

Substance-Related and Addictive Disorders: Suicide Risk Assessment

Marco Silenzi*

Department of Human Sciences and Promotion of the Quality of Life, San Raffaele Roma Open University, Rome, Italy

***Corresponding Author:** Marco Silenzi, Department of Human Sciences and Promotion of the Quality of Life, San Raffaele Roma Open University, Rome, Italy, Tel.: +39.3409914404, E-mail: marco.silenzi@uniroma5.it

Citation: Marco Silenzi (2024) Substance-Related and Addictive Disorders: Suicide Risk Assessment, J Addict Res Treat 3(1):102

Received Date: December 12, 2023 **Accepted Date:** January 12, 2024 **Published Date:** January 16, 2024

Abstract

With the publication of the DSM-5 manual, gambling is placed in the category of "behavioral addictions" and renamed Gambling Disorder, along with substance addictions, in the substance and addictive disorders category. A change is made, compared to the DSM-IV that we could consider fundamental that is the shift of gambling from the impulse control chapter to the addiction chapter, in line with scientific research in recent years that has placed gambling closer to the addictive disorder.

The hypothesis of this paper is to test whether between the relevancies and risk factors involved in substance use disorders and addiction disorders, of which gambling disorder is currently the only categorized disorder, there may be an analogy for what concerns suicide risk.

Keywords: Gambling Disorder; Addictions; Suicide Risk

List of Abbreviations: SD: Standard Deviation; BHS: Beck Hopelessness Scale; GMDS: Gotland Scale for Assessing Male Depression SHSS: Suicidal History Self-Rating Screening Scale; ASL: Local Health Unit.

Introduction

Suicidal behaviors are among the major social and health issues worldwide. It is estimated that between 10% and 18% of adults on our planet experience thoughts of suicide at some point in their lives, with 3% to 5% of them attempting to take their own lives [1]. Substance dependence in patients without other psychiatric disorders is calculated to contribute to the phenomenon in a range between 5% and 10% [2]. It is important to consider that the data related to the suicide rate is likely underestimated due to the difficulty of making a correct assumption of suicide, rather than accidental death from overdose, accident, or even homicide.

Pathological gambling, in turn, due to some of its peculiarities, activates mechanisms very similar to those of substance dependencies. Over the years, an ever-growing number of researchers have noticed that especially alcoholism, substance abuse, and pathological gambling share close similarities. All these disorders involve states of activation that either increase or decrease the level of awareness in individuals. In gamblers, a genuine withdrawal syndrome can be found, with symptoms similar to opioid withdrawal. Furthermore, it has been observed that drinking, drug use, and gambling are sometimes carried out simultaneously or in sequence.

In the DSM V [3], gambling is placed in the category of "behavioral addictions" and renamed Gambling Disorder, alongside substance dependencies, under the category of "Substance-Related and Addictive Disorders."

The hypothesis of this study is to verify whether there might be an analogy among the associations and risk factors related to substance use disorders and addictive disorders, of which gambling disorder is currently the only categorized disorder, concerning the risk of suicide.

The participants in the research are 149 patients (80 males and 69 females) affiliated with ASL RM/6, during the period from July 2022 to July 2023. The average age of the patients is 44.42 years (SD= 11.50; range: 19-75 years). Inclusion criteria were an age of 18 years and older; exclusion criteria included major central nervous system pathologies (epilepsy, dementia, Parkinson's, etc.), and any other condition that would prevent completion of the assessment, including lack of informed consent. The research has been approved by the local ethics committee.

Materials and Methods

All participants completed a sociodemographic questionnaire, which was useful for evaluating key sociodemographic variables such as age, gender, and education.

Additionally, they underwent a battery of tests, including:

- Temperament Evaluation of Memphis, Pisa, Paris, and San Diego - autoquestionnaire version (TEMPS-A) [4];
- Beck Hopelessness Scale (BHS) [5];
- Gotland Scale for Assessing Male Depression (GMDS)
- Suicidal History Self-Rating Screening Scale (SHSS) [6];
- Childhood Trauma Questionnaire (CTQ) [7].

Table 1: Presents the main clinical and socio-demographic data of the sample. The sample composition based on the primary substance of abuse is distributed as follows: heroin 40 patients (26%), cocaine 34 patients (22.1%), alcohol 39 patients (25.3%), and gambling 36 patients (23.4%). 33.6% of the patients reported abusing at least one other substance in addition to the primary one, particularly alcohol (16.1%).

Variables		Frequencies	%
Women		69	53,7
Age – Mean (SD)		44,42	(11,50)
Age at onset of behavior – Mean (SD)		26,14	(11,85)
Age of continued use – Mean (SD)		30,54	(11,95)
Age of first treatment – Mean (SD)		36,17	(11,99)
Primary substance of abuse			
	Heroin	40	26
	Cocaine	34	21,1
	Alcohol	39	25,3
	Gambling	36	23,4
	Polyabuse	50	33,6
TEMPS-A			
Depression – Mean (SD)		10,11	(3,90)
Cyclothymia – Mean (SD)		9,53	(4,12)
Hyperthymia – Mean (SD)		10,05	(4,52)
Irritability – Mean (SD)		6,71	(3,92)
Anxiety – Mean (SD)		12,23	(5,71)
BHS – Mean (SD)		8,44	(4,62)
GMDS– Mean (SD)		11,08	(7,95)
SHSS – Mean (SD)		2,84	(2,76)
CTQ			
Emotional Abuse – Mean (SD)		7,67	(4,04)
Physical Abuse – Mean (SD)		9,12	(4,62)
Sexual Abuse – Mean (SD)		6,97	(3,47)
Emotional Neglect – Mean (SD)		13,51	(5,02)
Physical Neglect – Mean (SD)		10,65	(2,63)
Total Trauma – Mean (SD)		47,92	(15,47)

Results

The data analysis was conducted using the statistical software SPSS 17.0 for Windows (IBM, Somers, NY, USA).

A comparison between the means of patients with or without polyabuse and with pathological gambling (PG) vs. substance dependence was performed using a series of independent samples t-tests. The comparison between patients with substance abuse

(heroin, cocaine, alcohol) was carried out through Analysis of Variance (ANOVA). Post-hoc comparisons were executed using the Tamhane test. For variables measured on a nominal scale, a series of χ^2 chi-square tests were conducted.

Differences among Patients Based on the Type of Substance Abuse

Substance Abuse and Socio-Demographic Differences

Socio-demographic differences based on the main substance of abuse are presented in Table 2

	Heroin (40)Mean (SD)	Cocaine (34)Mean (SD)	Alcohol (39)Mean (SD)	Test		<i>p</i>	post hoc test
				F _{2,118}	χ^2		
Age	43,83±9,53	39,09±8,36	44,64±11,39	3,27		0,042	A = B = C [†]
Males - N (%)	22 (55)	19 (55,9)	20 (51,3)		0,18	0,914	
Married or in a stable relationship - N (%)	14 (35)	13 (39,4)	16 (41)		2,94	0,568	
Education ≥ 13 anni - N (%)	12 (30)	9 (26,5)	14 (36,8)		0,94	0,642	
Currently unemployed - N (%)	16 (42,1)	11 (33,3)	16 (42,1)		5,70	0,222	
No friends to rely on - N (%)	17 (42,5)	17 (50)	21 (55,3)		1,29	0,526	
Uses other substances - N (%)	22 (55)	15 (44,1)	5 (12,8)		16,05	<0,001	A,B> C
Age at onset of behavior	21,55±4,97	19,71±4,76	25,00±11,09	4,56		0,013	A = B; B< C [†]
Age of continued use	23,82±6,04	25,38±7,34	31,27±10,59	8,57		<0,001	A, B < C [†]
Age of first treatment	28,56±6,57	29,68±6,65	38,97±10,27	17,81		<0,001	A, B < C [†]

Note: # = Tamhane post-hoc test

No significant differences were observed concerning age, gender, marital status, occupational status, and education level. Patients dependent on alcohol, compared to patients with cocaine dependence, reported a significantly higher mean age at the onset of problematic behavior (25.00±11.09 vs. 19.71±4.76; *p* = 0.032). Alcohol-dependent patients also, in comparison to patients dependent on heroin and cocaine, reported a significantly higher mean age related to the continued use of the substance (31.27±10.59 vs.

23.82±6.04; $p=0.001$; 31.27±10.59 vs. 25.38±7.34; $p=0.024$) and the mean age of the first treatment (38.97±10.27 vs. 28.56±6.57; $p<0.001$; 38.97±10.27 vs. 29.68±6.65; $p<0.001$). Furthermore, patients with heroin and cocaine dependence, compared to alcohol-dependent patients, were more likely to report the abuse of a second substance (55% vs. 12.8%; $\chi^2=15.62$; $p<0.001$; 44.1% vs. 12.8%; $\chi^2=8.05$; $p=0.003$). Although the mean age was also significantly different among the three groups, post hoc analyses did not identify significant differences.

Substance Abuse, Depression, Hopelessness, and Suicidal Spectrum

The differences among groups are detailed in Table 3

	Heroin (40)Mean (SD)	Cocaine (34)Mean (SD)	Alcohol (39)Mean (SD)	Test		p	post hoc test
				F _{2,110}	χ^2		
Age	43,83±9,53	39,09±8,36	44,64±11,39	3,27		0,042	A = B = C
Males - N (%)	22 (55)	19 (55,9)	20 (51,3)		0,18	0,914	
Married or in a stable relationship - N (%)	14 (35)	13 (39,4)	16 (41)		2,94	0,568	
Education ≥ 13 anni - N (%)	12 (30)	9 (26,5)	14 (36,8)		0,94	0,642	
Currently unemployed - N (%)	16 (42,1)	11 (33,3)	16 (42,1)		5,70	0,222	
No friends to rely on - N (%)	17 (42,5)	17 (50)	21 (55,3)		1,29	0,526	
Uses other substances - N (%)	22 (55)	15 (44,1)	5 (12,8)		16,05	<0,001	A,B> C
Age at onset of behavior	21,55±4,97	19,71±4,76	25,00±11,09	4,56		0,013	A = B; B< C
Age of continued use	23,82±6,04	25,38±7,34	31,27±10,59	8,57		<0,001	A, B < C
Age of first treatment	28,56±6,57	29,68±6,65	38,97±10,27	17,81		<0,001	A, B < C

Note: # = Tamhane post-hoc test

Substance Abuse, Temperaments, and Childhood Trauma

The differences between groups are detailed in Table 4

	Heroin (40)Mean (SD)	Cocaine (34)Mean (SD)	Alcohol (39)Mean (SD)	Test	<i>p</i>	post hoc test
				F		
TEMPS-A						
Depression	11,13±4,52	9,00±3,33	10,62±3,95	2,74	0,067	
Cyclothymia	9,48±4,31	9,21±4,32	9,82±3,61	0,21	0,812	
Hyperthymia	9,35±5,30	10,71±3,50	9,95±4,03	0,88	0,419	
Irritability	6,58±3,92	7,38±4,17	6,44±3,89	0,64	0,53	
Anxiety	13,35±6,40	11,47±5,42	12,87±5,58	1,01	0,368	
CTQ						
Emotional Abuse	7,85±3,85	7,35±3,56	7,36±3,75	0,23	0,798	
Physical Abuse	10,08±5,03	8,56±3,94	8,87±4,44	1,19	0,307	
Sexual Abuse	7,45±3,82	7,00±3,71	6,77±3,05	0,38	0,69	
Emotional Neglect	13,78±5,10	13,71±4,90	13,15±4,59	0,19	0,828	
Physical Neglect	10,93±2,98	11,12±2,41	10,21±2,11	1,35	0,263	
Total Trauma	50,08±16,97	47,74±14,07	46,36±14,08	0,61	0,547	

No significant difference was observed among the three groups regarding both temperamental aspects and different forms of childhood trauma. A trend towards significance was observed for depressive temperament, with patients with heroin and alcohol dependence reporting higher average scores than those with cocaine dependence.

Differences Between Substance Abusers And Gambling Disorder Patients

Socio-demographic Differences

Differences between the two groups are presented in Table 5

	Substance Dependence (113)Mean (SD)	Gambling Disorder (36)Mean (SD)	Test	<i>p</i>
Age	42,83±10,11	49,86±13,88	$t_{47,39} = -2,87$	0,006
Males - N (%)	61 (54)	19 (52,8)	$\chi^2 = 0,02$	0,900
Married or in a stable relationship - N (%)	43 (38,4)	17 (47,2)	$\chi^2 = 1,09$	0,58
Education ≥ 13 anni - N (%)	35 (31,3)	12 (34,3)	$\chi^2 = 0,11$	0,737

Currently not employed - N (%)	67 (61,5)	23 (65,7)	$\chi^2 = 0,02$	0,652
No friends to rely on - N (%)	55 (49,1)	17 (47,2)	$\chi^2 = 0,04$	0,844
Use of other substances - N (%)	42 (37,2)	8 (22,2)	$\chi^2 = 2,74$	0,10
Age at onset of behavior	22,14±7,78	38,83±13,62	$t_{47,39} = -6,91$	<0,001
Age of continuous use	26,81±8,76	42,29±13,13	$t_{47,39} = -6,53$	<0,001
Age at first treatment	32,30±9,20	48,75±11,46	$t_{147} = -7,42$	<0,001

Patients with substance dependence, compared to those with gambling disorder, are characterized by a younger mean age (42.83±10.11 vs 49.86±13.88; $t_{47.39} = -2.87$; $p = 0.006$), a younger mean age at the onset of problematic behavior (22.14±7.78 vs 38.83±13.62; $t_{47.39} = -6.91$; $p < 0.001$), a younger mean age when the behavior becomes continuous (26.81±8.76 vs 42.29±13.13; $t_{47.39} = -6.53$; $p < 0.001$), and a younger mean age at the first treatment-seeking (32.30±9.20 vs 48.75±11.46; $t_{147} = -7.42$; $p < 0.001$). No differences were observed for other socio-demographic variables.

Substance Dependence, Gambling Disorder, Depression, Hopelessness, and Suicidal Spectrum

Differences between the two groups are presented in Table 6

	Substance Dependence (113)Mean (SD)	Gambling Disorder (36)Mean (SD)	Test	<i>p</i>
Total GMDS	11,47±10,36	10,36±7,26	$t_{147} = 0,74$	0,462
Total BHS	8,38±4,57	8,64±4,88	$t_{147} = -0,29$	0,77
Total SHSS	3,07±2,68	2,33±3,03	$t_{147} = 1,39$	0,17
Wishes for death in the last 12 months - N (%)	50 (44,2)	11 (30,6)	$\chi^2 = 2,12$	0,146
Suicidal ideation in the last 12 months - N (%)	24 (21,2)	5 (13,9)	$\chi^2 = 0,94$	0,332
Suicidal plans in the last 12 months - N (%)	11 (9,7)	4 (11,1)	$\chi^2 = 0,06$	0,811
Suicide attempts in the last 12 months - N (%)	4 (3,6)	1 (2,8)	$\chi^2 = 0,5$	0,819
Wishes for death lifetime - N (%)	72 (63,7)	18 (50)	$\chi^2 = 2,15$	0,143
Lifetime suicidal ideation - N (%)	50 (44,2)	12 (33,3)	$\chi^2 = 1,43$	0,247
Lifetime suicidal plans - N (%)	26 (23)	6 (16,7)	$\chi^2 = 0,65$	0,420
Lifetime suicide attempts - N (%)	15 (13,3)	4 (11,4)	$\chi^2 = 0,08$	0,775

No significant differences were observed between patients with substance dependence and those with pathological gambling con-

cerning total scores for depression and hopelessness. Similarly, no differences were revealed for any aspect of the suicidal spectrum.

Substance Abuse, Gambling, Temperaments, and Childhood Trauma

The differences between groups are detailed in Table 7

	Substance Dependence (113)Mean (SD)	Gambling Disorder (36)Mean (SD)	Test	<i>p</i>
TEMPS-A				
Depression	10,31±4,06	9,58±3,57	$t_{147} = 0,96$	0,338
Cyclothymia	9,51±4,06	9,97±4,29	$t_{147} = -0,58$	0,561
Hyperthymia	9,96±4,39	10,11±5,04	$t_{147} = -0,17$	0,867
Irritability	6,77±3,81	6,92±4,16	$t_{147} = -0,20$	0,844
Anxiety	12,62±5,84	11,06±5,04	$t_{147} = 1,44$	0,151
CTQ				
Emotional Abuse	7,53±3,70	7,58±4,03	$t_{147} = -0,07$	0,942
Physical Abuse	9,20±4,53	8,69±4,82	$t_{147} = 0,58$	0,564
Sexual Abuse	7,08±3,52	6,69±3,48	$t_{147} = 0,57$	0,567
Emotional Neglect	13,54±4,83	13,33±5,58	$t_{147} = 0,22$	0,830
Physical Neglect	10,73±2,54	10,53±2,79	$t_{147} = 0,42$	0,679
Total Trauma	48,09±15,11	46,83±15,37	$t_{147} = 0,43$	0,666

No significant differences were observed among the three groups regarding both temperamental aspects and different forms of childhood trauma. A trend toward significance was noted for depressive temperament, with patients with heroin and alcohol dependence reporting higher average scores compared to those with cocaine dependence.

Differences between Polydrug Abusers and Single Substance Abusers.

Socio-demographic differences

The differences between the two groups are reported in Table 8

	Poly-substance Abusers (50)Mean (SD)	Mono-substance Abusers (104)Mean (SD)	Test	<i>p</i>
Age	40,40±9,71	46,27±11,76	$t_{115,17} = -3,27$	0,003
Males - N (%)	33 (66)	47 (45,2)	$\chi^2_1 = 5,86$	0,016
Married or in a stable relationship - N (%)	19 (38,8)	42 (40,4)	$\chi^2_1 = 0,86$	0,652
Education ≥ 13 anni - N (%)	11 (22)	38 (37,3)	$\chi^2_1 = 3,57$	0,059

Currently unemployed – N (%)	32 (66,7)	60 (59,4)	$\chi^2_1 = 0,73$	0,394
No friend to rely on – N (%)	34 (17)	56 (54,4)	$\chi^2_1 = 5,60$	0,018
Age at onset of behavior	23,80±7,75	27,24±13,90	$t_{115,17} = -1,69$	0,093
Age of continuous use	26,80±8,06	32,50±13,19	$t_{115,17} = -3,27$	<0,001
Age at first treatment	31,59±8,75	38,45±12,71	$t_{115,17} = -3,74$	<0,001

Patients with poly-substance abuse differ from those dependent on a single substance in having a younger average age (40.40±9.71 vs 46.27±11.76; $t_{115,17} = -3.27$; $p = 0.003$), a younger average age when the behavior becomes continuous (26.80±8.06 vs 32.50±13.19; $t_{115,17} = -3.27$; $p < 0.001$), and a younger average age when they seek the first treatment (31.59±8.75 vs 38.45±12.71; $t_{115,17} = -3.74$; $p < 0.001$).

Furthermore, these patients are more likely to be male (66% vs 45.2%; $\chi^2_1 = 5.86$; $p = 0.016$) and report more individuals they can rely on (66% vs 45.6% $\chi^2_1 = 5.60$; $p = 0.018$).

No differences were found for other socio-demographic variables.

Poly-substance Abuse, Depression, Hopelessness, and Suicidal Spectrum

Differences between the two groups are reported in Table 9

	Poly-substance Abusers (50) Mean (SD)	Mono-substance Abusers (104) Mean (SD)	Test	<i>p</i>
total GMDS	12,94±8,42	10,18±7,59	$t_{152} = 2,04$	0,043
total BHS	8,28±4,54	8,52±4,68	$t_{152} = -0,30$	0,765
total SHSS	3,57±2,87	2,50±2,66	$t_{152} = 2,21$	0,028
Wishes for death in the last 12 months - N (%)	23 (46)	39 (37,5)	$\chi^2_1 = 1,01$	0,314
Suicidal ideation in the last 12 months - N (%)	11 (22)	18 (17,3)	$\chi^2_1 = 0,49$	0,846
Suicidal plans in the last 12 months - N (%)	6 (12)	9 (8,7)	$\chi^2_1 = 0,43$	0,512
Suicide attempts in the last 12 months - N (%)	1 (2)	4 (3,9)	$\chi^2_1 = 0,5$	0,819
Wishes for death lifetime - N (%)	37 (74)	55 (52,9)	$\chi^2_1 = 6,26$	0,012

Lifetime suicidal ideation - N (%)	28 (56)	35 (33,7)	$\chi^2_1 = 6,98$	0,008
Lifetime suicidal plans - N (%)	13 (26)	20 (19,2)	$\chi^2_1 = 0,92$	0,338
Lifetime suicide attempts - N (%)	9 (18,4)	10 (9,6)	$\chi^2_1 = 2,35$	0,126

Patients with poly-substance abuse, compared to those dependent on a single substance, reported significantly higher scores in GMDS (12.94 ± 8.42 vs 10.18 ± 7.59 ; $t_{152} = 2.04$; $p = 0.043$) and in SHSS (3.57 ± 2.87 vs 2.50 ± 2.66 ; $t_{152} = 2.21$; $p = 0.028$). Moreover, patients with poly-substance abuse, compared to those dependent on a single substance, have a higher probability of reporting lifetime death wishes excluding the last 12 months (74% vs 52.9%; $\chi^2_1 = 6.26$; $p = 0.012$) and lifetime suicidal ideation excluding the last 12 months (56% vs 33.7%; $\chi^2_1 = 6.98$; $p = 0.008$).

Poly-substance Abuse, Temperaments, and Childhood Trauma

Group differences are detailed in Table 10

	Poly-substance Abusers (50) Mean (SD)	Mono-substance Abusers (104) Mean (SD)	Test	<i>p</i>
TEMPS-A				
Depression	11,04±4,03	9,66±3,78	$t_{152} = 2,07$	0,040
Cyclothymia	10,86±3,92	8,88±4,08	$t_{152} = 2,85$	0,005
Hyperthymia	9,18±4,56	10,47±4,47	$t_{152} = -1,67$	0,097
Irritability	6,82±3,54	6,65±4,11	$t_{152} = 0,25$	0,807
Anxiety	14,28±5,07	11,24±5,76	$t_{152} = 3,18$	0,002
CTQ				
Emotional Abuse	8,02±4,02	7,50±4,05	$t_{152} = 0,75$	0,456
Physical Abuse	9,78±4,63	8,80±4,60	$t_{152} = 1,25$	0,218
Sexual Abuse	8,02±4,08	6,47±3,03	$t_{152} = 2,64$	0,009
Emotional Neglect	14,50±5,40	13,03±4,78	$t_{152} = 1,71$	0,089
Physical Neglect	10,92±2,99	10,52±2,48	$t_{152} = 0,89$	0,377
Total Trauma	51,24±16,58	46,32±14,72	$t_{152} = 1,87$	0,064

Concerning temperamental aspects, patients with poly-substance abuse, compared to those dependent on a single substance, reported significantly higher scores in the subscales of depression (11.04 ± 4.03 vs 9.66 ± 3.78 ; $t_{152} = 2.07$; $p = 0.040$), cyclothymia (10.86 ± 3.92 vs 8.88 ± 4.08 ; $t_{152} = 2.85$; $p = 0.005$), and anxiety (14.28 ± 5.07 vs 11.24 ± 5.76 ; $t_{152} = 3.18$; $p = 0.002$). Regarding child-

hood trauma, patients with poly-substance abuse, furthermore, compared to those dependent on a single substance, reported significantly higher scores in the subscale of sexual abuse (9.78 ± 4.63 vs 8.02 ± 4.08 ; $t_{152} = 1.25$; $p = 0.002$). A trend towards significance was also observed in the total score of the CTQ (51.24 ± 16.58 vs 46.32 ± 14.72 ; $t_{152} = 1.87$; $p = 0.064$).

Discussions

In this study, given the documented similarities in the literature between "substance use disorder" and "gambling disorder," an investigation was conducted to determine if there was a higher level of suicidal ideation in a sample composed of individuals with heroin dependence, cocaine dependence, alcohol dependence, and gambling addiction.

Regarding substance use, no significant differences were found between the groups, except for suicidal thoughts in the last 12 months and suicidal plans in the last month. Specifically, patients dependent on heroin, compared to those dependent on cocaine, were more likely to report suicidal thoughts (57.5% vs. 46.2%) and suicidal plans (17.5% vs. 0%) in the last 12 months. No differences were observed between patients with heroin dependence and alcoholic patients, as well as between alcoholic patients and patients dependent on cocaine. A trend towards significance was also noted for depressive temperament, with patients dependent on heroin and alcohol reporting higher average scores than those dependent on cocaine.

Regarding the comparison between substance use disorder and gambling addiction, no significant differences were found between the two groups, both in terms of total depression and hopelessness scores. Moreover, no significant differences were observed in any aspect of the suicidal spectrum between these two groups.

A significant difference was found between the grouping of "poly-substance abusers" and those without poly-substance abuse. Poly-substance abusers, compared to individuals dependent on a single substance or behavior, were characterized by a lower average age, an earlier onset of continuous behavior, and an earlier age when seeking initial treatment. Additionally, they were more likely to be male and reported having a larger social support network (interpreted, perhaps, as a larger circle of friends with similar substance abuse issues).

Poly-substance abusers, compared to those dependent on a single substance, reported significantly higher scores on the "Gotland Scale for Assessing Male Depression" (GMDS) and the "Suicidal History Self-Rating Screening Scale" (SHSS). Furthermore, they were more likely to report lifetime suicidal thoughts, excluding the last 12 months, and lifetime suicidal ideation, excluding the last 12 months.

In terms of temperamental aspects, poly-substance abusers, compared to those dependent on a single substance, reported significantly higher scores in the subscales of depression, cyclothymia, and anxiety. Regarding childhood trauma, poly-substance abusers, compared to those dependent on a single substance, reported significantly higher scores in the subscale of sexual abuse, with a trend towards significance in the total score of the Childhood Trauma Questionnaire (CTQ).

Conclusions

From the observations, it can be concluded that in our sample, no significant differences emerged concerning the observed dependence, whether from substances or gambling. However, a higher vulnerability and an increased risk of suicide were evident in users dependent on multiple substances or both substances and gambling (poly-substance abusers) compared to those with dependence on a single substance or gambling alone.

References

1. Pompili M, Tatarelli R (2010) La prevenzione del suicidio in psicoterapia. Alpes, Roma.
2. Pompili M, Tatarelli R (2007) Suicidio e suicidologia: uno sguardo al futuro. *Minerva Psichiatrica*, 48: 99-118.
3. American Psychiatric Association (2013) Diagnostic and statistical manual of mental disorders (5th ed.). Arlington, VA: American Psychiatric Publishing. Edizione italiana: Manuale diagnostico e statistico dei disturbi mentali. Raffaello Cortina, Milano, 2014.
4. Akiskal HS, Akiskal KK, Haykal RF, Manning JS, Connord PD (2005) TEMPS-A: progress towards validation of a self-rated clinical version of the Temperament Evaluation of the Memphis, Pisa, Paris, and San Diego Autoquestionnaire. *Journal of Affective Disorders*. 85: 3-16.
5. Beck AT, Brown G, Steer RA (1989) Prediction of eventual suicide in psychiatric inpatients by clinical ratings of hopelessness. *Journal of Consulting and Clinical Psychology* 57: 2: 309-10.
6. Innamorati M, Pompili M, Gonda X, Amore M, Serafini G et al. (2011) Psychometric properties of the Gotland Scale for Depression in Italian psychiatric inpatients and its utility in the prediction of suicide risk. *Journal of affective disorders*, 132: 99-103.
7. Bernstein DP, Fink L (1998) Childhood Trauma Questionnaire: A retrospective self-report manual. San Antonio, TX: The Psychological Corporation.
8. Bastiani L, Gori M, Colasante E, Siciliano V, Capitanucci D et al. (2013) Complex factors and behaviors in the gambling population of Italy. *Journal of Gambling Studies*, 29: 1-13.
9. Beck AT, Weissman A, Lester D, Trexler L (1974) The measurement of pessimism: The Hopelessness Scale. *Journal of Consulting and Clinical Psychology*, 42: 861-5.
10. Beck AT, Brown G, Berchick RJ, Stewart BL, Steer RA (1990) Relationship between hopelessness and ultimate suicide: a replication with psychiatric outpatients. *American Journal of Psychiatry* 147: 190-5.
11. Capitanucci S (2006) Post-modernità e nuove dipendenze, in *Prospettive Sociali e Sanitarie*, 6.
12. Caretti V, La Barbera D (2009) *Le nuove dipendenze: diagnosi e clinica*. Carocci Ed. - Roma.
13. Clerici M (2007) Suicidio e Tentativi di Suicidio nei disturbi correlati all'uso di sostanze in "doppia diagnosi". *Studi su aggressività e suicidio*, 9: 5-10.
14. Gilberti F, Rossi R (2009) *Manuale di Psichiatria*, IV ed. aggiornata, Piccin Nuova Libreria - Padova.
15. Innamorati M, Pompili M, Serafini G, Lester D, Erbuto D et al (2011) Psychometric Properties of the Suicidal History Self-Rating Screening Scale. *Archives of Suicide Research*. 15: 87-92.
16. Lesieur HR, Blume SB (1987) The South Oaks Gambling Screen (SOGS): A new instrument for the identification of pathological gamblers. *American Journal of Psychiatry*, 144: 1184-8.
17. Pompili M, Innamorati M, Lester D, Akiskal HS, Rihmer Z et al. (2009) Substance Abuse, Temperament and Suicide Risk: Evidence from a Case-Control Study. *Journal of Addictive Diseases*. 28: 13-20.

Submit your next manuscript to Annex Publishers and benefit from:

- ▶ Easy online submission process
- ▶ Rapid peer review process
- ▶ Online article availability soon after acceptance for Publication
- ▶ Open access: articles available free online
- ▶ More accessibility of the articles to the readers/researchers within the field
- ▶ Better discount on subsequent article submission

Submit your manuscript at

<http://www.annexpublishers.com/paper-submission.php>