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# Troubled adolescents: substance abuse and mental disorder in young offenders

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**Introduction.** Many studies indicate the high prevalence of juvenile substance abuse. There is increasingly more dual diagnosis and mental illnesses in adolescents and many juvenile offenses are related to drug abuse.

**Method.** This is a descriptive study about the relationship between drug abuse and clinical, demographic and criminal characteristics in a sample of 144 youths seen in the Therapeutic Juvenile Justice Unit (UTJJ) of the Parc Sanitari Sant Joan de Deu.

**Results.** A total of 65.3% of the sample had a disorder on Axis I, 22.2% of which were related with the psychotic spectrum and 18.1% ADHD. Personality disorder occurred in 42.4%, the most frequent ones being antisocial disorder (16%), and borderline personality disorder (6.9%). Of the sample, 78.5% were drug consumers and 51.4% of the total only consumed 1 substance. There is a tendency among psychotic teenagers to consume cannabis and ADHD patients to consume cannabis and cocaine. A significant relationship is found between nationality and inhalants drugs, social and economic level and sedative drugs and alcohol, and parental death and alcohol ( $p<0.05-0.005$ ).

**Conclusions.** The level of drug use/abuse in juvenile justice is very high. Although there is no evidence about the relationship between the substance they consume and the profile of the young offender, some tendencies are observed.

**Key words:** Adolescence, Delinquency, Substance abuse, Dual pathology, Mental health

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## Adolescentes multiproblemáticos: consumo de tóxicos y trastorno mental en jóvenes que delinquen

**Introducción.** Numerosos estudios ponen de manifiesto la alta prevalencia de consumo de tóxicos en jóvenes. La patología dual y las enfermedades mentales en adolescentes aumentan cada vez más y muchos delitos se asocian al consumo de tóxicos.

**Metodología.** Estudio descriptivo de la relación entre el consumo de tóxicos y las características clínicas, socio-demográficas y delictivas en una muestra de 144 jóvenes atendidos en la Unidad Terapéutica de Justicia Juvenil (UTJJ) del Parc Sanitari Sant Joan de Deu.

**Resultados.** El 65.3% de la muestra presentan un trastorno en el Eje I siendo el 22.2% del espectro psicótico y el 18.1% TDAH. El 42.4% presentan un trastorno de personalidad, los más frecuentes: Trastorno Antisocial (16%) y Trastorno Límite de Personalidad (6.9%). El 78.5% de los jóvenes consumen tóxicos, el 51.4% una única sustancia. Existe una tendencia en los jóvenes psicóticos a consumir cannabis y en los pacientes con TDAH al consumo de cannabis y cocaína. Se encuentra relación significativa entre la nacionalidad y el consumo de inhalantes, nivel socioeconómico y sedantes y alcohol, y la muerte de los padres y el alcohol ( $p<0.05-0.005$ ).

**Conclusiones.** El perfil de consumo de tóxicos en justicia juvenil es muy alto. A pesar de no haber encontrado perfiles diferenciados en función del tipo de sustancia consumida, se evidencian algunas tendencias.

**Palabras clave:** Adolescencia, Delincuencia, Consumo de tóxicos, Patología dual, Salud mental

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## INTRODUCTION

Approximately two million children and youths in the European continent suffer mental disorders, going from depression to schizophrenia.<sup>1</sup> At present it is considered that in the coming years, mental disorders will become one of the main health problems in Europe. In the developed country (Great Britain, Canada, USA, etc.), approximately 14% of the population between 14 and 17 years have suffered some significant mental disorder at some time, disorders that cause malaise and problems in the family, school and/or community. At least 4% of adolescents from 12 to 17 years of age have suffered major depression and 9% at 18 years, this being one of the disorders with greater prevalence. On the other hand, we cannot obviate that depression is associated with suicide in youths, it being the third cause of mortality in this stage of life.

Illegal drug use among the youth has increased in recent years. Practically one out of every four has consumed some substance in the last month, the most frequent ones being alcohol, tobacco and cannabis. Furthermore, students from 14 to 18 years of age are increasing cocaine consumption. Prevalence of consumption in Spain of cannabis and cocaine in the adolescent population is the highest of Europe.<sup>2</sup> This problem often has a repercussion on increase in violence, criminality and incapacity for adequate social integration, affecting the society as a whole. Some studies show that 43% of offending youths initiate illegal behaviors in order to pay for their substance dependency.<sup>3</sup>

Some epidemiological studies show that 60 to 88% of adolescent patients who initiate substance abuse treatment (SAT) have psychiatric comorbidity and therefore make up cases of dual pathology.<sup>4,5</sup> SAT prevalence data in adolescents in Europe are scarce and very variable, depending on the site where the patients are seen (primary care, mental health sites, addiction unit, legal resources, etc.) and are probably not very representative of the general population. The most frequent comorbid psychiatric condition in adolescents with SAT are, in order of frequency, disruptive behavior disorders, attention deficit and hyperactivity disorder (ADHD), mood state disorders and posttraumatic stress disorders.<sup>5-7</sup>

In relationship to the prevalence of mental disorders in the juvenile justice population, the studies carried out in the United States<sup>8</sup> indicate that 53% meet mental disorder diagnostic criteria, 26% require immediate intervention from mental health services and 14% have a severe mental disorder. Other results suggest that 31% have a high need for mental health care, it standing out that the intelligence quota in one out of every five is less than 70.<sup>9</sup> Furthermore, these youths have a four times greater risk of suicide than the general adolescent population.<sup>10</sup>

The conclusions of a study carried out in Finland,<sup>11</sup> a country that has applied an active policy oriented at offering

alternatives to the internment of adolescents in detention centers for minors, after analyzing two cohorts of interned youths (in 1980 and 1990), found that the number of mental patients admitted to these establishments is maintained, in spite of decreasing the number of patients.

In the main studies performed within Europe for psychodiagnoses of interned adolescents due to legal problems, the high prevalence of mental disorders stands out. Behavioral disorders (31% to 75%) and substance related disorders (41% to 55.8%) are the most frequent. But surprisingly high rates are also found in other disorders, such as ADHD (17.6% to 31%) and psychoses (4% to 34%) as well as anxiety (5% to 47.6%) and depression (2% to 11.4%). The variation in the results can be explained by the differences between the samples evaluated, the psychiatric disorders investigated and the different diagnostic tools and methodological criteria used. Furthermore, the high frequency of psychiatric comorbidity (two or more psychiatric disorder associated in one same subject) stands out. At least 43% of the cases met criteria for two or more psychiatric diagnoses besides Behavioral Disorder. Diagnoses of substance related disorder has a comorbidity of 76% with other disorders.<sup>12-14</sup>

Toxic consumption in adolescent offenders is a question that has provoked growing interest.<sup>15</sup> Significantly, its onset occurs at a younger age, showing a 17% proportion who have initiated alcohol consumption at 10 years of age and marijuana and inhalants at 13 years of age. Furthermore, ratios between 25-67% of toxic consumption has been found in studies carried out in the population of the juvenile justice system and is associated to repetition of offenses.<sup>16,17</sup>

In Catalonia there are seven internment centers for young people who have committed repeated or serious offenses as minors. In the year 2011, 586 adolescents ages 14 to 21 underwent internment measures in Juvenile Justice Educational Centers (EC).<sup>18</sup> The mental health attention in these Juvenile Justice (JJ) centers began in the year 1994 with a psychiatric and psychotherapeutic outpatient care program carried out by mental health professionals with wide experience.<sup>19,20</sup> This evidenced the need to go deeper into a specific care model for this population. The Juvenile Justice Therapeutic Unit (JJTU) was inaugurated in January 2006 to give attention to youths who were fulfilling a judicial order of internment in a closed center and who had a mental health and/or addiction problems, in compliance with Organic Law of the Minor's Criminal Responsibility (LORPM 5/2000 in Spanish) and the Catalonia Law 27/2001 of 31 December of JJ, within the framework of an interdepartmental agreement between Justice, Health and Hospital Order of San Juan de Dios. The JJTU is a unit having 12 places, mixed, referent and unique for all the delinquent population undergoing legal internment within the setting of minors in Catalonia and who require specialized care in

mental health and addictions. The JJTU uses the Therapeutic Community model, psychodynamic and cognitive-behavioral orientation. Individual and family psychotherapies, psychopharmacological treatments and group therapies are performed. The unit has specialized education intervention, directed by Educators and Social Integrators specialized in mental health and conflict solving management as well as education programs for health implemented by the Nursing Department. The attention is comprehensive and biopsychosocial, with a strong component of community intervention and integration. The clinical team performing the outpatient care in mental health and addictions in the closed centers of juvenile Justice of Catalonia evaluates which cases are apt for more intensive and individualized clinical care and they referred them for admission to the JJTU, this requiring legal authorization in every case.

This study aims to describe the sociodemographic and clinical characteristics of patients admitted to the JJTU in the years 2006 to 2011 and the relationship of such admission with toxic consumption.

## METHOD

### Design

Cross-sectional descriptive study analyzing the entire population seen in JJTU from January 2006 to December 2011.

### Sample

The sample is made up of 144 youths aged 15 to 21 years.

Study enrollment criteria were all patients admitted to the Juvenile Justice Therapeutic Unit of the Parc Sanitari Sant Joan de Déu from 1 January 2006 to 31 December 2011.

### Evaluation

The clinical diagnoses were made by the team of psychiatry and psychology experts of the Therapeutic Unit, using the Axis I and Axis II categories of the DSM IV-R for the diagnosis of clinical disorders and toxic consumption. On the other hand, toxic consumption was evaluated using a clinical interview and the collection of information on the consumption pattern during the year prior to the interview. Consumption of cannabis, cocaine, alcohol, and inhalants and sedatives in the abuse and/or dependence pattern were informed.

Intellectual quotient (IQ) was evaluated with the Wechsler Adult Intelligence Scale,<sup>21</sup> and Wechsler Intelligence Scale for Children<sup>22</sup> for adolescents under 16 years of age.

Sociodemographic and clinical data were collected using a *post-hoc* questionnaire. The Sociodemographic data collected are the following: gender, age, nationality, socioeconomic and education level, family situation (civil status of the parents and lack of one of them or both due to death).

The variables related with the offense have been obtained for the legal records available in the center. The variables collected were: type of offense and family criminal backgrounds.

## Statistical analysis

Descriptive statistics was used, by means of frequencies and descriptives. The Chi<sup>2</sup> was used for the analysis of the sociodemographic and clinical characteristics regarding toxic consumption. Significance level was established at  $p < 0.05$ . The SPSS program was used for the data analysis. A linear regression analysis was performed that evaluated the weight of the significant variables in the bivariate analysis for each one of the substances, in order to study which has the greatest effect on consumption.

## RESULTS

In regards to the sociodemographic characteristics of the sample, it stands out that 88.9% are male ( $N=128$ ), mean age of the sample is 17.19 ( $SD=1.25$ ) and 61.1% ( $N=88$ ) are Spanish. The majority of the sample have secondary studies (68.1%;  $N=98$ ) and the mean socioeconomic level of the sample is middle-low (59.7%) (Table 1).

The type of offense most frequently committed in the sample is armed robbery (45.1%;  $N=65$ ), followed by domestic abuse (22.9%;  $N=33$ ). In regards to the family criminal background, in 21.5% ( $N=31$ ) of the cases, one of the parent figures has been in prison. Regarding the family situation, 54% ( $N=78$ ) of the parents were separated. In 13.9% of the cases ( $N=20$ ), the father had died, in 5.6% ( $N=8$ ) it was the mother who had died and in 1.4% ( $N=2$ ) both parents had died (Table 1).

Regarding the diagnoses on Axis I of the DSM IV-R it stands out that 65.3% of the sample has a clinical diagnosis on this axis (Table 2). In brief, the most frequent Axis I diagnoses are within the psychotic spectrum, including 22.2% ( $N=32$ ) of the total sample and 18.1% ( $N=26$ ) have Attention Deficit Hyperactivity Disorder. The Anxiety disorders account for 9.7% of the sample ( $N=14$ ) and affective disorders have a prevalence of 6.9% ( $N=10$ ).

Table 1	Sociodemographic data of the sample	
SOCIODEMOGRAPHIC DATA (N=144)		N (%)
GENDER	Male	128 (88.9)
	Female	16 (11.1)
NATIONALITY	Spanish	88 (61.1)
	Moroccan	35 (24.3)
	Latin American	18 (12.5)
	Others	3 (2.1)
SOCIOECONOMIC LEVEL	Low	51 (35.4)
	Middle	86 (59.7)
	High	7 (4.9)
EDUCATION LEVEL	Primary	39 (27.1)
	Secondary	98 (68.1)
	High School Diploma	6 (4.2)
OFFENSE	Armed robbery	65 (45.1)
	Domestic abuse	33 (22.9)
	Attempted murder	13 (9)
	Sexual abuse	6 (4.2)
	Armed robbery with injury	22 (15.3)
	Murder	1 (0.7)
	Reckless driving, car theft and offense against authority	4 (2.8)
FAMILY CRIMINAL BACKGROUNDS	No backgrounds	113 (78.5)
	Father in prison	21 (14.7)
	Mother in prison	4 (2.8)
	Both in prison	5 (3.5)
DEATH OF THE PARENTS	No	114 (79.2)
	Father	20 (13.9)
	Mother	8 (5.6)
	Both	2 (1.4)
SEPARATION OF THE PARENTS	No	66 (45.8)
	Yes	78 (54.2)
SELF-INFLECTED INJURIES	No	65 (45.1)
	Yes	79 (54.9)

In relation to axis II, personality disorders account for 42.4% (Table 3). Of these, 59% (N=36) correspond to Cluster B, 18% (N=11) to Cluster A, 8.2% (N=5) to Cluster C and 14.8% (N=9) to personality disorder not otherwise specified.

It stands out that the diagnosis of mild mental retardation was found in 30.6% of the total sample, this meaning a total of 44 patients.

Table 2	Diagnoses obtained on Axis I	
AXIS I DIAGNOSES (N=144)		N (%)
WITHOUT DIAGNOSES		50 (34.7)
ATTENTION DEFICIT HYPERACTIVITY DISORDER		26 (18.1)
PSYCHOTIC DISORDER NOT OTHERWISE SPECIFIED		20 (13.9)
IMPULSE CONTROL DISORDERS		8 (5.6)
PARANOID SCHIZOPHRENIA		6 (4.2)
ADAPTIVE BEHAVIOR DISORDER		6 (4.2)
MAJOR DEPRESSIVE DISORDER		4 (2.8)
BIPOLAR DISORDER		4 (2.8)
MIXED DELUSIONAL DISORDER		4 (2.8)
ANXIETY DISORDER		4 (2.8)
POST-TRAUMATIC STRESS DISORDER		4 (2.8)
DYSTHYMIA		2 (1.4)
OTHERS		6 (4.2)

Of the total sample, 78.5% (N=113) consumed toxic agents, 51.4% (N=74) a single substance and 27.1% (N=39) had polyconsumption.

Consumption was evaluated, differentiating: cannabis, cocaine, alcohol, inhalants and sedatives. The results indicate that cannabis has the highest percentage of use 65.3% (N=93), followed by cocaine with 27.8% (N=40), alcohol with 8.3% of the sample (N=12), and finally inhalants 2.8% (N=4) and sedatives 1.4% (N=2).

Table 3	Axis II diagnoses obtained	
AXIS II DIAGNOSES (N=144)		N (%)
WITHOUT DIAGNOSIS		83 (57.6)
ANTISOCIAL DISORDER		23 (16)
BORDERLINE DISORDER		10 (6.9)
PERSONALITY DISORDER NOT OTHERWISE SPECIFIED		9 (6.3)
PARANOID DISORDER		5 (3.5)
SCHIZOTYPAL DISORDER		4 (2.8)
DEPENDENCE DISORDER		4 (2.8)
HISTRIONIC DISORDER		3 (2.1)
SCHIZOID DISORDER		2 (1.4)
OBSESSIVE PERSONALITY DISORDER		1 (0.7)

Table 4		Relationship between sociodemographic and psychographic variables and consumption (abuse or dependence) in the different substances									
SOCIODEMOGRAPHIC AND PSYCHOPATHOLOGICAL VARIABLES		Presence of cannabis consumption N (%)	P value	Presence of cocaine consumption	P value	Presence of alcohol consumption	P value	Presence of Inhalant consumption	P value	Presence of sedative consumption	P value
GENDER	Male	86 (67.2)	0.173	37 (28.9)	0.392	10 (7.8)	0.522	4 (3.1)	0.473	2 (1.6)	0.615
	Female	8 (50.0)		3 (18.8)		2 (12.5)		0 (0)		0 (0)	
NATIONALITY	Spanish	54 (61.4)	0.425	27 (30.7)	0.203	10 (11.4)	0.409	0 (0)	0.005	1 (1.1)	0.414
	Moroccan	25 (71.4)		6 (17.1)		1 (2.9)		4 (11.4)		0 (0)	
	Latin American	12(66.7)		7 (38.9)		1 (5.6)		0 (0)		1 (5.6)	
	Others	3 (100)		0 (0)		0 (0)		0 (0)		0 (0)	
SOCIOECONOMIC LEVEL	Low	37 (72.5)	0.387	15 (29.4)	0.243	2 (3.9)	0.076	3 (5.9)	0.240	0 (0)	0.010
	Middle	53 (61.6)		25 (29.1)		8 (9.3)		1 (1.2)		1 (1.2)	
	High	4 (57.1)		0 (0)		2 (28.6)		0 (0)		1 (14.3)	
CRIMINAL BACKGROUND OF THE PARENTS	No	71 (62.8)	0.163	30 (26.5)	0.089	8 (7.1)	0.533	3 (2.7)	0.904	1 (0.9)	0.559
	Father in prison	14 (66.7)		6 (28.6)		3 (14.3)		1 (4.8)		1 (4.8)	
	Mother in prison	4 (100)		3 (75)		0 (0)		0 (0)		0 (0)	
	Both	5 (100)		0 (0)		0(0)		0 (0)		0 (0)	
DEATH OF THE PARENTS	No	75 (65.8)	0.250	29 (25.4)	0.254	6 (5.3)	0.018	4 (3.5)	0.781	1 (0.9)	0.520
	Father	13 (65)		9 (45)		3 (15)		0 (0)		1 (5)	
	Mother	6 (75)		2 (25)		2 (25)		0 (0)		0 (0)	
	Both	0 (0)		0 (0)		1 (50)		0 (0)		0 (0)	
SEPARATION OF THE PARENTS	No	46 (69.7)	0.360	19 (28.8)	0.803	6 (9.1)	0.762	2 (3)	0.865	1 (1.5)	0.905
	Yes	48 (61.5)		21 (26.9)		6 (7.7)		2 (2.6)		1 (1.3)	
OFFENSE	Armed robbery	44 (67.7)	0.158	20 (30.8)	0.426	6 (9.2)	0.879	0 (0)	0.30	1 (1.5)	0.581
	Domestic abuse	20 (60.6)		8 (24.2)		2 (6.1)		0 (0)		0 (0)	
	Attempted murder	5 (38.5)		2 (15.4)		1 (7.7)		2 (15.4)		1 (7.7)	
	Sexual abuse	3 (50)		0 (0)		0 (0)		0 (0)		0 (0)	
	Armed robbery with injury	17 (77.3)		8 (36.4)		2 (9.1)		2 (9.1)		0 (0)	
	Reckless driving	4 (100)		2 (50)		1 (25)		0 (0)		0 (0)	
	Murder	1 (100)		0 (0)		0 (0)		0 (0)		0 (0)	
SELF-INFLICTED INJURY	No	43 (66.2)	0.841	19 (29.2)	0.724	4.6%	0.143	0 (0)	0.066	1 (1.5)	0.889
	Yes	51 (64.6)		21 (26.6)		9 (11.4)		4 (5.1)		1 (1.3)	
AXIS I	Psychotic	21 (65.6)	0.081	9 (28.1)	0.351	3 (9.4)	0.443	0 (0)	0.245	0 (0)	0.359
	Affective D.	6 (60)		2 (20)		2 (20)		0 (0)		0 (0)	
	Anxiety	5 (35.7)		2 (14.3)		0 (0)		0 (0)		1 (7.1)	
	ADHD	21 (80.8)		11 (42.3)		3 (11.5)		0 (0)		0 (0)	
	Others	41 (66.1)		16 (25.8)		4 (6.5)		4 (6.5)		1 (1.6)	
AXIS II	Cluster A	6 (54.5)	0.596	1 (9.1)	0.303	1 (9.1)	0.733	0 (0)	0.872	1 (9.1)	0.643
	Cluster B	27 (75)		12 (33.3)		3 (8.3)		1 (2.8)		1 (2.8)	
	Cluster C	3 (60)		1 (20)		0 (0)		0 (0)		0 (0)	
	Not otherwise specified	6 (66.7)		4 (44.4)		0 (0)		0 (0)		0 (0)	

The type of substance used has been related with the different sociodemographic and psychopathological variables previously mentioned (gender, nationality, socioeconomic level, family criminal background, death of the parents, divorce, offense, self-inflicted injuries and diagnoses on Axis I and Axis II (Table 4).

A significant tendency was found in the relationship between cannabis use and axis I diagnosis. Patients diagnosed of Attention Deficit Hyperactivity Disorder have a higher use of this substance (80.8%), while patients with anxious problem show lower use (35.7%). Significant results have not been found in relation to cocaine consumption when compared with sociodemographic and psychopathological variables. A tendency has been detected regarding significance in the relation between cocaine use and criminal backgrounds of the parents. A total of 75% of those using cocaine have a background by the mother of having been (or being) inmates in a prison. Significantly greater prevalence of alcohol consumption has been found in those persons who have lost both parents ( $p=0.018$ ). On the other hand, a tendency has been detected to significance in the relationship between alcohol consumption and economic level, the young persons with high level having higher prevalence of alcohol consumption (28.6%). The relation between inhalant consumption only occurs in young Moroccans in the population seen within the Juvenile Justice setting, with a 11.4% prevalence, this having statistical significance ( $p=0.005$ ). The adolescents having the highest consumption of inhalants had a tendency to greater prevalence of self-inflicted injuries. Furthermore, inhalant consumption was only present in the offenses related with murder (15.4%) and armed robbery with injury (9.1%).

Consumption of sedative is significantly more prevalent in the high socioeconomic level (14.3%) ( $p=0.010$ ).

The logistic regression analysis confirms the results obtained in the bivariate analysis. Cannabis consumption occurs more in patients with anxiety disorders ( $B=1.363$ ;  $p=0.021$ ), indicating that the presence of this diagnosis accounts for 5% of the variance of the consumption of this substance. In the case of cocaine, we have not found any variable that explains its use. Regarding alcohol consumption, the death of the parents ( $B=1.447$ ;  $p=0.031$ ) and high socioeconomic level ( $B=-1.957$ ;  $p=0.040$ ) explain the greater consumption of this toxic agent ( $R^2$  of the model=0.119). Inhalant consumption is explained by nationality ( $B=-18.638$ ;  $p=0.001$ ) it being more frequent in the immigrant population ( $R^2$  of the model=0.052). Finally, consumption of sedatives is explained by high socioeconomic level ( $B=3.114$ ;  $p=0.035$ ;  $R^2$  of the model=0.024).

## CONCLUSIONS

The results of the present study shows that the profile of the adolescent attended in the Juvenile Justice Therapeutic

Unit (JJTU) mostly corresponds to: Spanish male, 17 years old, with psychotic spectrum or ADHD disorder, presenting an associated personality disorder and high prevalence of mild mental retardation. Toxic agent consumption is very elevated in the sample, especially cannabis. Consumption of toxics is related with different variables based on type of substance. Cannabis consumption is related with the diagnosis of anxiety disorders. Alcohol consumption is related with a high social economic level and with death of the parents. Inhalent consumption is related with foreign nationality and finally sedative consumption with high social economic level.

Patients seen in the JJTU are adolescents with multiple problems, with a middle-low social economic level, secondary study level. More than 60% of the persons have a diagnosis on Axis I, psychotic disorder and ADHD being the most prevalent. Psychopathological severity is related with the frequency of dual pathology. Furthermore, these youth have high impulsivity. Self-inflicted injuries occur in more than 50% of the sample, so that there is significant difficulty in mentalization of the conflicts, with a tendency to actions.<sup>23</sup>

One very important data is the prevalence of mild mental retardation, which is found in 30.6% of the sample. This percentage is very high for the population attended. Perhaps the cognitive vulnerability and greater fragility and lower psychosocial management of these youths increase the link to antisocial groups as suggested in some recent studies.<sup>24</sup> However, this would be another subject to go into more deeply. We have found that armed robbery is the most frequent offense in our sample, followed by family abuse that has hatched in recent years, with alarming increase. According to the 2007 report of the Attorney General's Office, there were 2683 parents who denounced their children. However, this reached 8000 complaints in 2010.

Social prejudices towards young people with criminal behavior and substance consumption are numerous. The results of the study show one part of the reality of juvenile delinquency associated to mental disease and toxic consumption. Substance consumption strengthens the emergence of mental conditions and behavioral disorders. The percentage of addiction found in the juvenile justice population in our study is very high, it being 78% which is greater than the rates found by other authors.<sup>25</sup> In the general Spanish population, age 14 to 18, consumption in the last 12 months of the year 2010 for cannabis was 26.4%, cocaine 2.6%, alcohol 73.6%, intelligence 1.2% and over-the-counter tranquilizers 5.6%.<sup>2</sup> In the juvenile justice sample, the percentages were 65.3% for cannabis consumption, 27.8% cocaine, 8.3% alcohol, 2.8% inhalants and 1.4% sedatives. Therefore, toxic agent consumption is double or triple in incarcerated youths regarding the general population, except in the case of alcohol. It has to be taken into account that the present study only evaluated the

abuse or dependence of each one of the toxic agents while the data of the state Survey on the use of drugs in Secondary School<sup>26</sup> refers to psychoactive substance consumption.

It stands out that cannabis and cocaine consumption shows a very significant elevation in the studied sample. In the case of adult penitentiary population, the results are different, cannabis being the toxic agents with the lowest prevalence of consumption.<sup>27</sup> Surely, the economic cost of the current drugs also conditions the prevalent consumption in this population, which is mostly found in the middle-low social economic level. The youths seen tend to overestimate, generally doing so in the company of other similar youths who have lost educational and/or laboral projects. In addition, many of these adolescents explain that they are under the effects of some toxic agent when they perform some criminal act.

In the sample attended in the Juvenile Justice Therapeutic Unit, the Moroccan origin population had higher consumption of cannabis and inhalants even though the consumption of inhalants only shows significance in relation to the other nationalities. This fact is also related with cultural variables, since all the patients stated that consumption of these substances is a frequent practice in their country of origin and also that they have observed this consumption by direct family members on numerous occasions.<sup>28</sup>

It should be emphasized that the high social economic level is significantly related with greater consumption of sedatives and alcohol, coinciding with Giskes et al.<sup>29</sup> Both substances present greater acceptance socially. All the persons seen in our department state that they are aware of the social and personal deterioration that may be caused by the consumption of cannabis, cocaine and even more so by the inhalants. However, they minimize the repercussion of the consumption of sedatives and alcohol.

In regards to the life events having great emotional impact, it is important to stress the relationship detected between loss of one or both parent and alcohol consumption, above all considering the high percentage of death of one or both parents in our sample studied (20.9%). The effects of the loss of a father or mother in a minor, his/her family and social setting can be an important risk factor for the consumption of alcohol since overcome this affective deficiency needs to be replaced and overcome, it having a strong emotional impact that will require special attention and support. In this sense, other authors<sup>30</sup> in samples with incarcerated women have found that the women who consume toxic agents have more traumatic life events.

In regards to the relation between toxic agent consumption and the diagnosis, we only found a significant association between cannabis consumption and anxiety disorders. On the descriptive level, we found that patients with ADHD

have a higher level of cocaine and cannabis consumption, in order to obtain greater tranquility in every case. In fact, they often state that cocaine is good for them and calms them, but they observed that the effect is the opposite in the rest of the persons consuming them. Anxiety disorders present greater consumption of sedative. This abuse is generally associated with self-medicating. These youths seek to disconnect from the personal difficulties and avoid thinking about their own life history, often with many childhood traumas (separations, death of the parents, etc.). The patients diagnosed on Axis II within Cluster B are the main consumers of cannabis and cocaine. This could be associated with the need to seek emotions. On the other hand, patients with a diagnosis on Cluster A are those who most consume alcohol and sedatives. This may be helping them to maintain the distance from the exterior as a defense mechanism towards their own conflicts.

Regarding the relationship between offense committed and substance consumption, it should be stressed that the youths who have carried out robberies are those having higher percentages of toxic agent consumption in general, coinciding with the results of other authors.<sup>31</sup> Most of these adolescents express a clear relation between the offense committed and the need to obtain economic resources to pay for their addiction. Furthermore, in the abstinence phase, they are capable to making self-criticisms on their anti-normative behaviors and lost of self-control and their ethical values when they are under the effects of the toxic agents.

The results of this study show that the population attended in the juvenile justice setting have multiple risk factors and backgrounds to develop criminal behaviors. Furthermore, the studies in relation with the clinical characteristics of these adolescents are scarce in our setting in spite of the rate of the population seen within the Juvenile Justice setting in Catalonia (7.2 for every 100,000 inhabitants, 1926 cases of offender 14 to 17 years, in the year 2011) and the social and family repercussion of this problem. Interest often appears when there are cases receive widespread coverage due to social alarm.

In conclusion, it can be said that the profile of toxic agent consumption in the population seen in a facility specialized in mental health and addictions in the juvenile justice setting is much higher than in the general population. On the other hand, even though no differentiated profiles have been found based on the type of substance consumed, we were able to find some traits and tendencies of certain variables that make consumption of one substance likely and not of another. This may be able to serve us as a sign of alarm to consider in order to prevent more serious problems. It would be interesting to be able to carry out more comprehensive studies on the relation between them that may allow us to speak about causality and be able to carry out

preventive intervention programs of the consumption rates as well as of the criminal behaviors.

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