

Case Report

Substance Abuse Disorder and Antisocial Behavior in Mexican Patients: Are the Stimulant Users More Violent Than Other Type of Drug Users?

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Abstract

This article presents the first Mexican study about the relationship between cocaine/crack use disorder and antisocial behavior, based on the comparison of cocaine/crack patients and non stimulant drug patients (attended for alcohol, cannabis, heroine or inhalant use) on criminal behavior history and on the means of scales of problematic and antisocial behaviors in drug users in treatment. These scales evaluate aggression, robberies and other common antisocial and criminal behaviors in individuals with substance use disorder in patients treated at Juvenile Integration Centers, an institution that has treatment centers for drug users, which is part of the Ministry of Health of Mexico and distributed by all the states that make up the country. Statistical comparasions were made, with *chi-square test* and *Student t-test*. The results show more problematic behaviors in the cocaine/crack patients, by means of more impulsive behavior, and direct and indirect violence than the non stimulant drug patients. Moreover the cocaine/crack group showed a transgression history with more crimes against the state, of falsehood and against freedom and psychosexual development.

INTRODUCTION

The high prevalence of substance use disorder among individuals with antisocial behavior, especially in younger, has been the subject of numerous studies by social scientists for more than four decades: criminologists, psychologists, sociologists and physicians [1-5]. Some authors have even suggested that there is a significant association between the two deviant behaviors [6,7], existing evidence that suggests a link between illicit drug use and involvement in crime [8].

However, it seems not to be a causal relationship [9], since many addictions does not relate with violence. In addition, all human behavior, including addictive behavior, might be explained from a multi-factorial perspective [10,11]. In this sense, this approach consider that addictions are caused and maintained by a complex interaction of factors including genetic predisposition, individual history and learning (e.g., family patterns of substance use), co-occurring problems (e.g., depression or anxiety, health problems, or life stressors), and environmental factors (e.g., a friend who introduces an individual to cocaine) [12,13].

Nevertheless, probably, the question that constantly emerges among researchers is what type of behavior first appears: substance use or criminal behavior? Some authors such as Romero-Martínez and Moya-Albiol and Farrington [14], point

out that substance use precede violent behavior. But the recent systematic review to determine the order of occurrence of both behaviors points out, for against, that in cocaine/crack and opiate users, commission of offenses appears 2.9 years prior to use [15]. However, the most accepted hypothesis is that which indicates that both types of behavior are part of the same type of deviant behavior [16-20].

Another of the variables that most influences in this association between crime and substance use disorder is the type of drug. We refer to those that have a stimulating effect on the brain function (e.g. cocaine/crack) and those that exert a depressant effect, such as opiates (e.g. heroin, morphine and derivatives), alcohol, cannabis, and inhalants [21]. In this article, we are concerned with the impact of both groups of drugs on the antisocial and criminal behavior of individuals. Here the order of appearance between both behaviors becomes very relevant, because although we seek to know correlations between two specific groups of drugs, this element of analysis is absent in many published studies on this subject

But what is antisocial and criminal behavior? A criminal act is just one more component of a broader category of antisocial behavior, covering a wide range of acts and activities, such as fighting, aggressive actions, theft, vandalism, pyromania, truancy, running away from home or lies reiterated. Thus, many terms

such as delinquency, conduct disorder, exteriorization behaviors (impulsive behaviors), behavioral problems or antisocial personality disorder, denote with greater or less intensity antisocial behaviors. In general, the label of 'antisocial behavior' refers to any action that violates social rules and expectations or goes against others (people and property) regardless of their gravity [16, 22-24].

According to this definition, several studies indicate that during adolescence many youths will engage in some form of delinquency and substance experimentation [7,25-27]. For example, cocaine/crack, as a stimulant drug, has been one of the most studied in its relation with the violent crimes, especially in men who consume it in combination with alcohol [28-32].

For example, frequent cocaine/crack use has been associated for decades with elevated property crime and hostility, life history of aggression [33,34], a high rate of violent behaviors [35,36], and multiple previous arrests [37,38]. Cocaine/crack is also behind most of the so-called street crimes [17,39], Person street crimes, as shoplifting, street robbery and snatch theft. All have the quality of constituting crimes or "desperate acts" to get the drug. In addition, cocaine users are more impulsive than the normal population, have deficits in empathy, a worse executive function, and problems to sustain and change the attention focus and poor memory [9, 39-42].

In the case of heroin, accumulated evidence indicates that crime precedes the use, however, they are not subjects who are involved in violent crimes such as homicide or serious sexual assault [15,43]. These individuals also commit street crimes similar to cocaine users [17]. Alcohol is also a central nervous system depressant, contrary to the stimulation produced by cocaine/crack. This drink is a common part of daily consumption in most countries of the Western world, in the form of wine or other typical beverages such as whiskey in North Eastern countries or vodka in Eastern Europe and Russia. In Mexico, the consumption of tequila is high and in Spain, for example, the daily use of beer when leaving work (*cañas and tapas*).

But what effects does alcohol have on aggressive and violent behavior and which are the most frequent crimes under its influence? Alcohol is the substance of abuse most frequently related to aggression [9,44]. But it is a perverse relation, since the alcohol does not produce aggressiveness, but that a previous violent personality is uninhibited with the use of alcohol, this behavioral desinhibición is very present every weekend in most night spots where there are fights, use of firearms, slashes and crimes of injuries, many of them resulting in death [45].

On the other hand products like glue, paint, lighter fluid, deodorants, and permanent markers are not legally classified as drugs, however, they can be used as deadly chemicals and poisons. These types of drugs are called inhalants. Mcgarvey, Canterbury, and Waite [43], indicates: *The rubric "inhalants" refers to volatile solvents, volatile nitrites, anesthetics and re-lated substances which can be "sniffed" or "snorted" (nasal inhalation); "huffed" (by breathing fumes from inhalant soaked rags placed in mouth).*

Statistics show that at least 21% of young Americans have used inhalants on one occasion according to the National

Adolescence Student Health Survey [46]. Their relationship with crime has hardly been investigated. Due to their low economic cost, the crimes directed to buy the product are scarce, although they are usually consumed by adolescents in situations of social risk who experience antisocial behavior in some family factors: History of running away, broke rules at home, fought with parents & feel closest to mother [14,43].

Finally, we review a recent research carried out in the city of Valencia (Spain) on the use of *cannabis* and its relation to crime. In this study it was observed that the use of *cannabis* occurred in the initial stages of the criminal career. The results showed that 11% of adolescents in conflict with the law used cannabis as the first drug, followed by cocaine (6%). In addition, its use is very present in the middle classes and is not just a marginal drug. Therefore, we cannot affirm a close relationship between the consumption of *cannabis* and delinquency, because here the biological, psychological, social, family and environmental factors operate in explaining the crime. Therefore, the use of *cannabis* is only an accepted form of consumption that occurs in young people who carry out crimes related to property, street crime and parental abuse [46,47].

The general objective of this investigation was to compare the problematic, antisocial and criminal behaviors associated with two types of drugs: stimulants, such as cocaine/crack and non stimulant drugs, such as alcohol, heroin, cannabis and inhalants in samples of patients treated in Juvenile Integration Centers (Centros de Integración Juvenil [CIJ]) in Mexico.

METHOD

CIJ is a non-profit civil organization incorporated to the Health Sector, with the aim of preventing and treating drug use, it was founded in 1969, and has national coverage, with presence in all the States of Mexican Republic. It was realized a cross-sectional comparative study, with two independent samples of patients, attended for different type of drugs. Intentional non-probabilistic sampling was performed to select patients who demanded treatment during the months of March 2015 to April 2016 to 54 treatment Juvenile Integration Centers.

Samples

1) It was gotten two samples of adults (with 18 or more years of age) chosen by the main drug for which treatment was demand. The first sample was made with 104 patients that mainly demanded treatment for the use of cocaine (45.2%) or crack (54.8%); 72.1% of them were men and 27.9% women, with a mean age of 31 years ($SD= 9.0$), 51% were single, 33% married or living in a free union and 16% were separated or divorced; A bit more of the half of the sample had medium high education (55%), and 44% had only basic studies (primary and secondary); 56% were working and 6% were studying, 11% were homemaker and 22% were unemployed. Notably, 15% of these patients were referred for treatment from a law enforcement agency.

2) The second sample was made up with 205 patients that mainly required treatment for the use of non stimulant drugs: alcohol (38%), cannabis (22%), heroine (30%) o inhalant solvents (10%). The 71% of them were men and 29% women; with a mean age of 32 years ($SD= 12.0$), 60% were single, 27%

married or living in a free union and 13% were separated, divorced or were widow; 36% had medium high education, and 45% had only basic studies (primary and secondary); 44% worked and 15% were studying, 11% were homemaker and 23% were unemployed. Particularly, 13% of these patients were referred for treatment from a law enforcement agency.

Instruments

To collect information a self-administered questionnaire with five sections:

Section I. Sociodemographic and reference features: Collects information about sex, age, place of residence, marital status, education and occupation.

Section II. Consumption pattern: Inquire about the substance used last year and last month, and the frequency and most commonly used drug.

Section III. Criminal history or arrests by law enforcement bodies, and the type of crimes committed under the Mexican criminal code, which include the following: Against health (possession, production or drug trafficking); Against the property of individuals (theft, breach of trust, fraud, extortion, plunder, damage to property); Against the peace and security of persons (threats or burglary); Against life and integrity (injuries, homicide, neglect of people, family violence); Against public safety (criminal association, possession of weapons, escape from prison, parole violation); Of falsehood (counterfeit currency or credit documents, false statements, changes of name or address and usurpation of functions); Against freedom and psychosexual development (harassment or sexual abuse, rape, incest); Against the free development of personality (corruption of minors or vulnerable persons or trafficking, incitement); Unlawful deprivation of liberty (kidnapping or trafficking).

Section IV. Problematic behavior: Likert scale of 22 items that evaluates the presence of impulsive, direct and indirect violence, with five answer choices (from never "to" almost always).

Section V. Antisocial behavior under influence of alcohol or other drugs: Likert scale of 17 items, focused to investigate behaviors such as theft, damage to property and assault on others, with five response options (from "never" to "almost always").

Meanwhile, scale 1 is composed of three subscales: impulsive behavior, indirect violence and direct violence. Scale 2 also has three subscales: aggressive behavior, vandalism and theft.

To obtain the final scores of the factors included in both scales, the scores of the answers were summed and divided between the total of items of each scale to preserve their original values.

The *Assessment Questionnaire Substance Abuse and Antisocial and Criminal Behavior* (In Spanish: Cuestionario de Evaluación de Abuso de Sustancias y Conducta Antisocial y Delictiva (CEASCAD) has shown good levels of reliability and validity (Rodríguez, García and Fernández, 2015). Cronbach Alpha test indicated a high reliability of the instrument both in its overall presentation ($\alpha = 0.949$) and in each of the scales: $\alpha = 0.930$ for Scale 1 and $\alpha = 0.896$ for scale 2.

Data analysis

Chi square test was applied to compare the frequencies of the committed crimes and Student's independent samples *t test* were performed to make comparisons of the means of 10 the groups on the Likert scales about the presence of behavioral problems, and the antisocial behavior under the influence of alcohol or drugs.

RESULTS

More than half of the users of both groups reported having committed any criminal offense under the penal code (57% of the cocaine/crack patients and the 52% of the non stimulating drug patients), without showing statistically significant differences. The 69.2% of the cocaine/crack patients and the 72.2% of the non stimulating drug patients said the police had arrested them sometime; 11.5% of the cocaine/crack patients and 12.2% of the non stimulating drug patients said were sometime held in prison in for juvenile offenders; and 30.8% of the cocaine/crack patients and 26.4% of the non stimulating drug patients said were once in prison.

The 57.7% of the cocaine/crack and 51.7% of the non stimulating drug patients stated to have committed at least one offense of the Federal Penal Code, without showing it statistically significant differences (Table 1).

It is relevant that both groups present high prevalences of crimes against health, and against peace and security, without showing statistically significant differences (Table 2). In contrast, the cocaine/crack patients committed more crimes against the property, of falsehood and against freedom and psychosexual development than non stimulating drug patients with statistically significant differences (Table 2).

On the other hand, the scales of Rodríguez, García and Fernández indicate that the cocaine/crack patients averaged "sometimes" punctuation in the scales of problematic behavior ($X=2.7$, $DE = 0.71$), with statistical differences with the non stimulating drug patients, that averaged an "almost never" punctuation ($X=2.4$, $DE = 0.69$).

The tree factors of the scale: Impulsive behavior, direct violence and indirect violence also sowed statistical differences among the groups (Table 3).

Finally, there were no statistical differences in the *antisocial behavior scale under the effect of drugs*, since the cocaine/crack patients ($X=1.5$, $DE = 0.55$) and the non stimulating drug Patients ($X=1.5$, $DE = 0.51$) averaged an "almost never" punctuation. The three factors of the scale: Aggressive behavior, vandalism and theft did not show statistical differences between groups (Table 3).

DISCUSSION

The most relevant and solid studies have revealed the relationship between cocaine/crack use disorder and the manifestation of criminal and antisocial behaviors, in some cases with extreme violence. However, we must take these results with caution, since violence has been studied from psychobiology, criminal psychology and medicine, and the relationship depends on multiple biopsychosocial factors that interact with the

Table 1: Crime Commission on Cocaine Consumers.

Main impact drug	He/She reported to have committed at least one offense of the Federal Penal Code	
	No	Yes
Cocaine/crack	42.30%	57.70%
Non stimulating drug	48.30%	51.70%

Table 2: Crimes committed by cocaine users (%).

Crimes of the Federal Penal Code	Main impact drug		Sig.
	Cocaine/crack	Cocaine/crack	
Against health	41.6	41.6	NS
Against the property	29.4	29.4	$p<.05$
Against peace and security	13.6	13.6	NS
Against life and integrity	22.3	22.3	NS
Against public safety	6.8	6.8	NS
Of falsehood	10.7	10.7	$p<.05$
Against freedom and psychosexual development	5.9	5.9	$p<.05$
Against the free development of personality	1	1	NS
Illegal deprivation of freedom	1.9	1.9	NS

Table 3: Means of the factors of the antisocial behavior scales by main impact drug.

Main impact drug	Problematic behavior			Under the influence of drugs		
	Impulsive behavior *	Direct Violence *	Indirect Violence *	Aggressive behavior	Vandalism	Theft
Cocaine/crack	3.5	2.2	2.3	1.8	1.8	1.8
Non stimulating drug	3.2	2	2	1.8	1.8	1.8

* $p<.01$

substance. For these reasons, and saving the different methods to evaluate the relationship between cocaine/crack and its relation to antisocial behaviors, we can contribute new data on this association.

The questionnaire applied covers a wide range of antisocial and criminal behavior so that the greatest possible number of these antisocial behaviors can be reflected. They coincide with other studies already carried out, since they indicate that individuals that use cocaine/crack tend to be more violent, even without the effect of drugs [47].

It is true that there are significant differences in both types of drugs: stimulants and depressants. This is logical to understand if we think about the person-to-substance interaction: those with a violent personality will experience more antisocial and aggressive behaviors than those who do not, and depressant drugs will inhibit them in the face of more externalizing behaviors.

However, both substances are associated with common patterns of crimes such as against the health (which is understandable, because as it is not legal to get drugs as cocaine/crack, heroine or cannabis, users need to involve with the crime world to get it) and against life and integrity.

However, it is outstanding that the property crimes are higher in cocaine/crack sample, and may be used to provide with

the necessary profits to continue to consume. Also in this group is higher the prevalence of crimes of falsehood, which shows personality traits of these group of users, and a significant difference in crimes against freedom and psychosexual development, although it remain in low proportions.

Moreover, considering that the drug use and crime, are part of the same type of life deviated, but there seems to be that the crimes committed are not the same. We cannot forget the fact of the methodological difficulty involved in obtaining subjects who only consume a single substance, since they are mostly poly-addicts, where the combination of stimulant and depressant drugs is very frequent. On the other hand, we are aware of other limitations, very common to most studies that study the relationship between both behaviors: mostly subjects who are under judicial order have obtained the sample. This is a recurring issue in most studies on the drug-delinquency relationship. We must continue our future research with those consumers who do not present any type of criminal behavior. We will probably find subjects that will never be the object of investigation and would allow us to know why drugs do not lead them to start a criminal career. This would confirm the perspective based on the person-drug interaction, where the different risk factors of the subject appear as the key to violence, crimes and antisocial behavior.

In this sense, many studies indicate that drugs have ceased

to be marginal class behavior. In the United States and Europe, consumption of *cannabis* and cocaine has experienced a significant boom, only partly offset by the crisis, but with Spain and the United States leading the way. However, Spain has the lowest rates of violent crime in all of Europe, while the United States is considered one of the most violent countries in the world. Here, undoubtedly, culture has a differential effect.

We must say that the study reflects a Mexican reality of patients that demand treatment for drug use, and may give hints to other groups of users not demanding treatment.

In conclusion, per our study, and with the use of the questionnaire already mentioned, we can affirm that the cocaine/*crack* users are related with problematic behavior without having consumed drugs, and that cocaine abusers are more impulsive and exhibit indirect violence behaviors such as insults, humiliation, verbal violence, as well as direct physical violence (e.g. coups, vandalism, gang fights).

REFERENCES

1. Brunelle N, Cousineau MM, Brochu S. Juvenile drug use and delinquency: Youths' accounts of their trajectories. *Substance use and misuse*. 2005; 40: 721-734.
2. D'Amico EJ, Edelen MO, Miles JN, Morral AR. The longitudinal association between substance use and delinquency among high-risk youth. *Drug Alcohol Depend*. 2008; 93: 85-92.
3. Golder S, Logan TK. Violence, victimization, criminal justice involvement, and substance use among drug-involved men. *Violence Vict*. 2014; 29: 53-72.
4. Hirschi T. *Causes of delinquency*. Transaction publishers. 2002.
5. Moral J, Pacheco ME. Differential profile among student and offender adolescents in socio-demographic and dissocial behavior feature variables. *International Journal of Hispanic Psychology*. 2013; 6: 103.
6. Blom H, Högberg U, Olofsson N, Danielsson I. Strong association between earlier abuse and revictimization in youth. *BMC Public Health*. 2014; 14: 715.
7. Elliott DS, Huizinga D, Menard S. *Multiple problem youth: Delinquency, substance use, and mental health problems*. Springer Science & Business Media. 2012.
8. Bukten A, Skurtveit S, Stangeland P, Gossop M, Willersrud AB, Waal H, et al. Criminal convictions among dependent heroin users during a 3-year period prior to opioid maintenance treatment: a longitudinal national cohort study. *J Subst Abuse Treat*. 2011; 41: 407-414.
9. Romero-Martínez A, Moya-Albiol L. Déficiés neuropsicológicos asociados a la relación entre abuso de cocaína y violencia: mecanismos neuronales facilitadores Adicciones. 2015; 27: 64-74.
10. Alba JL, Cuello-Videla O. Agrupaciones familiares y menores con problemas de conducta. *TEMA'S III*. 2015; 23: 106-114.
11. Astakhova M, Hogue M. A heavy work investment typology: A biopsychosocial framework. *J Manag Psychol*. 2014; 29: 81-99.
12. Battaglia N, Bruchon-Schweitzer, Decamps G. Introduction. Esquisse d'une approche integrative du concept d'addiction: regards croisés. *Psychologie français*. 2010; 55: 261-277.
13. Olivenstein C. *Toxicomanie et devenir de l'humanité*. Paris: Odile Jacob. Platt T. "Street" Crime: A View from the Left. *Social Justice*. 2014; 40: 131-132.
14. Farrington D. Early developmental prevention of juvenile delinquency. *Criminal Behavior and Mental Health*. 1994; 142: 209-227.
15. Hayhurst KP, Pierce M, Hickman M, Seddon T, Dunn G, Keane J, et al. Pathways through opiate use and offending: A systematic review. *Int J Drug Policy*. 2017; 39: 1-13.
16. Alba JL, López-Latorre MJ. *Manual de Psicología Jurídica e Investigación Criminal*. Salamanca: Cise, Manuales universitarios. 2006.
17. Allen C. The links between heroin, crack cocaine and crime: Where does street crime fit in? *Brit J Criminol*. 2005; 45: 355-372.
18. Marlowe DB, Lambert JB, Thompson RG. Voluntary intoxication and criminal responsibility. *Behav Sci Law*. 1999; 17: 195-217.
19. Newburn T, Elliott J. *Risks and Responses: drug prevention and youth justice*. Home Office, Drugs Prevention Advisory Service. 1999.
20. Moya Albiol, L. *Neurocriminología. Psicobiología de la violencia*. Madrid: Pirámide. 2015.
21. Catalano RF, Hawkins JD. Social Development Model: A Theory of Antisocial Behavior. In David Hawkins (Ed), *Delinquency and Crime: Current Theories*. Cambridge University Press. 1996; 149-197.
22. Murray J, Farrington DP, Sekol I. Children's Antisocial Behavior, Mental Health, Drug Use, and Educational Performance after Parental Incarceration: A Systematic Review and Meta-Analysis. *Psychol Bull*. 2012; 138: 175-210.
23. Portnoy J, Farrington DP. Resting heart rate and antisocial behavior: An updated systematic review and meta-analysis. *Aggression and Violent Behavior*. 2015; 22: 33-45.
24. DeLisi M. Extreme career criminals. *Am J Criminal Justice*. 2001; 25: 239-252.
25. Moffitt TE. Adolescence-limited and life-course-persistent antisocial behavior: a developmental taxonomy. *Psychol Rev*. 1993; 100: 674-701.
26. White HR, Buckman J, Pardini D, Loeber R. The association of alcohol and drug use with persistence of violent offending in young adulthood. *J Dev Life-Course Criminol*. 2015; 1: 289-303.
27. Chermack ST, Blow FC. Violence among individuals in substance abuse treatment: The role of alcohol and cocaine consumption. *Drug Alcohol Depend*. 2002; 66: 29-37.
28. Chérrez-Bermejo C, Alás-Brun R. Consumo de sustancias y trastornos de salud mental en agresores de violencia de género ingresados en prisión: un estudio descriptivo. *Revista Española de Sanidad Penitenciaria*. 2014; 16: 29-37.
29. Emley GS, Hutchinson RR. Unique influences of ten drugs upon post-shock biting attack and pre-shock manual responding. *Pharmacology Biochemistry and Behavior*. 1983; 19: 5-12.
30. Hadfield MG. Cocaine: Peak time of action on isolation-induced fighting. *Neuropharmacol*. 1982; 21: 711-713.
31. Moeller FG, Steinberg JL, Petty F, Fulton M, Cherek DR, Kramer G, et al. Serotonin and impulsive/aggressive behavior in cocaine dependent subjects. *Progress in Neuro-Psychopharmacology and Biological Psychiatry*. 1994; 18:1027-1035.
32. Korcha RA, Cherpitel CJ, Witbrodt J, Borges G, Hejazi-Bazargan S, Bond JC, et al. Violence related injury and gender: The role of alcohol and alcohol combined with illicit drugs. *Drug Alcohol Rev*. 2014; 33: 43-50.
33. Miller NS, Gold MS, Mahler JC. Violent behaviors associated with cocaine use: possible pharmacological mechanisms. *Int J Addict*. 1991; 26:1077-1088.
34. Kang SY, Kleinman PH, Woody GE, Millman RB, Todd TC, Kemp J, et al. Outcomes for cocaine abusers after once-a-week psychosocial

- therapy. *Am J Psychiat*. 1991; 148: 630-635.
35. Mariani JJ, Pavlicova M, Bisaga A, Nunes EV, Brooks DJ, Levin FR. Extended-release mixed amphetamine salts and topiramate for cocaine dependence: a randomized controlled trial. *Biol Psychiatry*. 2012; 72: 950-956.
36. Preller KH, Hulka LM, Vonmoos M, Jenni D, Baumgartner MR, Seifritz E, et al. Impaired emotional empathy and related social network deficits in cocaine users. *Addict Biol*. 2014; 19: 452-466.
37. Krämer PF, Christensen CH, Hazelwood LA, Dobi A, Bock R, Sibley DR, et al. Dopamine D2 receptor overexpression alters behavior and physiology in *Drd2-EGFP* mice. *J Neurosci*. 2011; 31: 126-132.
38. Spronk DB, Van Wel JH, Ramaekers JG, Verkes RJ. Characterizing the cognitive effects of cocaine: a comprehensive review. *Neurosci Biobehav Rev*. 2013; 37: 1838-1854.
39. McGarvey EL, Canterbury RJ, Waite D. Delinquency and family problems in incarcerated adolescents with and without a history of inhalant use. *Addict Behav*. 1996; 21: 537-542.
40. Beck A, Heinz A. Alcohol-related aggression-social and neurobiological factors. *Dtsch Arztebl Int*. 2013; 110: 711-715.
41. Wiggers JH, Hacker A, Kingsland M, Lecathelinais C, Tindall J, Bowman JA, et al. Facilitating police recording of the alcohol related characteristics of assault incidents: A stepped wedge implementation trial. *Drug Alcohol Rev*. 2016; 35: 30-39.
42. Howard MO, Jenson JM. Inhalant use among antisocial youth: Prevalence and correlates. *Addict Behav*. 1999; 24: 59-74.
43. Uceda-Maza FX, Navarro-Pérez JJ, Pérez-Cosín JV. Adolescentes y drogas: su relación con la delincuencia. *Revista de Estudios Sociales*. 2016; 58: 63-75.
44. Walton MA, Resko S, Barry KL, Chermack ST, Zucker RA, Zimmerman MA, et al. A randomized controlled trial testing the efficacy of a brief cannabis universal prevention program among adolescents in primary care. *Addiction*. 2014; 109: 786-797.
45. Nordstrom BR, Dackis CA. Drugs and crime. *J Psychiat Law*. 2011; 39: 663-687.
46. García-Aurrecochea R, Díaz-Guerrero R, Reyes-Lagunes I, Medina-Mora ME, Andrade-Palos Py Reidl, L. Indicadores Psicosociales de Motivación del Consumo de marihuana y/o cocaína. *Adicciones*. 2006; 18: 387-398.
47. Bean P. *Drugs and crime*. Routledge. 2014.

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