

# POLYDRUG USE AS A RISK FACTOR FOR ATTEMPTED SUICIDE AMONG ADOLESCENTS IN PUERTO RICO

Reyes JC, Robles RR, Colón HM, Negrón J, Marrero CA, Matos TD, Calderón J, Pérez O

CENTER FOR ADDICTION STUDIES, UNIVERSIDAD CENTRAL DEL CARIBE

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PO Box 60-327, Bayamón, PR 00960-6032  
Tel. 787-288-0200, Fax. 787-288-0242  
e-mail: jcreyes@uccaribe.edu

### Introduction

Suicide is a tragic and potentially preventable public health problem. Over the last several decades, the suicide rate in young people has increased dramatically. In 1999, suicide was the third cause of death for adolescents behind accidents and homicides (CDC, 2002). Suicide attempts are much more common than completed suicide; as many as 150 youths attempt suicide for every completed suicide in the United States.

A great deal of research on adolescent suicide behavior has focused on depression and alcohol use. Major depression and mood disorders have been shown consistently to be the psychiatric disorders most highly associated with attempted suicide in adolescence (Gould et al. 1998). On the other hand, several studies document that excessive alcohol use place adolescents at greatest risk for suicidal ideation and attempt (Brent 1995; Kelly et al., 2001). Nevertheless, less attention on illegal drug use and specifically polydrug use has been paid in research. The objective of this study is to determine the association between suicidal attempts and polydrug use in a sample of adolescents 12 to 15 years old residing in communities of the San Juan metropolitan area with high availability of illicit drugs.

### Methods

The study sample is comprised of 691 adolescents (12 to 15 years old) and their parents (n=940). This sample was selected from poor neighborhoods with one or more coping areas operating within them. Parents and their offspring were interviewed in their homes, utilizing a computer-assisted personal interviewing program. The Spanish version of the Composite International Diagnostic Interview (CIDI) assessed substance abuse and depression. Drug use was corroborated through saliva tests.

### Subject Selection and Recruitment

For this study, a sampling frame was developed encompassing all census sectors in three municipalities of the San Juan metropolitan area (i.e., San Juan and Cataño) with outdoor illegal drug-selling areas operating within them. In each sector, and starting from the households closest to the drug-selling area, households were visited and its residents enumerated. Household enumeration

proceeded until one of the following two criteria had been met: the census sector boundaries as defined by the US Census had been reached, or 200 households had been visited. Households with at least one adolescent 12 to 15 years old were eligible to participate. The parents residing in the household were informed about the study objectives and activities, and asked to consent participation. Adolescents were asked to assent participation. In households with two or more adolescents, one adolescent was randomly selected for participation. All study activities and the informed consent and assent forms were reviewed and approved by the Institutional Review Board of the Universidad Central del Caribe. A total of 720 eligible households were identified. Consent from parents and their adolescent offspring was obtained from 691 of these households for a response rate of 96%.

### Interviewing and Measures

Adolescents were interviewed in their homes, utilizing a computer-assisted personal interviewing (CAPI) system and a self-administered form. The CAPI interview included socio-demographic, peers, family, school, and neighborhood questions. The self-administered form included questions about sensitive behaviors such as use of alcohol and illicit drugs, violent behaviors, illegal activities and suicide attempts.

Alcohol use was measured by asking adolescents if they had consumed alcohol (i.e., beer, wine, distilled spirits) during the last 12 months. Those who use one or more substances (tobacco, marihuana, cocaine, heroin and amphetamines) in addition to using alcohol were classified as Polydrug users. The dependent variable was assessed with the question: "During the past 12 months, did you attempt to commit suicide?"

### Data Analyses

Frequency distributions and descriptive statistics were used to describe the study sample. Bivariate analyses using chi-square tests of independence were used to examine the association between suicide attempt, adolescent polydrug use and sociodemographic characteristics. A multiple logistic regression model was fitted to assess the effects of polydrug use on suicide attempt after adjusting for sociodemographics.

## RESULTS

Table 1. Sociodemographic characteristics, substance use and suicide attempt (n = 691)

	n	%
<b>Gender</b>		
Male	339	49.1
Female	352	50.9
<b>Age</b>		
12 yrs	139	20.1
13 yrs	212	30.7
14 yrs	196	28.4
15 yrs	144	20.8
<b>Grade</b>		
3rd to 6th	94	13.9
7th to 9th	471	70.0
10th to 11th	108	16.1
<b>Substance use (last year)</b>		
no use	537	82.1
alcohol use	105	16.1
polydrug use	12	1.8
<b>Suicide attempts</b>		
no	623	95.3

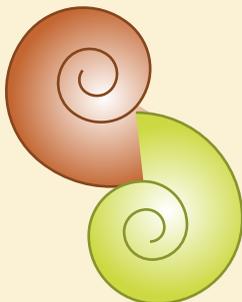


Table 2. Results of the multiple logistic regression

Variable	OR	95% CI	p-value
<b>SOCIODEMOGRAPHICS</b>			
<b>Gender</b>			
Male	1.0		
Female	2.1	1.2-7.1	0.022
<b>Age</b>			
12	1.0		
13	2.4	0.6-9.1	0.189
14	0.9	0.2-4.2	0.953
15	1.2	0.3-5.1	0.838
<b>Substance use</b>			
no use	1.0		
alcohol use	4.1	1.6-10.1	0.002
polydrug use	16.1	5.4-97.8	<0.001
<b>Depression</b>			
no	1.0		
yes	7.5	2.5-22.5	<0.001
<b>Mother's drug use</b>			
no	1.0		
yes	2.3	0.9-5.6	0.065
<b>Father's drug use</b>			
no	1.0		
yes	0.9	0.2-4.4	0.942



Substance use and suicide attempt among Puerto Rican adolescents

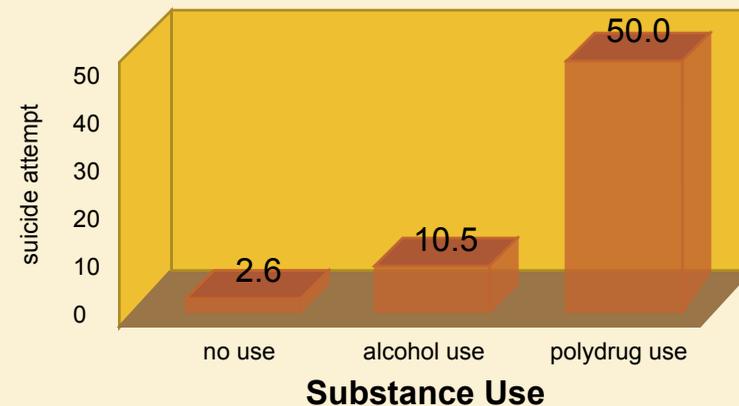
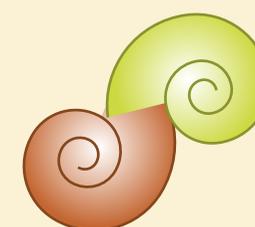


Figure 1 shows the relationship between polydrug use and suicide attempt. Adolescents who were polydrug users were significantly more likely to reported suicide attempt than those who did not use any substance.



### Conclusions

Results of this study show a positive association between polydrug use and suicidal attempts among Puerto Rican adolescents, suggesting that Hispanic youth who use multiple substances may be at higher risk for a suicidal attempt independently of their depression condition.

### References

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