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## DRUG USE AMONG UNIVERSITY STUDENTS AND ITS RELATIONSHIP WITH MALTREATMENT DURING CHILDHOOD IN ONE UNIVERSITY IN SAN SALVADOR, EL SALVADOR

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**ABSTRACT:** The objective of the study was to examine the relationship between drug use and maltreatment during childhood among students from one university in San Salvador. This is a cross-sectional study, on a sample size of 272 students with a sampling error of 5%. The results showed prevalence of drug use sometime in life of 43.0%, 6.6% of students reported had been sexually abused, 24.6% reported physical abuse, 24.6% reported verbal abuse, and 12.9% declared being emotionally or physically neglected. 55.1% reported a minimum level of psychological distress. 58.5% have friends who use drugs. Alcohol, cannabis and tobacco are the most used drugs. At least 70% of students who use drugs suffered some kind of abuse. In terms of partnerships, only physical abuse was found significantly associated with a probability of error less than 0.05. These data shouldn't be generalized to university students of San Salvador, El Salvador.

**DESCRIPTORS:** Child abuse. Substance-related disorders. Students. Universities

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

**RESUMO:** O objetivo do estudo foi analisar a relação entre o uso de drogas com os maus-tratos na infância entre estudantes universitários de uma universidade em San Salvador. Este é um estudo transversal, com uma amostra de 272 alunos, e com erro amostral de 5%. Os resultados mais importantes foram que 6,6% dos alunos referem ter sofrido abuso sexual, 24,6% abuso físico e 24,6% abuso verbal, e 12,9% referiram ter sido física ou emocionalmente negligenciados. Dentre os estudantes, 55,1% relataram mínimo sofrimento psicológico. Os 43% usaram drogas uma vez em sua vida. Os 58,45% tinham amigos que usam drogas. álcool, maconha e tabaco são as drogas mais comumente usadas. 70% dos alunos que usam drogas sofreram algum tipo de abuso. Somente o abuso físico apresentou associação estatisticamente significativa, com probabilidade de erro < 0.05. Os resultados deste estudo não devem ser generalizado para a população de estudantes universitários de San Salvador, El Salvador.

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

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

**RESUMEN:** El objetivo del estudio fue examinar la relación entre el uso de drogas en estudiantes universitarios de una universidad en San Salvador y su relación con el maltrato durante la niñez. Este estudio fue de corte transversal, siendo el tamaño de la muestra de 272 estudiantes, con un error muestral del 5%. Los resultados más importantes fueron: el 6.6% de los estudiantes manifestó haber sufrido abuso sexual, el 24.6% abuso físico y el mismo porcentaje fue reportado para el abuso verbal mientras que el 12.9% reportó negligencia emocional o física. El 55.1% reportó distress psicológico mínimo. El 43% ha consumido drogas alguna vez en su vida. El 58.45% tiene amigos que usan drogas. El alcohol, el cannabis y el tabaco son las drogas más usadas. El 70% de los estudiantes que usan drogas sufrieron algún tipo de maltrato. En cuanto a las asociaciones, sólo en el abuso físico se encontró una asociación estadísticamente significativa con una probabilidad de error menor al 0.05. Los datos no pueden ser generalizados a los estudiantes universitarios de San Salvador, El Salvador.

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

### INTRODUCTION

Se reconoce ampliamente que el consumo de alcohol is widely known that the abuse of alcohol and other legal and illegal drugs is a global public health issue that can be approached under different yet complementary perspectives. One of these perspectives is to reduce drug availability, while the other is to reduce demand. Regarding the latter, evidence-based strategies to reduce demand intend to increasingly expose the population at large, mainly children and youngsters, to identified protective factors, and to reduce the exposure of populations to recognized risk factors.

Many authors have found that exposure to maltreatment in childhood is a risk factor associated with drug abuse.<sup>1-7</sup> However, in many Latin American and Caribbean countries – such as El Salvador – this topic has not been investigated based on scientific evidence.

In 2008, the Intelligence Center of the National Civil Police (PNC) reported 128 cases of child maltreatment, of which 46% of the victims were male and 54% were female. The age group of 10–12 years was found to be most vulnerable, as 22% of the cases belong to that group.<sup>8-9</sup> In 2007, the Salvadoran Institute for Women’s Development (ISDEMU) identified 2,607 cases of maltreatment in childhood within the previous eight months. Therefore, child maltreatment is an important problem in El Salvador, and its impact should be deeply reviewed.<sup>8-9</sup>

Drug abuse among university students and their friends, notably alcohol abuse, is at concerning levels among the university population.<sup>10</sup> The gradual transition from adolescence to adulthood is a period marked by conflicts and changes, many of which increase the risk of emo-

tional distress and abuse of alcohol, tobacco, and illegal drugs.<sup>11</sup>

Psychological factors such as psychological distress are associated to drug abuse. Anxiety and symptoms of depression are associated with the use of tobacco;<sup>12</sup> and depression has been associated with the use of drugs in general,<sup>13-14</sup> leading to pathological behavior.

Physical abuse is related to drug abuse and problematic behavior. Individuals who have suffered physical abuse also start doing drugs earlier than those who have not suffered physical abuse.

This study aims at establishing the relationship between drug abuse among university students and maltreatment in childhood. The results of this paper provide valuable information for programs on prevention, treatment, and rehabilitation regarding the consumption of psychoactive substances and the correlation with maltreatment in childhood, as it facilitates a mainstreaming focus that could have a positive impact on the quality of life, dignity, and health of children, adolescents, and young adults in Salvadoran society.

Maltreatment was classified as follows: sexual abuse; physical abuse; psychological abuse; and neglect (physical and emotional). The research question was: “Is there any correlation between drug use and abuse and maltreatment in childhood among university students in El Salvador?”

### METHOD

This survey is part of a multicenter and cross-sectional study. Sampling consisted of university students of both genders, of more than 18 years of age, who attend a university in San Salvador, El Salvador, and gathered retrospective

information about the student population.

The survey employed a non-probabilistic sampling technique to facilitate sampling selection. It selected 272 students from a university in San Salvador, El Salvador, specifically from the College of Medicine. A 5% sampling error was selected and used to calculate sampling sizes. Participation in the study was voluntary. The inclusion criteria were as follows: 18 years of age or older (which is considered to be the legal age in El Salvador) and an active student at the participating university.

The survey employed a 60-question questionnaire comprising four instruments to explore the correlation between drug use and abuse and maltreatment in childhood. The instruments were as follows: the Questionnaire on Adverse Childhood Experiences (ACE),<sup>15</sup> the Kessler Scale of Psychological Disorders (K10)<sup>16</sup> to evaluate the Psychological Distress; questions selected from the CICAD-OEA<sup>17</sup> questionnaire on drug use; and a questionnaire consisting of socio-demographic questions. Two questions addressed the use of mental health care as a result of child maltreatment or abuse of substances. The questionnaire was translated into Spanish to facilitate the application.

The survey was approved by the Ethics in Research Board (ERB) of the Addiction and Mental Health Center (CAMH) and of the Ethics Committee of the participating university.

The Statistical Package for the Social Sciences (SPSS) software, version 15 for Windows, was used to design the database and further data analysis. The database was tested with preliminary data from 10 questionnaires answered by non-participating students to establish the effectiveness of the electronic database and of the questionnaire.

A descriptive statistical analysis was performed, with absolute and relative frequencies of categorical variables and central tendency measures (average and median); and dispersion measures (standard deviation) were calculated for numerical variables. Contingency tables and a chi-square test were used to analyze the association between maltreatment in childhood and drug use and abuse, and a binomial test was performed to determine the certainty of opinions. The relations between variables were considered to be statistically significant at  $p < 0.05$ .

## RESULTS

### Overview of results

Of the students participating in the survey, 55.1% (150) were female and 44.9% (122) were male, and 75% of the university students in the sampling were in the age group between 18 to 24 years old. Regarding socio-economic status, 81% (221) of the students belonged to the middle class, according to the El Salvador scale. Concerning the perception of having been maltreated in childhood, only 12.1% (33) of the students considered themselves to have suffered maltreatment.

### Adverse experiences in childhood

According to the results presented in Table 1, 18.4% (50) of the students in the sampling stated that their mother, female caregiver, or guardian had been physically abused, indicating the presence of intra-familial violence. Of the students in the sampling, 32% (87) said their parents were divorced or separated; 22.4% (61) reported having lived with someone suffering from depression or other mental disorder; and 36.1% (98) lived with someone who used legal and/or illegal drugs.

**Table 1 - Report on adverse childhood experiences among university students from a university in San Salvador El Salvador, 2012 (n=272)**

Family experiences	F	%
Mother, female caregiver, or guardian was physically abused	50	18.4
Parents separated or divorced	87	32.0
Lived with someone suffering from depression or other mental disorder	61	22.4
Family member had attempted to commit suicide	26	9.6
Lived with an alcoholic individual	66	24.3
Lived with a drug user	32	11.8
A family member had been arrested	24	8.8

### Use of psychoactive substances

Of the 272 students surveyed, only 118 (43%) reported having used drugs once in their lives, and that is true for 66%. As shown in Table 2, there is no significant difference between the response of those stating to have used drugs at least once and those who said they had never used drugs. Among those who stated to have used drug at least once in their lives, 100% reported having friends who use psychoactive substances.

**Table 2 - Chi-square tests for use and no use of drugs among students from a university in San Salvador, El Salvador, 2012**

Items	Value	gl	Asymptotic significance (bilateral)	Exact significance (bilateral)	Exact significance (unilateral)
Pearson's chi-square	49.112*	1	.000		
Correction by continuity †	47.386	1	.000		
Likelihood rate	51.883	1	.000		
Fisher's exact statistic				.000	.000
Linear association by linear	48.931	1	.000		
# of valid cases	271				

\* 0 squares (0%) have an expected frequency lower than 5. The minimum expected frequency is 49.20; †calculated only for a 2 x 2 table.

**Correlation between maltreatment in childhood and use of psychoactive substances**

According to Table 3, of the 69 students in the sampling who are drug users, 48 (70%) stated that they had suffered some kind of maltreatment. Of the 49 students abusing drugs, 41 (84%) stated that they had suffered some kind of maltreatment and, of the 154 students that do not use psychoactive substances, 98 (64%) had suffered some kind of maltreatment.

**Table 3 - Correlation between maltreatment in childhood and the use and abuse of psychoactive substances among students from a university in San Salvador, El Salvador, 2012 (n=272)**

Child maltreatment	Use of psychoactive substances	Abuse of psychoactive substances	# of use of psychoactive substances
	f	f	f
Sexual abuse	4	2	12
Physical abuse	21	17	29
Verbal abuse	15	14	38
Negligence (emotional and physical)	8	8	19
<b>Total</b>	<b>48</b>	<b>41</b>	<b>98</b>

Table 4 shows that when the chi-square test was applied regarding the correlation between use, abuse, and no use of psychoactive substances and physical abuse, with an error probability lower than 0.05, 30.43% of the students in the drug user sampling had suffered physical maltreatment in childhood. For the sampling of drug abusers, 34.69% had suffered physical maltreatment in childhood; and 18.83% of those in the sampling that did not use drugs had suffered physical maltreatment in childhood, whereas among students in the sampling that had used drugs at least once in their lives, 99.6% had at least one household member suffering from depression or mental disorder. With a 9.1% error, 90.9% of those who had used drugs at least once in their lives had a household member who had attempted to commit suicide, and 99% had been pushed, grasped, beaten, or thrown by a parent or other adult in the household at some point in their lives.

**Table 4 - Chi-square tests on the use of psychoactive substances and physical abuse among students from a university in San Salvador El Salvador, 2012**

Items	Value	gl	Asymptotic significance (bilateral)	Exact significance (bilateral)	Exact significance (unilateral)
Pearson's chi-square	7.825*	1	.005		
Correction by continuity †	7.026	1	.008		
Likelihood rate	7.773	1	.005		
Fisher's exact statistic				.008	.004
Linear association by linear	7.796	1	.005		
# of valid cases	272				

\* 0 squares (0%) have an expected frequency lower than 5. The minimum expected frequency is 26.46; †calculated only for a 2 x 2 table.

## DISCUSSION

The use of drugs, notably alcohol, among university students and their peers is at concerning levels in the university population in the region.<sup>10</sup> In El Salvador the increasing tendency towards the use of psychoactive substances among university students is also considered to be a public health issue.<sup>18-19</sup>

The socio-demographic features of the sampling were designed to have no predominant gender, and the average age range was from 18 to 24 years old, that is, the young adult stage when university students typically experience their academic lives.

The Kessler scale showed that most of the students in the sampling presented minimum to mild degrees of psychological distress, which corroborates other studies according to which impulsivity,<sup>4,6,20</sup> emotional suffering,<sup>2</sup> and physiological and genetic predispositions<sup>7</sup> are important data that influence drug consumption. Moreover, psychological distress is supplemented by adverse childhood experiences, where the mother or female caregiver has been physically abused, or where parents were divorced, thus creating dysfunctional families.

In the sampling, 87.9% of the students stated that they were not maltreated during childhood, which reflects the cultural aspects of a region where most adults consider physical maltreatment an acceptable method of education and socialization.<sup>21-22</sup>

In opposition to the perception of maltreatment expressed by students in the sampling through the Questionnaire on Adverse Childhood Experiences (ACE), 70% had suffered some kind

of maltreatment in childhood, with no significant difference by gender. This is an important fact, as many authorities have identified exposure to maltreatment in childhood as a risk factor associated with drug use.<sup>1-7,20,23-24</sup> Regarding the types of maltreatment reported by students in the sampling, physical abuse and verbal abuse were the most frequent, although to a lesser extent sexual abuse was also mentioned. This result is coherent with other studies that have shown that most minor-aged individuals in Latin America and the Caribbean have suffered physical and psychological maltreatment, in percentages ranging from 40% to 82%.<sup>21</sup>

Among the students sampled, 43.3% stated that they had used drugs at least once in their lives, and 100% of these students have friends who use psychoactive substances. The drugs most widely used in the last 12 months were alcohol, cannabis, and tobacco, whereas for the last 30 days these were alcohol, tobacco, and cannabis. Alcohol is the most widely used drug on a monthly basis and tobacco on a weekly basis, whereas prescription medicines are the most used on a daily basis. These results corroborate other studies previously performed in the country.<sup>25-27</sup> Some studies, in turn, have disclosed that the standard consumption of drugs among adolescents today is that of "multiple consumption".<sup>18,28</sup>

Data from the study point out a direct correlation between psychoactive substance use and abuse and physical maltreatment in childhood. Among the students in the sampling that abuse drugs, 70% had suffered some kind of maltreatment, against 30.43% of those students that had suffered physical maltreatment in childhood and used drugs once in their lives. Among these, 99%

reported having been pushed, grasped, beaten, or thrown by a parent or other adult in the household at some point in their lives. For the sampling of drug abusers, 34.69% had suffered physical maltreatment in childhood, whereas 18.83% of the students of the sampling that did not use drugs had suffered physical maltreatment in childhood. This correlation was not evidenced for the other three types of maltreatment: verbal abuse, sexual abuse, and neglect. These data cannot be compared as there are no previous studies in San Salvador/El Salvador on the use of drugs among university students or on the correlation between drug use and maltreatment in childhood. It is also worth mentioning that 64% (98 of 154) of the students that were part of the sampling and reported using no psychoactive substances had suffered some kind of maltreatment.

## CONCLUSIONS

Only 12.1% of the students in the sampling recalled having suffered maltreatment in childhood, although the ACE data display a higher percentage (68.75%) of students who effectively suffered some kind of maltreatment in childhood. They show that maltreatment in childhood is a component that is culturally tolerated and accepted in San Salvador/El Salvador. Moreover, no gender prevalence was found regarding maltreatment in childhood. Physical and verbal abuse were the most frequent forms of abuse reported in the sampling surveyed, although to a lesser extent sexual abuse was also found. The university students who were part of the sampling and stated that they use or abuse drugs reported greater incidences of abuse during childhood than those who do not use drugs, and this association is statistically significant (error lower than 0.01). When it comes to sexual abuse, verbal abuse, and neglect, university students who were part of the sampling and that use or abuse drugs did not report greater incidences of abuse during childhood than those who do not use or abuse drugs. There was a direct correlation between use and abuse of drugs and physical maltreatment in childhood among university students in this sampling. However, the results of this study cannot be generalized to the all university students in San Salvador/El Salvador.

## Limitations

As the sampling was limited to one college of the university, it does not allow for generalizing the results to the university as a whole, nor to the population of El Salvador at large.

zing the results to the university as a whole, nor to the population of El Salvador at large.

Data are retrospective, about events that could have taken place in childhood and adolescence. These recollections may be affected by the interference and deterioration of memory, as well as by the family's concept or perception of maltreatment. There could also be a tendency towards over-reporting or underreporting maltreatment and use and abuse of drugs, according to the perception of each student.

## Recommendations

Other universities in El Salvador should conduct similar surveys to obtain a better perspective on maltreatment in childhood and the use and abuse of drugs. Such an institutional survey would incorporate the topics of drugs and violence as the main line of university scientific research, because these are public health issues in our country. Moreover, programs involving student associations in the prevention and treatment of drug abuse in universities could be developed and coordinated with the appropriate authorities in the university.

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