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**Article** in *Journal of psychoactive drugs* · July 2005

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# Report on Psychoactive Drug Use Among Adolescents Using Ayahuasca Within a Religious Context†

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**Abstract**—Ritual use of ayahuasca within the context of the Brazilian ayahuasca churches often starts during late childhood or early adolescence. Premature access to psychoactive drugs may represent a risk factor for drug misuse. Conversely, religious affiliation seems to play a protective role in terms of substance abuse. The objective of this study was to describe patterns of drug use in a sample of adolescents using ayahuasca within a religious setting. Forty-one adolescents from a Brazilian ayahuasca sect were compared with 43 adolescents who never drank ayahuasca. No significant differences were identified in terms of lifetime substance consumption. Throughout the previous year period, ayahuasca adolescents used less alcohol (46.31%) than the comparison group (74.4%). Recent use of alcohol was also more frequent among the latter group (65.1%) than among ayahuasca drinkers (32.5%). Although not statistically significant, slight differences in terms of patterns of drug use were definitely observed among groups. Despite their early exposure to a hallucinogenic substance, adolescents using ayahuasca in a controlled setting were mostly comparable to controls except for a considerably smaller proportion of alcohol users. Religious affiliation may have played a central role as a possible protective factor for alcohol use. Thus, ayahuasca seems to be a relatively safe substance as far as drug misuse is concerned.

**Keywords**—adolescence, ayahuasca, drug, hallucinogen, religion

Ayahuasca is a hallucinogenic mixture of Amazonian plants used as a psychoactive ritual sacrament in ceremonies of the syncretic churches União do Vegetal (UDV) and Santo Daime. These Brazilian ayahuasca churches have expanded their base in the last decades from Brazil to North

America and Europe, attracting thousands of people. Ayahuasca use is supposed to occur only during religious ceremonies, which last approximately four hours, being regularly scheduled twice a month and often attended by multigenerational families. Within the rituals, adolescents

†This research was funded in part with a grant from the Heffter Research Institute, Santa Fe, New Mexico and from the Fundação de Amparo a Pesquisa do Estado de São Paulo, Brazil. Special thanks are due to Dr. Glacus Da Souza Brito and Dr. Otavio Castillo Campos Derrera, who served as liaison between the União do Vegetal Church and the Research Team.

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**TABLE 1**  
**Proportion of Psychoactive Drug Users During the Last Year Among**  
**Adolescents using Ayahuasca Compared to Controls (N = 84)**

Psychoactive Drug	UDV %	Control %	Statistics
Alcohol	46.3	74.4	$\chi^2 = 5.8; p = 0.016$
Amphetamines	-	7.9	
Cannabis	32.5	34.9	
Cocaine/crack	-	2.6	
Hallucinogens	-	7.9	
Tranquilizers	2.8	-	
Opiates	-	-	
Anticholinergics	-	-	
Tobacco	28.3	22.0	
Solvents	8.1	19.5	
Steroids	2.8	-	
Barbiturates	-	-	

are offered the opportunity to voluntarily join with their parents and participate in ceremonies where ayahuasca is consumed. It is said that ayahuasca apparently offers no risk for adolescents as long as it is used within a ritual context. Nevertheless, to date there have been no accurate assessments of patterns of other psychoactive substance use among adolescents who drink ayahuasca within a religious setting.

In Brazil it is currently estimated that almost two thousand adolescents participate in ayahuasca ceremonies. Considering the proportion of this age group that uses ayahuasca on a regular basis, the aim of this study is to evaluate patterns of psychoactive substance use among these adolescents.

## METHOD

### Sample and Procedure

The study involved 84 adolescents of both sexes, ranging from 15 to 19 years of age. Forty-one adolescents had drunk ayahuasca in a ritual context for at least twice month during the two-year period preceding evaluation. They were compared to a group of 43 adolescents of similar sex, age and educational level. Both groups lived in the same communities and shared the same environmental influences.

Adolescents were interviewed and asked about previous experiences regarding use of a variety of psychoactive substances. The comparison group had never used ayahuasca. Both adolescents and their parents were asked to sign an informed consent before enrollment in the study. The ayahuasca-consuming adolescents were randomly selected among participants of three distinct UDV churches, whereas the comparison group included randomly selected adolescents according to pairing criteria. Interviews were conducted by a trained psychiatrist in 2001 in two different Brazilian cities.

### Instruments

Participants were assessed in terms of patterns of psychoactive drug use according to the World Health Organization criteria: lifetime use (those who had ever experimented with a given substance); last year use (those who had used a substance at least once during the 12-month period preceding assessment); and recent use (those having used a given substance at least once during the 30-day period prior to evaluation).

### Data Analysis

Descriptive statistics were followed by the comparison between ayahuasca and control groups. Strength of associations was tested with chi-square for categorical variables.

## RESULTS

### Demographic Data

In the ayahuasca group, 23 adolescents (56.1%) were male and 18 (43.9%) were female. Their mean age was  $16.49 \pm 1.34$  years. Educational level ranged from last year in high school to first year in college. Concerning ethnic distribution, 31 (75.6%) of them were White and all others classified themselves as of mixed ethnic origin. Thirty-nine adolescents (95.1%) were single and most of them (92.5%) lived with their parents.

In the comparison group, 23 adolescents (53.5%) were male and 20 (46.5%) were female. Their mean age was  $16.65 \pm 1.0$  years. They were mostly White (81.4%) and their educational level ranged from first year in high school to third year in high school (first year = 7, second year = 14, third year = 17). Forty adolescents (93.0%) were single and most of them (97.5%) lived with their parents.

Both groups displayed similar demographic characteristics.

**TABLE 2**  
**Proportion of Recent Psychoactive Drug Users Among**  
**Adolescents using Ayahuasca Compared to Controls (N = 84)**

Psychoactive Drug	UDV %	Control %	Statistics
Alcohol	32.5	65.1	$\chi^2 = 7.56; p = 0.006$ $p = 0.087$ (trend)
Amphetamines	-	12.2	
Cannabis	10.8	25.0	
Cocaine/crack	-	7.5	
Hallucinogens	-	2.5	
Tranquilizers	2.6	2.5	
Sedatives	2.6	7.5	
Opiates	-	2.5	
Anticholinergics	-	2.5	
Tobacco	21.1	24.4	
Minor stimulants	26.3	24.4	
Solvents	2.6	5.0	
Steroids (AAS)	2.6	2.5	
Barbiturates	-	2.5	

### Pattern of Ayahuasca Consumption

Twenty-five adolescents (60%) started drinking ayahuasca systematically during childhood (before they were 13 years old) while 15 of them (40%) began to drink when adolescents (after their 13th birthday). In one adolescent this information was missing. The time span of systematic (at least once a month) ayahuasca use was  $4.05 \pm 2.28$  years. By the time of assessment adolescents abstained from drinking ayahuasca for at least twenty days, with the mean time of abstinence  $41.16 \pm 15.55$  days.

### Pattern of Psychoactive Drug Use

**Lifetime use.** No statistically significant differences were observed in the comparison of ayahuasca users with the comparison group in terms of lifetime frequency of psychoactive drug use. Nevertheless, it was observed that a higher proportion of lifetime cocaine users among UDV adolescents (10.3%) existed compared to controls (2.4%). The frequency of use for those who had ever used tobacco among UDV members (52.5%) was also higher than that reported by adolescents from the comparison group (34.9%).

**Drug use during the last year.** In terms of psychoactive substance use during the 12-month period preceding assessment, a higher proportion of alcohol users was recorded among controls (74.4%) than among UDV members (46.3%). This difference reached statistical significance ( $p < 0.05$ ). Compared to UDV adolescents, a higher proportion of controls reported last year use of amphetamines, cannabis, cocaine, hallucinogens, and solvents, although these differences were not statistically significant. Tobacco, steroids and tranquilizers were used slightly more often by UDV members than by controls (see Table 1), but not to a statistically significant degree.

**Recent drug use.** During the 30-day period preceding assessment (recent use), 65.1% of adolescents from the comparison group reported alcohol use, while only 32.5% of UDV members did so. This difference was statistically significant ( $p < 0.01$ ). In terms of amphetamine use, a trend of higher consumption was observed ( $p = 0.87$ ) among controls, since none of the five adolescents (12.2% of the control group) reporting amphetamine use in the previous month were UDV members. Concerning all other substances, no significant differences could be detected among groups. Among UDV members, the proportion of recent users of any psychoactive drug was less than 10%, except for alcohol (32.5%), minor stimulants, e.g., Guarana and coffee (26.3%), tobacco (21.1%), and cannabis (10.8%; see Table 2).

## DISCUSSION

In many instances, psychoactive drugs are used to reduce anxiety, inhibitions, and low self-esteem, among other undesirable feelings. As a consequence, premature access to these drugs may constitute an additional risk factor for substance misuse among young people. Furthermore, most adolescents still have not developed the coping skills necessary to deal with difficult situations and are in close contact with friends and relatives who use drugs to cope with life stressors. According to international scientific literature on drug addiction, this psychosocial aspect is a problem of major concern in the prevention of substance misuse among adolescents (Hesselbrock, Hesselbrock & Epstein 1999). One could argue that the systematic exposure to ayahuasca could eventually predispose these adolescents to use or even abuse other psychoactive substances, but alternatively, it is also possible that affiliation

with a religious group may play a protective role for substance misuse (Grob et al. 1999). The affiliation with a religious group implies adherence to a set of principles, norms and values involved with specific behavioral patterns that also include a person's relationship to alcohol and other drugs.

In a comprehensive research investigation of ayahuasca in long-term adult members of the UDV conducted in the Brazilian Amazon city of Manaus in 1993, subjects appeared to have experienced a remission of severe psychiatric disorders, including drug and alcohol abuse, following their entry into this religion (McKenna, Callaway & Grob 1998; Grob et al. 1996). Given the methodological limitations of this pilot investigation, it is still unclear whether these preliminary findings can be attributable to the direct effects of ayahuasca or whether they are self-selecting factors for religious affiliation (Grob 1999).

In the present study, adolescents drinking ayahuasca within a religious context were overall comparable to the control group in terms of substance consumption profile, except for having a significantly smaller proportion of alcohol users. This phenomenon can be explained by the fact that alcohol abstinence is strongly recommended by the teachings of this religious community. Dobkin de Rios and Grob (1994) have argued that suggestibility under hallucinogenic experience is an underreported effect. For other substances, only slight differences could be observed between groups, most of them favoring ayahuasca-using adolescents. In the ayahuasca group, the observed higher proportion of minor stimulant users can be attributable to

these adolescents' common practice of replacing alcohol with stimulant beverages in social settings, e.g., guarana and coffee.

Ayahuasca drinkers were considered to be more confident, optimistic, outgoing, energetic, persistent, reflective, and scored higher than controls in measures of social desirability and emotional maturity than controls in the previously-mentioned study (Grob 1999). This probably reflects a strong sense of belonging to a structured religious community, a condition often considered a protective factor for substance use related disorders.

Among the limitations of the present study are the limited size of the sample, which did not allow us to evaluate the influence of distinct dimensions of religiousness on the outcome. Furthermore, since this is not a longitudinal study, only associations could be put in evidence, and no cause-effect relationship among events could be established.

Among UDV members, it can be seen that although some adolescents had used cocaine or crack in the past (lifetime use), they discontinued using this substance more recently (last year and previous month use). The promising role of ayahuasca in the treatment of addictive disorders, among other psychiatric conditions, still needs further investigation. However, since ayahuasca is considered by religious members to be a relatively safe substance and also potentially useful as medicine, future rigorous research represents a unique opportunity to advance present knowledge of human behavior.

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This article was originally published in the Journal of Psychoactive Drugs in an issue entitled "Ayahuasca Use in Cross Cultural Perspective." The issue is available from Haight Ashbury Publications, 856 Stanyan Street, San Francisco CA 94117 USA. Phone 415-752-7601 or visit their website at [www.dr-dave.org/journal](http://www.dr-dave.org/journal).