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## USE OF DRUGS AMONG STUDENTS IN A UNIVERSITY IN EL SALVADOR AND ITS RELATIONSHIP TO CHILDREN MALTREATMENT

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**ABSTRACT:** The goal of the study was to examine the relationship between drug use and abuse and maltreatment during childhood among university students in San Salvador, El Salvador. This research was an exploratory study, with a cross-sectional design using a sample of 272 students. The results indicated that 43% (118) of students reported having used drugs sometime in their life; the most frequently used drugs in the past 12 months were alcohol, cannabis and tobacco, with prevalence of 14% (38), 9.3% (26) and 7% (19) respectively. Physical and verbal abuses were the two most common types of maltreatment, and sexual abuse was less frequent, but still present. Having friends who use drugs was a risk factor for drug use and abuse. Additionally there was a direct significant (<0.005) relationship between the use and abuse of drugs and physical abuse during childhood.

**DESCRIPTORS:** Child Abuse. Substance-related disorders. Students.

## USO DE DROGAS ENTRE ESTUDANTES DE UMA UNIVERSIDADE EM EL SALVADOR E SUA RELAÇÃO COM MAUS-TRATOS NA INFÂNCIA

**RESUMO:** O objetivo do estudo foi examinar a relação entre o uso e o abuso de drogas e maus-tratos durante a infância em estudantes universitários na cidade de San Salvador, El Salvador. Trata-se de estudo exploratório, de corte transversal, com uma amostra de 272 estudantes. Os resultados indicaram que 43% (118) dos alunos relataram ter consumido drogas em algum momento da vida; as drogas mais utilizadas nos últimos 12 meses foram álcool (14%), maconha (9,3%) e tabaco (7%). Os abusos físico e verbal foram os tipos mais comuns de abuso e, menos frequente, porém existente, foi o abuso sexual. Ter amigos que usam drogas foi um fator de risco para o uso e abuso de drogas. Existe uma relação direta entre o uso/abuso de drogas e o abuso físico na infância, sendo essa associação estatisticamente significativa (<0.005).

**DESCRIPTORIOS:** Maus-tratos infantis. Transtornos relacionados ao uso de substâncias. Estudantes.

## USO DE DROGAS EN ESTUDIANTES DE UNA UNIVERSIDAD DE EL SALVADOR Y SU RELACIÓN CON EL MALTRATO DURANTE LA NIÑEZ

**RESUMEN:** El objetivo del estudio fue examinar la relación entre el uso y abuso de drogas y maltrato durante la niñez en estudiantes de una universidad de la ciudad de San Salvador, El Salvador. La investigación fue exploratoria, con un diseño transversal, siendo la muestra de 272 estudiantes. Como resultado se obtuvo que el 43% (118) de los estudiantes afirmaron haber consumido drogas alguna vez en su vida; las drogas de mayor consumo en los últimos 12 meses fueron el alcohol, el cannabis y el tabaco, con prevalencias del 14% (38), 9.3% (26) y 7% (19) respectivamente. El abuso físico y el abuso verbal fueron los dos tipos de maltrato más frecuentes; el tener amigos que consuman drogas es un factor de riesgo. Adicionalmente existe una relación directa y significativa (< 0.005) entre el uso y abuso de drogas y maltrato físico durante la niñez.

**DESCRIPTORIOS:** Maltrato a los niños. Trastornos relacionados con sustancia. Estudiantes.

## INTRODUCTION

El maltrato durante la niñez está culturalmente arraigado en El Salvador. Aunque se ha demostrado que el maltrato durante la infancia es un factor de riesgo asociado con el uso de drogas,<sup>1-3</sup> el tema no ha sido tratado en profundidad y con un enfoque científico basado en evidencia en muchos países latinoamericanos y del Caribe, entre ellos El Salvador.

La sociedad salvadoreña se caracteriza por ser tradicionalmente sexista, con sus características coercitivas y autoritarias, en las que los niños son considerados como propiedad de los adultos, y en las que abusar de menores como un medio de educación, disciplina, y castigo se considera normal.<sup>4</sup>

El uso de drogas en el país tiende a estar asociado más con los hombres que con las mujeres.<sup>5</sup> Según el primer estudio sobre el uso de drogas y otros temas entre la población estudiantil de cinco universidades en El Salvador (2010), el 70.8% de los estudiantes reportó haber usado alguna sustancia en algún momento de sus vidas, y el 45.1% de los estudiantes ha usado una sustancia ilícita o lícita durante el último año. Si excluimos el alcohol y el tabaco, las sustancias más utilizadas en 2009 fueron: cannabis (3.3%); solventes (0.7%); cocaína (0.6%); y hashish (un poco más del 0.5%). En cuanto a tranquilizantes, estimulantes, y analgésicos, el 7.8% de los estudiantes reportó haber usado tranquilizantes en algún momento de su vida.<sup>6</sup>

Entre el periodo 2004-2007, los casos reportados de maltrato durante la infancia aumentaron de 1,818 casos en 2004 a 4,403 casos en 2007.<sup>7</sup> Cuatro tipos de maltrato durante la infancia están listados y legalmente reconocidos en El Salvador: abuso físico; abuso psicológico/emocional; abuso sexual; y negligencia o abandono de niños. Los tipos más frecuentes de maltrato infantil son el abuso físico y el abuso psicológico/emocional. Muchos casos de abuso infantil no son reportados, y solo los casos graves o extremos tienden a ser formalmente reportados. Los niños son particularmente vulnerables al maltrato por parte de sus familiares, parientes, o amigos cercanos.<sup>8-9</sup>

El propósito de esta investigación fue determinar la relación entre el uso de drogas entre los estudiantes universitarios y el maltrato durante la infancia. Los resultados de este trabajo proporcionan información valiosa para la prevención, el tratamiento, y los programas de rehabilitación, tanto para el uso de drogas como para el maltrato durante la infancia, ya

que el estudio proporciona una visión general comprehensiva que puede tener un impacto positivo en la calidad de vida, la dignidad, y la salud de los niños, adolescentes, y la población adulta joven de El Salvador.

Este estudio considera las siguientes categorías para la clasificación del maltrato: abuso sexual; abuso físico; abuso psicológico; y negligencia (física y emocional). En este contexto, la pregunta de investigación fue: ¿Hay una relación entre el uso y el abuso de drogas y el maltrato durante la infancia entre los estudiantes universitarios en El Salvador?

## METHOD

Esta investigación es parte de un estudio multicéntrico de diseño transversal. La muestra utilizada en esta investigación consistió de estudiantes universitarios (hombres y mujeres) mayores de 18 años, quienes asistieron a la universidad seleccionada.

El Salvador está ubicado en América Central, con un área total de 20,000 km<sup>2</sup>, y su capital es San Salvador. El país tiene una población de seis millones de habitantes y el idioma oficial es el español.<sup>10</sup> El estudio se realizó en una universidad en San Salvador. Se utilizó una técnica de muestreo no probabilístico. Se aplicó un cuestionario que consistió de 60 preguntas para ser completadas en aproximadamente 35 minutos. El cuestionario consistió de cuatro instrumentos que tenían como objetivo evaluar la relación entre el uso y el abuso de drogas y el maltrato durante la infancia. Estos instrumentos fueron: el cuestionario de Experiencia de la Adversidad durante la Infancia (ACE);<sup>11</sup> la Escala de Distress Psicológico de Kessler (K10)<sup>12</sup> para evaluar el distress psicológico; una selección de preguntas del cuestionario CICAD-OAS sobre el uso de drogas; y un cuestionario socio-demográfico. Dos preguntas estaban relacionadas con el uso de servicios de salud mental como resultado de maltrato durante la infancia o de tratamiento por abuso de sustancias. Este cuestionario fue traducido al español para facilitar su manejo.

La participación en este estudio fue voluntaria. Cada participante firmó un consentimiento informado antes de la encuesta. El estudio fue previamente aprobado por el Comité de Ética de la universidad estudiada en El Salvador y por el Comité de Ética de la Junta de Investigación del Centro para el Abuso de Drogas y la Salud Mental (CAMH), con el número 141-2010. Los estudiantes completaron el cuestionario en aproximadamente 35 minutos.

El proceso de selección fue conducido por el

main investigator after the project was presented to the respective authorities of the university (President, Scientific Investigation Committee of the selected faculty) in order to obtain the permit. For data collection, purposive sampling was used. The sampling frame was limited to one faculty, of which six courses were randomly selected. The sample was composed of 272 students. A sampling error of 5% was found and considered acceptable, and it was used for sample size calculation. The inclusion criterion was to be aged over 18 years.

Participants were included in the study after: 1) they met the specific inclusion and exclusion criteria; 2) they agreed to participate in the study, after they were given a verbal description of the study objectives and a free and informed consent form to be signed so that confidentiality was ensured; 3) they were provided with answers to any questions they had about the study and data collection; and 4) they signed the free and informed consent form. Data were collected during classes, and their management was conducted by the main researcher. The questionnaire and the informed consent form were explained by the main researcher in 10 minutes and they were distributed to participants for completion. After the papers were completed, they were put inside two different boxes that were made available for this purpose.

An electronic database was created with the help of the software Statistical Package for the Social Sciences (SPSS), version 15.0 for Windows. Data entry was performed by the main researcher. This database was tested with preliminary data obtained from 10 questionnaires collected from other students who were not participating in the study.

This test was performed to assess the effectiveness of the electronic database and the functionality of the questionnaire.

A descriptive statistical analysis was carried out; absolute and relative frequencies and measures of central tendency (mean, median) were found; and dispersion (standard deviation) was calculated for numeric variables. Contingency tables and a chi-squared test were done to assess the association between maltreatment during childhood and drug use and abuse; a binomial test was also applied to determine the accuracy of opinions. The relationship between variables was considered statistically significant where  $p < 0.05$ .

## RESULTS

### Sociodemographic characteristics of the sample

The sample consisted of 272 students from a university in El Salvador. Only students from the university's school of medicine were selected.

Table 1 shows that, out of the surveyed students, 55.1% (150) were women and 44.9% (122) were men; 75% (204) were aged between 18 and 24 years old; 81% (221) had a medium socioeconomic status; 69% (190) had parents who had completed higher education; 62.1% (169) had mothers who had completed higher education; for 68.8% (168), religious belief was considered very important; 90.8% (247) came from the city. Regarding the perception of maltreatment during childhood, only 12.1% (33) considered that they had been abused, while the others, 87.9% (239), did not think so.

**Table 1 - Socio-demographic characteristics of university students. San Salvador, El Salvador, 2011**

Socio-demographic characteristics	Male		Female		Total	
	f	%	f	%	f	%
<b>Age</b>						
18- 24	88	32.4	116	42.6	204	75.0
25-29	32	11.8	31	11.4	63	23.2
30-34	2	0.7	3	1.1	5	1.8
35-40	-	-	-	-	-	-
40+	-	-	-	-	-	-
Total	122	44.9	150	55.1	272	100.0
<b>Socioeconomic Status</b>						
High	4	1.5	2	0.7	6	2.2
Medium	89	32.7	132	48.5	221	81.3
Low	29	10.7	16	5.9	45	16.5
Total	122	44.9	150	55.1	272	100.0

Socio-demographic characteristics	Male		Female		Total	
	f	%	f	%	f	%
<b>Father's highest level of education</b>						
Higher Education	78	28.7	112	41.2	190	69.9
Secondary Education	20	7.4	16	5.9	36	13.2
Primary Education	10	3.7	11	4.0	21	7.7
Informal Education	14	5.1	11	4.0	25	9.2
Total	122	44.9	150	55.1	272	100
<b>Mother's highest level of education</b>						
Higher Education	71	26.1	98	36.0	169	62.1
Secondary Education	26	9.6	30	11.0	56	20.6
Primary Education	16	5.9	14	5.1	30	11.0
Informal Education	9	3.3	8	2.9	17	6.3
Total	122	44.9	150	55.1	272	100.0
<b>Importance of religious beliefs</b>						
Very important	70	25.7	98	36.0	168	61.8
Important	36	13.2	39	14.3	75	27.6
Fairly important	11	4.0	8	2.9	19	7.0
Not important	5	1.8	5	1.8	10	3.7
Total	122	44.9	150	55.1	272	100.0
<b>Place of living during childhood</b>						
City	109	40.1	138	50.7	247	90.8
Countryside	13	4.8	12	4.4	25	9.2
Total	122	44.9	150	55.1	272	100.0
<b>Feel they have been abused (perception)</b>						
Yes	16	5.9	17	6.3	33	12.1
No	106	39.0	133	48.9	239	87.9
Total	122	44.9	150	55.1	272	100.0

## Maltreatment during childhood

Of the 272 surveyed students, 6.6% (18) stated that they were sexually abused, 24.6% (67) that they were physically abused, 24.6% (67) that they had suffered verbal abuse, and 12.9% (35) that they had suffered emotional or physical neglect. Physical maltreatment had a slight prevalence among men, and verbal maltreatment had a slight prevalence among women.

Table 2 indicates that 18.4% (50) of students reported that their mother, caregiver, or guardian was physically abused. Eighty-seven students (32%) reported that their parents were divorced or separated; 22.4% (61) of students stated that they lived with someone who suffered from depression or other mental illness; and 36.1% (98) lived with a consumer of illicit or licit drugs.

According to the Kessler scale, 55.1% (150) of students reported suffering from minimal psychological distress, 22.4% (61) from slight distress, 12.1% (33) from moderate distress, and only 10.3% (28) from severe distress.

**Table 2 - Report of adverse experiences during childhood among university students. San Salvador, El Salvador, 2012 (n=272)**

Family experiences	f	%
Mother, caregiver, or guardian was physically abused	50	18.4
Divorced or separated parents	87	32.0
Lived with someone who suffered from depression or other mental illness	61	22.4
Family member who had attempted suicide	26	9.6
Lived with an alcoholic	66	24.3
Lived with a drug user	32	11.8
Had a family member who had been to prison	24	8.8

## Use of psychoactive drugs

Forty-three percent of students stated that they had used drugs at some time in their lives, and this can be asserted with 66% of certainty. The most used drugs over the last 12 months were alcohol, cannabis, and tobacco, with a prevalence of 14% (38), 9.3% (26), and 7% (19) respectively. The most used drugs over the last 30 days were alcohol,

tobacco, and cannabis, with a prevalence of 16.9% (46), 11.0% (30), and 4.4% (12) respectively. The least used drugs over the last 12-month and 30-day periods were heroin and inhalants, respectively.

As for the frequency of use of psychoactive drugs, it was found that alcohol was the most used drug, with a monthly frequency of 13.2% (36), tobacco was the most used drug on a weekly basis at 3% (9), and over-the-counter drugs were the most used drugs on a daily basis at 4.1% (11).

In Table 3, we show that, according to the DSM-IV classification criteria, of the total number students who reported having used drugs, 41.5% (49) met the criteria for psychoactive drug abuse, while 58.5% (69) were in the "use" category.

**Tabla 3 - RReport of cases of psychoactive drug abuse based on DSM-IV criteria. San Salvador, El Salvador, 2011 (n=118)**

DSM - IV	Male		Female		Total	
	f	%	f	%	f	%
Abuse	36	30.5	13	11.0	49	41.5
Use	33	28.0	36	30.5	69	58.5
Total	69	58.5	49	41.5	118	100.0

Of the total number students who reported having used drugs, only 2.5% (3) stated that they have received therapy or professional psychological support due to drug use and, according to the results of the chi-squared table, this can be confirmed with an error probability lower than 0.05.

One hundred and fifty-nine students surveyed (58.45%) had friends who use psychoactive drugs, whereas 53.24% (82) of students who reported not using drugs (n=154) had friends who use drugs. This proportion is greater when we analyze the group of students who reported use and abuse of drugs (n=118), where 65.25% (77) had friends who also use drugs.

Of the students who reported having used drugs at some time in their lives, 67.8% (80) stated that their first time was with a friend who had

already used drugs, and 55.9% (66) stated that they tend to use drugs with friends. Alcohol and tobacco were the most used drugs by friends over the last 12 months with a prevalence of 79% (93) and 75% (89) respectively, which puts cannabis behind at 36% (42), and finally cocaine at 17% (20).

**Relationship between maltreatment during childhood and the use of psychoactive drugs**

In terms of relationships or associations between child maltreatment and the use of psychoactive drugs, according to the results of the chi-squared test, of the students who use drugs (69), 70% (48) had suffered some kind of maltreatment during childhood; of the students who reported drug abuse (49), 84% (41) had suffered some kind of maltreatment during childhood; and of the students who do not use drugs, 64% (98) had suffered some kind of maltreatment during childhood.

After the application of the chi-squared test, it was found that the probability of error regarding the relationship between use, abuse, or no use of psychoactive drugs and sexual abuse is 42.9%, which is not statistically significant, thus showing that there is no relationship with use and abuse of drugs for this type of maltreatment.

As for the relationship between use, abuse, and no use of psychoactive drugs and physical abuse, Table 4 shows, with a probability of error below 0.05, that 30.43% of students who use drugs had suffered physical abuse during childhood. Of the students who used drugs, 34.69% had suffered physical abuse during childhood, and only 18.83% of students who do not use drugs had suffered physical abuse during childhood.

After the application of the chi-squared test, a high probability of error was found regarding the relationship between the use of psychoactive drugs and verbal abuse, and between the use of psychoactive drugs and emotional or physical neglect. For this reason, this association cannot be made.

**Tabla 4 - Use of psychoactive drugs and physical abuse: chi-squared test**

Ítems	Value	gl	Asymptotic sig. (bilateral)	Exact sig. (bilateral)	Exact sig. (unilateral)
Pearson's chi-squared test	12.378 <sup>a</sup>	1	.000		
Correction for continuity	11.133	1	.001		
Likelihood ratio	11.268	1	.001		

Fischer's Exact test				.001	.001
Linear by linear association	12.332	1	.000		
N of valid cases	272				

## DISCUSSION

En El Salvador la tendencia creciente en el consuIn El Salvador, the increased tendency toward the use of psychoactive drugs among university students is considered a public health issue.<sup>13</sup> According to the sociodemographic characteristics of the university population surveyed, there is no gender dominance and they belong mainly to the age group 18-24, because academic life takes place during this young adult stage. Most people surveyed belong to a medium socioeconomic status and both parents had completed higher education. These are the expected characteristics, according to the profile of people in El Salvador who have Access to higher education.<sup>14</sup>

Religious beliefs were stated as very important to them and this is a protective factor; in fact some researchers have defined "non-religiosity"<sup>15</sup> as a risk factor for drug consumption. Nearly all university students lived in the city during their childhood. Eighty-seven point nine percent of students believed that they were not abused during childhood, which is in line with the region's cultural aspects, where the majority of adults consider physical maltreatment to be a tolerated means of educating and socializing.<sup>4-16</sup>

According to the results of the Adverse Childhood Experience questionnaire (ACE), and in contrast with the perception of maltreatment expressed by university students, 70% of students suffered some kind of maltreatment during childhood, in similar proportions for both genders, and this is a valuable piece of information to take into account, because many authors have found that experiencing maltreatment during childhood is a risk factor associated with drug use.<sup>1-3,15,17-20</sup>

Regarding the types of maltreatment reported by university students, physical abuse and verbal abuse were the two most frequent types, and although sexual abuse was the least frequent, it was also present. The results are in line with those of other studies that showed that most minors in Latin America and the Caribbean undergo physical and psychological maltreatment, with an incidence between 40-82%.<sup>4</sup>

Thirty-two percent of students stated that their parents were separated or divorced, and

one-fourth stated that they lived either with someone who suffered from depression or another mental illness or with an alcoholic. A lower proportion of 20% stated that their mother, caregiver, or guardian had been physically abused, that they had lived with a drug addict, and/or that they had a family member who had tried to commit suicide or gone to prison. These results coincide with other studies that highlighted the violence that affects women and that has alcohol intake and the use of drugs as the main triggering elements of the abuser's violent attitude<sup>21-22</sup>

In addition, according to the studies carried out with young adults in the rehabilitation process at Hogares CREA, Fundación Desafío Juvenil, FUNDASALVA, and Fundación Alma in El Salvador throughout 2006,<sup>23-24</sup> among the family factors that most influence the use of licit and illicit drugs the following can be mentioned: lack of communication between parents and children, followed by poor control of parents over their children's activities, and a lack of commitment by parents regarding their children's education. All of these contribute to family instability, parental rejection, separations or divorce, and conflicts that are the result of too much or too little discipline.

According to the parameters of measurement of psychological distress (Kessler scale) used in this study, most students had minimum to moderate levels of psychological distress, which is in line with other studies that showed that impulsiveness,<sup>1-2,17</sup> emotional suffering,<sup>20</sup> and physiological and genetic predisposition<sup>25</sup> are important factors in drug use.

Forty-three point three percent of students reported having used drugs at some time in their lives, with alcohol, cannabis, and tobacco being the most used within the last 12 months, and alcohol, tobacco, and cannabis within the last 30 days. As for the frequency of use, alcohol was the most used drug on a monthly basis, tobacco the most used on a weekly basis, and over-the-counter drugs on a daily basis. These results confirm those of other studies carried out in the country,<sup>13,23-24</sup> while some studies have shown that the pattern of drug consumption among adolescents is currently "poly-drug use."<sup>13,26</sup>

According to the first study on drug use

and other issues with student populations at five universities in El Salvador, 67.8% of university students stated that they had used some kind of licit or illicit drug over the course of their lives, and 45.1% of students had used some kind of licit or illicit drug over the past year. Except for alcohol and tobacco, the results of this study conducted in 2009 show that the most used drugs were: cannabis, with 3.3%; solvents with 0.7%; cocaine with 0.6%; and hashish with a little more than 0.5%. As for tranquilizers, stimulants, and painkillers, 7.8% of university students reported having used tranquilizers at some time in their lives.<sup>13</sup>

According to DSM-IV classification, of all the students who stated that they used drugs, 41.5% are drug abusers, with a prevalence of the male gender, which is similar to other studies conducted with a young population in which drug use in El Salvador is reported to be more associated with men than women.<sup>5,23-24</sup> The other 58.5% use drugs according to the DSM-IV classification and the pattern is similar for both genders.

Of students who use drugs, most have not received any kind of treatment, and this is true for more than 97% of the students surveyed. It is worth mentioning that the areas of treatment and rehabilitation must be strengthened in El Salvador.<sup>27</sup> It has been stated that there are serious limitations in El Salvador's national mental health system, especially in primary care, and there is also a lack of skilled human resources and a national record of services as well as treatment programs.<sup>28</sup>

As for peers, the influence of friends regarding drug consumption is clear, as most students who use and abuse drugs have friends who use drugs. This influence can be clearly seen among students who abuse drugs, of whom 65.25% have friends who use drugs. However, this study also revealed that 53.24% of students who do not use drugs have friends who do, and 46.76% have no friends who do. Moreover, we can see that more than 50% of the population that reports using drugs also state that their first time was with friends, and when they consume they tend to do it with friends. Studies carried out with a student population have shown that peer pressure, as well as the pressure and influence of media regarding psychoactive drugs, represented by alcohol and tobacco, are risk factors that favor simultaneous use.<sup>29-31</sup>

Previous studies with the university population in El Salvador have shown similar results

in regard to the influence of peers as a risk factor for drug consumption.<sup>13,22</sup> The drugs most used by friends over the last 12 months were alcohol, tobacco, and cannabis.

There is a direct relationship between the use and abuse of psychoactive drugs and physical abuse during childhood, which shows that this association does exist. Of the students who use drugs, 30.43% suffered physical abuse during childhood. Of the students who abuse drugs, 34.69% suffered physical abuse during childhood, and 18.83% of students who do not use drugs were maltreated during childhood. This relationship does not exist in the other three types of abuse: verbal abuse; sexual abuse; and neglect. These figures cannot be contrasted because there are no previous studies in El Salvador that investigate the use of drugs among university students and its relationship with maltreatment during childhood.

## CONCLUSIONS

The students surveyed had suffered some kind of maltreatment during childhood to a similar extent in both genders. Physical abuse and verbal abuse were the two most frequent types of maltreatment, and sexual abuse was less frequent, but still present. The most used drugs were, in order of consumption, alcohol, cannabis, and tobacco. Having friends who use drugs was a risk factor for drug use and abuse by university students. There is a greater history of physical abuse during childhood among university students who have used and abused drugs than among those who do not. There is a direct relationship between the use and abuse of drugs and physical abuse during childhood.

## Limitations

The sampling technique was a limitation, since it does not allow for the generalization of the results of this study to the whole university nor to the country's general population. Students were asked to provide retrospective data on the events that might have occurred during their childhood and adolescence. These reports might have been affected by a loss of memory. It is worth mentioning that maltreatment and use or abuse of drugs might have been over-reported or under-reported, according to each student's perceptions.

## Recommendations

To all universities in El Salvador, we recommend the inclusion of drug and violence issues in their institutional research policy as one of the main lines of university scientific research, because both have been listed as social issues with serious impacts on the country. Prevention programs for drug consumption within university premises, and involvement of student bodies coordinating with competent bodies are essential. Research studies can gain new perspectives on maltreatment during childhood and its relationship with individual factors (personality-temperament), social influence (media, the country's historical context), the legal framework, and socioeconomic conditions, among others.

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## REFERENCES

- Hartzler B, Fromme K. Cognitive-behavioral profiles of college risk-takers with type II and psychopathic personality traits. *Addict Behav.* 2003; 28(2):315-26.
- Moeller FG, Dougherty DM. Impulsivity and substance abuse: what is the connection? *Addict Disord Their Treat.* 2002; 1(1):3-10.
- Gilbert R, Cathy SWC, Browne K, Fergusson D, Webb E, Janson S. Child maltreatment 1: burden and consequence of child maltreatment in high-income countries. *Lancet.* 2009 Jan; 373(3):68-81.
- Arriaga I. Políticas y programas de salud en América Latina. Problemas y propuestas, Chile: CEPAL, ONU; 2005 [access 2012 Feb 1]. Available at [http://www.eclac.cl/publicaciones/xml/7/23777/sps114\\_lcl2450.pdf](http://www.eclac.cl/publicaciones/xml/7/23777/sps114_lcl2450.pdf)
- Rivas I. Factores que incidieron en el consumo de drogas lícitas e ilícitas. Estudio realizado en instituciones de rehabilitación en el año 2006. *Rev Científica Crea Ciencia* [online]. 2006 [access 2012 May 18]; 4(6). Available at [http://www.uees.edu.sv/crea6/1\\_factores.htm](http://www.uees.edu.sv/crea6/1_factores.htm)
- Comisión Nacional Antidrogas.. Primer estudio sobre consumo de drogas y de otras problemáticas en población estudiantil de cinco universidades de El Salvador [online]. El Salvador: CNA; 2010 [access 2014 May 08]. Available at: <http://www.seguridad.gob.sv/observatorio>
- Comité de América Latina y el Caribe para la defensa de los derechos de la mujer - CLADEM. Resumen ejecutivo aplicación de la convención sobre los derechos del niño(a) en El Salvador [online]. El Salvador: CLADEM; 2009 [access 2014 May 08]. Available at: [http://www.cladem.org/monitoreo/informes-alternativos/ElSalvador/Comite\\_DDnino/informe-alternativo-2009.pdf](http://www.cladem.org/monitoreo/informes-alternativos/ElSalvador/Comite_DDnino/informe-alternativo-2009.pdf)
- Observatorio Centroamericano sobre la Violencia [online]. Costa Rica: OCAVI; 2009. [access 2010 Jul 21]. Available at: [http://www.ocavi.com/docs\\_files/file\\_700.pdf](http://www.ocavi.com/docs_files/file_700.pdf)
- Observatorio Centroamericano sobre Violencia - 2009 [online]. Costa Rica: OCAVI; 2010 [access 2010 Jun 21]. Available at: [http://www.ocavi.com/docs\\_files/file\\_715.pdf](http://www.ocavi.com/docs_files/file_715.pdf)
- Organización de los Estados Americanos y Comisión Interamericana para el Control del Abuso de Drogas. El Salvador: evaluación del progreso de control de drogas, Mecanismo de Evaluación Multilateral (MEM). Washington (US): OEA; 2006.
- Rothman EF, Edwards EM, Heeren T, Hingson RW. Adverse childhood experiences predict earlier age of drinking onset: results from a representative US sample of current or former drinkers. *Pediatrics.* 2008 Aug; 122(2):e298-304.
- Kessler R, Barker PR, Colpe LJ, Epstein JF, Gfroerer JC, Hiripi E. Screening for serious mental illness in the general population. *Arch Gen Psychiatry.* 2003; 60(2):184-9.
- Bautista Pérez F, Simich L, Strike C, Brands B, Giesbrecht N, Khenti A. Policonsumo simultáneo de drogas en estudiantes de pregrado del área de la salud de una universidad, San Salvador - El Salvador. *Texto Contexto Enferm* [online]. 2012 [access 2014 Jun 20]; 21(spe):56-62. Available at: [http://www.scielo.br/scielo.php?script=sci\\_arttext&pid=S0104-07072012000500007&lng=en](http://www.scielo.br/scielo.php?script=sci_arttext&pid=S0104-07072012000500007&lng=en)
- Dirección General de Estadísticas y Censos (DIGESTYC). VI Censo de población y V de vivienda 2007 [online]. El Salvador: Ministerio de Economía; 2007 [access 2014 Jun 11]. Available at: <http://www.digestyc.gob.sv/index.php/temas/des/poblacion-y-estadisticas-demograficas/censo-de-poblacion-y-vivienda/poblacion-censos.html>
- Adlaf EM, Samart RG. Drug use and religious affiliation, feelings and behaviour. *Br J Addict.* 1985 Jun; 80(2):163-71.
- Morrison A, Maróa LB. El costo del silencio: violencia doméstica en las Américas [online]. New York: Banco Interamericano de Desarrollo; 1999 [access 2011 May 20]. Available at [http://issuu.com/idb\\_publications/docs/book\\_es\\_51518](http://issuu.com/idb_publications/docs/book_es_51518)
- McCarthy DM, Kroll LS, Smith GT. Integrating disinhibition and learning risk for alcohol use. *Exp*



- Clin Psychopharmacol. 2001 Nov; 9(4):389-98.
18. Gantiva Díaz CA, Bello Arévalo J, Vanegas Angarita E, Sastoque Ruiz Y. Historia de maltrato físico en la infancia y esquemas de maladaptativos tempranos en estudiantes universitarios. *Acta Colomb. P sicol.* 2009 Jun; 12(2):127-34.
  19. Gallego Gómez CL, Medina Bernal MT, Montoya Vélez LP. Historia de abuso sexual y su relación con depresión, autoestima y consumo de sustancias psicoactivas en estudiantes de media vocacional del municipio de Caldas Antioquia, Colombia - 2007. *CES Med.* 2008; 22(1):17-27.
  20. Félix-Ortiz M, Newcomb MD. Vulnerability for drug use among Latino adolescents. *J Community Psychol.* 1999; 27(3):257-80.
  21. Vaiz R, Spanó A. La violencia intrafamiliar, el uso de drogas en la pareja, desde la perspectiva de la mujer maltratada. *Rev Latino-Am Enferm [online].* 2004 Mar-Abr [access 2013 Nov 20]; 12(esp):433-8. Available at: [http://www.scielo.br/scielo.php?pid=S0104-11692004000700020&script=sci\\_arttext](http://www.scielo.br/scielo.php?pid=S0104-11692004000700020&script=sci_arttext)
  22. Rivera A. Factores de riesgo y protección del consumo de drogas entre estudiantes universitarios salvadoreños. *Rev Científica Crea Ciencia [online].* 2007 [access 2013 Nov 20]; 7: 12. Available at: [http://www.uees.edu.sv/crea2.2/1\\_factores.htm](http://www.uees.edu.sv/crea2.2/1_factores.htm)
  23. Fundación Antidrogas de El Salvador. Observatorio Salvadoreño sobre drogas: informe ejecutivo [online]. San Salvador: Fundación Antidrogas de El Salvador; 2004 [Access 2010 jul 18]. Available at <http://www.seguridad.gob.sv/observatorio>
  24. Fundación Antidrogas de El Salvador [online]. San Salvador: FUNDASALVA; 2009 [access 2013 Nov 20]. Available at: <http://www.fundasalva.org.sv/home/investigacion.aspx>
  25. Schuckit MA. A clinical model of genetic influences in alcohol dependence. *J Stud Alcohol.* 1994; 55(1):5-17.
  26. Muñoz-Rivas M, Graña Lopes JL. Factores familiares de riesgo y de protección para el consumo de drogas en adolescentes. *Psicothema.* 2001; 13(1):87-94.
  27. Rodríguez JJ, Barrett T, Narváez S, Caldas JM, Levav I, Saxena S. Sistemas de salud mental en El Salvador, Guatemala y Nicaragua: resultados de una evaluación mediante el WHO-AIMS. *Rev Panam Salud Pública* 2007; 22(5):348-57.
  28. Juárez C, García M, Marquina M. Percepción del personal de salud sobre la calidad de la atención a adolescentes que abusan de drogas. *Rev Análisis.* 2011; 8:101-11.
  29. Veloza Gómez M, Simich L, Strike C, Brands B, Giesbrecht N, Khenti A. (2012). Medio social y uso simultáneo de alcohol y tabaco en estudiantes universitarios de pregrado de carreras de ciencias de la salud de una universidad, Cundinamarca - Colombia. *Texto Contexto Enferm [online].* 2012 [access 2014 Jun 11]; 21(spe):41-8. Available at: [http://www.scielo.br/scielo.php?script=sci\\_arttext&pid=S0104-07072012000500005&lng=en&tlng=es](http://www.scielo.br/scielo.php?script=sci_arttext&pid=S0104-07072012000500005&lng=en&tlng=es)
  30. Riofrío Guillén R, Nascimento LC. Consumo de drogas en los jóvenes de la ciudad de Guayaquil, Ecuador. *Rev Latino-Am Enfermagem [online].* 2010 [access 2014 Jun 11]; 18(spe):598-605. Available at [http://www.scielo.br/scielo.php?script=sci\\_arttext&pid=S0104-11692010000700016&lng=en&tlng=es](http://www.scielo.br/scielo.php?script=sci_arttext&pid=S0104-11692010000700016&lng=en&tlng=es)
  31. Bermúdez-Herrera A, Silva MAI, Priotto EMT, Sampaio JMC (2011). Percepción de los estudiantes de una escuela de enfermería acerca del consumo de drogas lícitas e ilícitas. *Rev Latino-Am Enfermagem [online].* 2011 [Access 2014 Jun 11]; 19(spe): 684-90. Available at [http://www.scielo.br/scielo.php?script=sci\\_arttext&pid=S0104-11692011000700004&lng=en&tlng=es](http://www.scielo.br/scielo.php?script=sci_arttext&pid=S0104-11692011000700004&lng=en&tlng=es)

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