) women. The socioeconomic level of individuals in the sample was middle to lower-middle class. The main substances that motivated treatment were cocaine (48.8% of the sample) and

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alcohol (42.8% of the sample), followed by other substances (e.g., heroin, cannabis, amphetamine, etc.) in a smaller percentage (8.4% of the sample).

## 2.2. Instruments

The EuropASI (Kokkevi and Hartgers, 1995) is the European version of the Addiction Severity Index scale (ASI) (McLellan et al., 1980). The Spanish version used is by Bobes, González, Sáiz, and Bousoño (1996). This interview assesses the need for patient treatment based on seven different areas: a) general medical condition; b) employment and financial situation; c) alcohol consumption; d) use of other drugs; e) legal problems; f) family and social relationships; and g) psychiatric state. The Interviewer Severity Ratings (ISR), which have proven good predictive validity in different studies conducted in the treatment context (López-Goñi et al., 2012; López-Goñi et al., 2010), were used. The ISR are calculated based on a series of critical items in each of the areas so as to consider the patient's own self-evaluation and the interviewer's judgment. The score for each area ranges from 0 (no problem) to 9 (extreme problem). The higher the score, the greater the need for treatment, as a measure of the addiction severity. Moreover, three specific items of the EuropASI (18A, 18B and 18C, family and social relationships area) were used to assess the history of any type of lifetime psychological, physical and/or sexual abuse. The short-term test-retest reliabilities of the ASI severity ratings have been reported to be greater than or equal to .92 for all domains. Cronbach's alpha for the current sample was .755.

The Symptom Checklist-90-Revised (SCL-90-R) (Derogatis, 1992) (Spanish version by González de Rivera, 2002) is a self-administered general psychopathological assessment questionnaire. It consists of 90 questions that are answered on a 5-point Likert-type scale, ranging from 0 (none) to 4 (very much). The questionnaire aims to

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assess the respondent's psychiatric symptoms. The SCL-90-R has been shown to be sensitive to therapeutic change and thus may be used for either single or repeated assessments. The SCL-90-R measures nine areas of primary symptoms: somatisation, obsession-compulsion, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation and psychoticism. It also provides three indices that reflect the subject's overall level of severity: Global Severity Index (GSI), Positive Symptoms Distress Index (PSDI) and Positive Symptom Total (PST). In this study, the percentiles of each dimension were used. The internal consistency ranges from .70 to .90. Cronbach's alpha for the current sample was .916.

### **2.3. Procedure**

Once the clinical sample was selected using the criteria described above, the assessment of the sample was carried out in two sessions before beginning the treatment for substance use disorder. All patients were face-to-face interviewed by clinical psychologists who had ten or more years of experience in assessing and treating substance use disorders. Self-report measure (SCL-90-R) was administered with the presence and support of the interviewers. Each session occurred once a week. In the first session, data related to socio-demographic characteristics, drug consumption, and suicidal thoughts and attempts were collected using the EuropASI. In the second session, the presence of psychopathological symptoms was assessed using the SCL-90-R.

For the assessment of the global prevalence of both suicidal ideation and attempts, two specific items of the EuropASI Psychiatric area were used: 9 ("*Did you experience severe suicidal ideation?*") and 10 ("*Did you make suicide attempts? How many times did you try to commit suicide?*"). According to the EuropASI codification

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(Bobes et al., 1996), these items assess the occurrence of both phenomena over lifetime and the last 30 days.

## **2.4. Data analysis**

Descriptive analyses were performed for all variables. In the bivariate analysis between patients with and without a history of suicidal ideation and attempts,  $\chi^2$  or the Student's *t* test for independent samples were used, depending on the nature of the variables analysed. When the expected values in any of the cells of the contingency table were below 5, Fisher's exact test was conducted. Odds ratio for suicide attempts depending on gender was calculated. Effect sizes (Cohen's *d* or *w*) and statistical power ( $\alpha = 0.05$ ) for the analyses were provided, taking into account Cohen's recommendation:  $d = 0.20$  (small effect size),  $d = 0.50$  (medium effect size), and  $d = 0.80$  (large effect size). Two logistic regression analyses (forward method) were conducted to determine which specific factors were most important for differentiating between the groups studied. A difference of  $p < .05$  was considered significant. All statistical analyses were performed using SPSS (vs. 15.0) software.

## **3. Results**

### **3.1. Prevalence of suicidal ideation and attempts**

The rate of lifetime suicidal ideation in the patients of the sample was 43.7% ( $n = 146$ ), and in the last 30 days 8.7% ( $n = 29$ ), without statistically significant differences between males and females (Table 1). Regarding suicide attempts, the lifetime rate reached 17.7% ( $n = 59$ ), with a significantly higher rate in women than men, and in the last 30 days 1.5% ( $n = 5$ ). In the case of patients with lifetime suicide attempts, 94.9% ( $n = 56$ ) presented with lifetime suicidal ideation. In those patients who had attempted suicide, 55.7% ( $n = 29$ ) had tried it more than once, with more women (72.2%;  $n = 13$ )

than men (47.1%;  $n = 16$ ) presenting more than one attempt. Specifically, the odds ratio in women compared to men was 2.04 (95% CI = 1.09–3.08). On the other hand, regarding the treatment setting, statistically significant differences between inpatients and outpatients were found, with a higher rate of lifetime suicidal ideation and attempts in inpatients.

*PLACE TABLE 1 HERE*

### **3.2. Comparison between patients with and without lifetime suicidal ideation**

The results of comparisons between patients with and without lifetime suicidal thoughts are shown in Table 2.

*PLACE TABLE 2 HERE*

Statistically significant differences between both groups were found. First, patients with lifetime suicidal ideation presented with a higher rate of lifetime psychological, physical and/or sexual abuse. Second, regarding drug consumption, patients with lifetime suicidal ideation were younger when they began to consume alcohol, and they presented a more severe substance use profile, with significant differences in 5 out of the 7 areas assessed by the EuropASI: Medical, Employment/Support, Alcohol, Family/Social, and Psychiatric. Finally, from a psychopathological perspective, patients with lifetime suicidal thoughts scored significantly higher in all the dimensions assessed by the SCL-90-R.

### **3.3. Comparison between patients with and without lifetime suicide attempts**

The results of comparisons between patients with and without lifetime suicide attempts are shown in Table 3.

*PLACE TABLE 3 HERE*

Statistically significant differences between both groups were found. Specifically, the group of patients with lifetime suicide attempts showed a higher proportion of women, as well as a higher rate of lifetime psychological, physical and/or sexual abuse, than the group without lifetime suicide attempts. Regarding drug use, patients with lifetime suicide attempts showed a significantly higher rate of overdoses (related to heroin, cocaine or synthetic drugs, independently of the primary consumption substance that motivated treatment) and a lower age of first cocaine consumption. Moreover, they presented a more severe substance use profile, with significant differences in 5 out of the 7 areas assessed by the EuropASI: Medical, Employment/Support, Alcohol, Family/Social, and Psychiatric. Finally, patients with lifetime suicide attempts showed significantly more psychopathological symptoms according to the SCL-90-R.

### **3.4. Variables associated with lifetime suicidal ideation and attempts**

The logistic regression analysis showed that the three variables that best differentiated individuals belonging to the group with lifetime suicidal ideation were high scores in the Positive Symptoms Distress Index of the SCL-90-R, and in medical and psychiatric scales of the EuropASI (Table 4).

*PLACE TABLE 4 HERE*

Regarding lifetime suicide attempts, three variables remained significantly associated: high scores in anxiety of the SCL-90-R, psychiatry scale of the EuropASI, and the presence of overdose episodes.

## **4. Discussion**

In this study, the prevalence rates of suicidal ideation and attempts in patients seeking treatment for drug use disorders were explored. The results showed high

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prevalence rates of both ideation and attempts. In particular, 43.7% of the patients in the current sample presented with lifetime suicidal ideation and 8.7% had thought of suicide in the last 30 days. As far as suicide attempts are concerned, the lifetime rate obtained was 17.7%, and the rate for the last thirty days was 1.5%. Consequently, the initial hypothesis was confirmed.

These data confirm previous results found in other specific studies with patients who present with a substance use disorder (Arribas-Ibar et al., 2017; Darke et al., 2012; Darvishi et al., 2015; Hung et al., 2013; Vaszari et al., 2011; Yuodelis-Flores and Ries, 2015). However, although previous research has found a higher rate of suicide attempts in patients with cocaine use disorder (Garlow et al., 2003; Roy, 2001, 2009; Vaszari et al., 2011) than in patients with alcohol use disorder (Hung et al., 2013; Pirkola et al., 2004; Roy and Janal, 2007), in this study the highest rate of both attempts and ideation was found in those with alcohol use disorder. Beyond these heterogeneous data, the results obtained in this study are worrying and indicate the need to assess for suicidal behaviours when evaluating patients in clinical settings for substance use disorders, mainly in those receiving treatment in an inpatient basis. The results of this study showed a higher prevalence of suicidal behaviours in inpatients than in outpatients, which is probably related to the assignment criteria used to treat substance use disorders. Usually, patients characterized by a greater severity tend to be treated in inpatient programmes (López-Goñi et al., 2017).

One relevant strength of this study is that not only has a behavioural aspect of suicide (suicide attempts) been studied but also a cognitive perspective (suicidal ideation) has been taken into account. This study provides specific information about the differential characteristics of patients with and without suicidal ideation, as well as

of patients with and without suicide attempts, in addiction treatment centres. Previous research has shown that many patients present with suicidal ideation or have even planned suicide but ultimately do not attempt it (Vaszari et al., 2011). Identifying those at risk for such thoughts becomes necessary from a clinical perspective in order to implement preventive interventions.

In this study, one relevant difference between patients with and without suicidal ideation and/or attempts is the rate of lifetime psychological, physical and/or sexual abuse, which is significantly higher in patients with suicidal related behaviours. These results support previous literature that has also shown that traumatic experiences (e.g., sexual assault, physical abuse and/or childhood abuse) are directly associated with an increased risk of suicidal ideation and attempts (Arribas-Ibar et al., 2017; Fernández-Montalvo et al., in press; Hung et al., 2013; Roy and Janal, 2007; Vaszari et al., 2011; Yuodelis-Flores and Ries, 2015). The Interpersonal Theory of Suicide as developed by Joiner (2007) represents a significant effort to explain this relationship between childhood abuse and suicidal ideation and attempts. However, no conclusive explanations have been obtained up to date; consequently, more studies in this field should be developed. Actually, in this study, logistic regression analyses have not included lifetime psychological, physical and/or sexual abuse as a predictive variable of suicidal ideation or attempt.

On the other hand, as shown in other studies (Carra et al., 2014; Darke et al., 2010; Roy, 2001, 2003a), patients with suicidal ideation and/or attempts present with more severe substance use disorder and more psychopathological comorbidity. Although this cross-sectional study does not allow for establishing causal relationships, the results obtained show the link between addiction severity, psychopathological

symptoms and suicidal ideation and/or attempts. Moreover, logistic regression analyses included some psychopathological variables, as well as overdose episodes, as significantly associated with suicidal behaviour. This same link has been previously highlighted by other studies (Yuodelis-Flores and Ries, 2015). Actually, some authors have highlighted that suicides and life-threatening overdoses often share many antecedent characteristics in terms of emotional, behavioural, familial, and social disruptions (Rockett et al., 2016).

This research study presents some limitations. First, this cross-sectional study covers a specific sample of patients who are seeking treatment in one specific intervention programme in Spain. It would be beneficial to study broader samples that are representative of other types of treatment programmes. Second, due to their descriptive nature, our results do not allow us to analyse causal relationships between the studied variables. It is necessary to develop longitudinal studies that reveal the causal relationships between suicidal behaviours and drug use problems. This would make it possible to establish preventive guidelines aimed at developing protective factors and at limiting risk factors for suicide. Third, because few women were included in the sample, more studies considering gender issues are needed. It is true that almost all studies about drug dependence include largely male samples, but this should nevertheless be taken into account when generalising the obtained results. Therefore, future studies should include a larger number of women, as some previous studies have established a link between suicidal ideation, addiction therapeutic progression and being a woman (Fernández-Montalvo et al., 2017).

In conclusion, the main contribution of this study is the provision of new data on the relationship between substance use disorder and suicidal ideation and attempts in a

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clinical setting. The results highlight the need to establish a systematic screening of suicidal risk when assessing patients in addiction clinical settings, mainly in those receiving treatment in an inpatient basis. In this sense, the use of accurate instruments, such as the Columbia Suicide Severity Rating Scale (Posner et al., 2011) seems compulsory, as well as the development of specific suicide preventive protocols in substance use disorders programmes. According to the results obtained in this study, clinicians should be especially sensitive about assessing suicidal behaviour in those patients with medical problems and psychopathological symptoms associated with their substance use disorder, and having experienced overdoses.

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Table 1

*Rate of suicidal ideation and attempts*

	Total (N = 334)		Males (n = 263)		Females (n = 71)		$\chi^2$ (df)	p	Inpatient (n = 43)		Outpatient (n = 291)		$\chi^2$ (df)	p
	N	(%)	n	(%)	n	(%)			n	(%)	n	(%)		
Lifetime suicidal ideation	146	(43.7%)	108	(41.1%)	38	(53.5%)	3.5 (1)	.060	31	(72.1%)	115	(39.5%)	16.2 (1)	< .001
Suicidal ideation in the last 30 days	29	(8.7%)	20	(7.6%)	9	(12.7%)	1.8 (1)	.181	3	(7.1%)	26	(8.9%)	0.1 (1)	.700
Lifetime suicide attempts	59	(17.7%)	40	(15.2%)	19	(26.8%)	5.1 (1)	.024	16	(37.2%)	43	(14.8%)	13.0 (1)	< .001
Suicide attempts in the last 30 days	5	(1.5%)	3	(1.2%)	2	(2.9%)	1.0 (1)	.291	0 --		5	(1.8%)	n.a.	
Number of suicide attempts														
1	23	(6.9%)	18	(6.8%)	5	(7.1%)			4	(9.3%)	19	(6.6%)		
2	11	(3.3%)	6	(2.3%)	5	(7.1%)	26.1 (4)	< .001	2	(4.7%)	9	(3.1%)	12.8 (3)	.005
≥ 3	18	(5.4%)	10	(3.8%)	8	(11.3%)			7	(16.3%)	11	(3.8%)		

n.a.: not applicable

Table 2  
Comparisons between patients who did and did not experience lifetime suicidal ideation

	All (N = 334)	No suicidal ideation (n = 188)	Suicidal ideation (n = 146)	$\chi^2$ (df) p	W	(1 - $\beta$ err. Prob.)
<b>Gender</b>	N (%)	N (%)	N (%)			
Male	263 (78.7%)	155 (82.4%)	108 (74.0%)	3.5 (1) .060	0.09	0.23
Female	71 (21.3%)	33 (17.6%)	38 (26.0%)			
<b>Marital status</b>						
Single	174 (52.1%)	93 (49.5%)	81 (55.5%)			
Married	94 (28.1%)	60 (31.9%)	34 (23.3%)	3.0 (2) .220	0.23	0.09
Other	66 (19.8%)	35 (18.6%)	31 (21.2%)			
<b>Primary substance</b>						
Alcohol	143 (42.8%)	72 (38.3%)	71 (48.6%)			
Cocaine	163 (48.8%)	100 (53.2%)	63 (43.2%)	3.8 (2) .153	0.11	0.30
Other	28 (8.4%)	16 (8.5%)	12 (8.2%)			
<b>Overdoses</b>	42 (12.6%)	18 (9.6%)	24 (16.4%)	3.6 (1) .056	0.12	0.38
<b>Lifetime Abuse*</b>	165 (49.7%)	75 (40.1%)	90 (62.1%)	15.8 (1) <.001	0.22	0.91
	M (SD)	M (SD)	M (SD)	t (df) p	d	(1 - $\beta$ err. Prob.)
Age	37.29 (9.16)	37.01 (9.61)	37.67 (8.54)	0.6 (330) .514	0.08	0.16
Age at first alcohol consumption	17.44 (4.66)	18.04 (4.94)	16.72 (4.20)	2.4 (284) .017	0.29	0.83
Years of alcohol consumption	16.34 (10.36)	15.50 (10.54)	17.33 (10.09)	1.5 (278) .142	0.18	0.48
Age at first cocaine consumption	23.55 (6.65)	24.19 (6.76)	22.76 (6.46)	1.6 (217) .112	0.22	0.62
Years of cocaine consumption	7.14 (8.04)	6.39 (9.29)	8.08 (6.07)	1.5 (213) .124	0.21	0.62
<b>EuropASI ISR</b>						
Medical	2.22 (1.57)	1.86 (1.40)	2.69 (1.66)	4.8 (281.7) <.001	0.53	0.99
Employment/Support	2.67 (1.82)	2.37 (1.69)	3.05 (1.90)	3.4 (292.6) .001	0.37	0.96
Alcohol	3.96 (2.05)	3.74 (1.99)	4.25 (2.09)	2.3 (331) .024	0.25	0.73
Drug	3.62 (2.12)	3.44 (1.98)	3.86 (2.28)	1.8 (285.9) .076	0.20	0.55
Legal	1.91 (1.59)	1.82 (1.41)	2.01 (1.80)	1.0 (268.2) .297	0.12	0.28
Family/Social	3.86 (1.80)	3.35 (1.66)	4.52 (1.78)	6.2 (331) <.001	0.65	0.99
Psychiatric	3.49 (1.78)	2.85 (1.68)	4.33 (1.56)	8.3 (332) <.001	0.83	1.0
<b>SCL-90-R</b>						
Global Severity Index	65.53 (32.93)	59.94 (32.76)	72.73 (31.83)	3.6 (332) <.001	0.39	0.97
Positive Symptom Distress Index	47.12 (31.26)	40.48 (28.66)	55.66 (32.48)	4.5 (290.9) <.001	0.49	0.99
Positive Symptom Total	70.02 (31.21)	65.21 (31.76)	76.22 (29.44)	3.2 (332) .001	0.35	0.95
Somatisation	59.32 (32.04)	54.86 (31.97)	65.07 (31.30)	2.9 (332) .004	0.32	0.90
Obsession-compulsion	62.11 (32.89)	57.77 (32.56)	67.71 (32.56)	2.8 (332) .006	0.30	0.88
Interpersonal sensitivity	63.83 (33.00)	59.01 (32.50)	70.05 (32.71)	3.1 (332) .002	0.33	0.92
Depression	61.68 (32.80)	55.78 (32.00)	69.28 (32.36)	3.8 (332) <.001	0.41	0.98
Anxiety	59.05 (33.66)	52.16 (32.98)	67.92 (32.54)	4.4 (332) <.001	0.47	0.99
Hostility	52.85 (33.07)	49.59 (32.98)	57.05 (32.82)	2.1 (332) .041	0.23	0.66
Phobic anxiety	51.86 (37.43)	45.71 (36.18)	59.77 (37.74)	3.5 (332) .001	0.38	0.96
Paranoid ideation	62.90 (33.03)	59.58 (32.99)	67.16 (32.71)	2.1 (332) .037	0.23	0.67
Psychoticism	68.51 (32.33)	63.65 (32.88)	74.77 (30.58)	3.2 (332) .002	0.34	0.93

Note. ISR = Interviewer Severity Rating; SCL-90-R = Symptom Checklist; \*Lifetime abuse: psychological, physical and/or sexual abuse

Table 3

Comparisons between patients who did and did not attempt lifetime suicide

	All (N = 334)	No suicide attempts (n = 275)	Suicide attempts (n = 59)	$\chi^2$ (df) p	W	(1 - $\beta$ err. Prob.)
<b>Gender</b>	N (%)	N (%)	N (%)			
Male	263 (78.7%)	223 (81.1%)	40 (67.8%)	5.1 (1) .024	0.12	0.35
Female	71 (21.3%)	52 (18.9%)	19 (32.2%)			
<b>Marital status</b>						
Single	174 (52.1%)	139 (50.5%)	35 (59.3%)			
Married	94 (28.1%)	84 (30.5%)	10 (16.9%)	4.5 (2) .106	0.13	0.39
Other	66 (19.8%)	52 (18.9%)	14 (23.7%)			
<b>Primary substance</b>						
Alcohol	143 (42.8%)	111 (40.4%)	32 (54.2%)			
Cocaine	163 (48.8%)	138 (50.2%)	25 (42.4%)	4.9 (2) .085	0.11	0.30
Other	28 (8.4%)	26 (9.5%)	2 (3.4%)			
<b>Overdoses</b>	42 (12.6%)	27 (9.8%)	15 (25.4%)	11.0 (1) .001	0.15	0.54
<b>Lifetime Abuse*</b>	165 (49.7%)	126 (46.2%)	39 (66.1%)	7.7 (1) .005	0.23	0.87
	M (SD)	M (SD)	M (SD)	t (df) p	d	(1 - $\beta$ err. Prob.)
Age	37.29 (9.16)	37.14 (9.13)	37.99 (9.31)	0.7 (330) .517	0.09	0.16
Age at first alcohol consumption	17.44 (4.66)	17.60 (4.61)	16.73 (4.86)	1.2 (284) .225	0.18	0.36
Years of alcohol consumption	16.34 (10.36)	16.01 (10.41)	17.86 (10.08)	1.1 (278) .258	0.18	0.34
Age at first cocaine consumption	23.55 (6.65)	23.98 (6.56)	21.54 (6.65)	2.1 (217) .037	0.37	0.82
Years of cocaine consumption	7.14 (8.04)	6.79 (8.20)	8.82 (7.11)	1.4 (213) .158	0.26	0.58
<b>EuropASI ISR</b>						
Medical	2.22 (1.57)	2.09 (1.49)	2.86 (1.77)	3.5 (332) .001	0.49	0.95
Employment/Support	2.67 (1.82)	2.48 (1.72)	3.53 (2.01)	4.1 (332) < .001	0.58	0.99
Alcohol	3.96 (2.05)	3.79 (2.01)	4.75 (2.07)	3.3 (331) .001	0.47	0.95
Drug	3.62 (2.12)	3.53 (2.02)	4.07 (2.53)	1.8 (330) .078	0.25	0.50
Legal	1.91 (1.59)	1.84 (1.41)	2.22 (2.24)	1.2 (68.2) .216	0.24	0.41
Family/Social	3.86 (1.80)	3.61 (1.71)	5.02 (1.80)	5.5 (331) < .001	0.78	0.99
Psychiatric	3.49 (1.78)	3.13 (1.61)	5.17 (1.59)	8.8 (332) < .001	1.15	1.0
<b>SCL-90-R</b>						
Global Severity Index	65.53 (32.93)	63.28 (33.04)	76.03 (30.54)	2.7 (89.6) .005	0.39	0.87
Positive Symptom Distress Index	47.12 (31.26)	44.97 (30.70)	57.15 (32.16)	2.7 (332) .006	0.39	0.85
Positive Symptom Total	70.02 (31.21)	67.82 (31.60)	80.29 (27.26)	3.1 (94.6) .003	0.40	0.90
Somatisation	59.32 (32.04)	58.77 (31.78)	61.90 (33.36)	0.7 (332) .497	0.10	0.16
Obsession-compulsion	62.11 (32.89)	59.87 (33.09)	72.58 (30.04)	2.7 (332) .007	0.39	0.87
Interpersonal sensitivity	63.83 (33.00)	61.87 (32.7)	72.98 (33.09)	2.4 (332) .019	0.34	0.76
Depression	61.68 (32.80)	59.00 (32.48)	74.19 (31.64)	3.3 (332) .001	0.46	0.95
Anxiety	59.05 (33.66)	56.04 (33.66)	73.08 (30.19)	3.8 (91.7) < .001	0.51	0.98
Hostility	52.85 (33.07)	52.13 (33.17)	56.19 (32.66)	0.8 (332) .394	0.12	0.21
Phobic anxiety	51.86 (37.43)	48.62 (37.08)	63.93 (35.58)	3.5 (332) .001	0.41	0.90
Paranoid ideation	62.90 (33.03)	62.23 (32.28)	66.00 (36.50)	0.8 (332) .427	0.11	0.19
Psychoticism	68.51 (32.33)	66.45 (32.77)	78.12 (28.50)	2.8 (93.9) .007	0.36	0.84

Note. ISR = Interviewer Severity Rating; SCL-90-R = Symptom Checklist; \*Lifetime abuse: psychological, physical and/or sexual abuse

López-Goñi, J.J., Fernández-Montalvo, J., Arteaga, A. y Haro, B. (2018). Suicidal ideation and attempts in patients who seek treatment for substance use disorder. *Psychiatry Research*, 269, 542-548. <https://doi.org/10.1016/j.psychres.2018.08.100>

Table 4

*Variables associated with suicidal ideation and attempts (logistic regression analyses)\**

<b>Dependent variable = Suicidal ideation; 0 = Absence; 1 = Presence</b>			
	<b>Variables</b>	<b>Odds Ratio</b>	<b>95% Confidence Interval</b>
	PSDI (SCL-90-R)	1.016 ( $p < .001$ )	(1.007 – 1.025)
	Medical (EuropASI)	1.220 ( $p = .031$ )	(1.019 – 1.461)
	Psychiatric (EuropASI)	1.765 ( $p < .001$ )	(1.470 – 2.118)
	Constant	0.032 ( $p < .001$ )	
Adjusted R <sup>2</sup>	.339		
Correctly classified	72.2% (Total)	78.1% (Absence suicidal ideation)	65.1% (Presence suicidal ideation)
<b>Dependent variable = Suicide attempt; 0 = Absence; 1 = Presence</b>			
	<b>Variables</b>	<b>Odds Ratio</b>	<b>95% Confidence Interval</b>
	Anxiety (SCL-90-R)	1.012 ( $p = .029$ )	(1.001 – 1.022)
	Psychiatric (EuropASI)	1.986 ( $p < .001$ )	(1.612 – 2.446)
	Overdoses	2.048 ( $p = .024$ )	(1.011 – 4.580)
	Constant	0.005 ( $p < .001$ )	
Adjusted R <sup>2</sup>	.330		
Correctly classified	83.5% (Total)	96.3% (Absence suicide attempt)	24.1% (Presence suicide attempt)

\* All the statistically significant variables (sociodemographic, consumption and psychopathological) in bivariate comparisons were included in the models

*Note.* PSDI = Positive Symptom Distress Index; SCL-90-R = Symptom Checklist;