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**FILE: ■Ayahuasca
■Psychological Effects
■Hallucinogenic Ritual Use**

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RE: Analysis of the Psychological Effects of First-time Ayahuasca Users

Barbosa P, Giglio J, Dagalarrondo P. Altered states of consciousness and short-term psychological after-effects induced by the first time ritual use of Ayahuasca in an urban context in Brazil. *J Psychoactive Drugs*. 2005;37(2):193–201.

Ayahuasca is a tea obtained by decocting (soaking in boiled water) the roots of the plant *Banisteriopsis caapi* and the leaves of other plants, such as *Psychotria viridis*. These plants contain compounds that produce hallucinations, and ayahuasca is used in religious ceremonies in South America to help participants achieve "spiritual development." This study analyzed the "psychological aspects" and mental health of people using ayahuasca for the first time in religious settings in Brazil, since "the introduction of ritual use of ayahuasca in urban contexts has raised serious concerns about potential adverse effects to mental health."

The authors interviewed religious participants in "several" Santo Daime and Uniao do Vegetal (known as UDV) temples. These organizations are a blend of Christian elements and beliefs in reincarnations. They also view ayahuasca as a tool for gaining spiritual enlightenment, and its use "is an essential aspect of Santo Daime and UDV." Santo Daime services are characterized by "a collective performance of hymns and a synchronized dance called a *bailado*, which are accompanied by vigorous percussion and melodic instruments" and last from four to twelve hours. Participants are also "required" to take part in the ceremony with singing and dancing. UDV services are more somber—"preaching occurs through questions directed to the preacher by the participants, through popular songs with moral contents played on stereo equipment and also through hymns performed by single participants." The services at UDV last four hours, participants stay in their seats "in a relaxed position most of the time," and there is silence during some periods.

For this study, 28 subjects volunteered to be interviewed and observed. Assessments occurred at baseline (1–4 days before the subject's first ritual use of ayahuasca) and 7–14 days after the first use of ayahuasca. Subjects had never tried ayahuasca before and used it only once during the observation period. Of those who drank ayahuasca, 19 were at Santo Daime and 9 at UDV. The outcome measures included a sociodemographic questionnaire, which assessed their educational level and occupation, and the Clinical Interview Schedule-Revised Edition (CIS-R), a standardized psychiatric scale. The CIS-R evaluates "the intensity of minor psychopathological symptoms." The symptoms included fatigue, difficulties in concentration, sleep disturbances, irritability, preoccupation with

bodily functions, depression, anxiety, obsessions, and compulsions. Subjects were also asked about their beliefs (in god, "spiritual reality," reincarnation, and "spiritual beings") their motives for seeking out the experience and their expectations for the ayahuasca experience. The interview regarding their ayahuasca experience contained "seven major dimensions—mood, thought contents and processes, sense of self, exteroception, interoception, volition/control, and sense of time and space." An interview was also conducted to gauge changes in subjects' attitudes towards "family issues, occupational and financial issues, interpersonal issues, self-esteem, stressor events, and subjective experience concerning physical well-being."

The majority of subjects in the Santo Daime and UDV groups held beliefs in reincarnation—68.4% and 55.6%, respectively—while more subjects in the Santo Daime group believed in supernatural beings compared to the UDV group (63.2% vs. 44.4%, respectively). About 47% of participants in the Santo Daime group and 33.3% of the UDV group were motivated by a search for self-knowledge, while 31.6% and 11.1%, respectively, were curious about the effects of ayahuasca. Most subjects experienced visual hallucinations during their ayahuasca experiences—63.2% in the Santo Daime group and 66.7% in the UDV groups. These hallucinations included "kaleidoscopic lights, geometrical forms, tunnels, animals, humans and supernatural beings." While 88.9% of the UDV group experienced a "sense of inner calm, silence and harmony," this was only experienced in 36.8% of the Santo Daime. Though not speculated by the researchers, this might have been the result of the different atmospheres in which ayahuasca was taken. In contrast, more subjects in the Santo Daime group (52.6%) experienced "a mixture of terror and fascination, which results from a sense of a superior and powerful presence," compared to 22.2% in the UDV group.

Subjective benefits of taking ayahuasca were not detected in this study in the majority of subjects in interviews after the experience. Only 31.6% of subjects in the Santo Daime group felt more serene, while even less (22.2%) felt more serene in the UDV group. The same percentage of subjects in the UDV group also felt "unusual satisfaction and relaxation the day after the experience," and "more energy and happiness in daily life," compared with 10.5% for both parameters in the Santo Daime group. Significant differences in CIS-R scores from baseline to after taking ayahuasca were detected in the Santo Daime group (11 ± 8.8 vs. 5.2 ± 4.3 , respectively; $P = 0.007$).

—*John Neustadt, ND*

Note: On February 21, 2006, the Supreme Court ruled unanimously to allow the UDV use of ayahuasca as a psychoactive sacrament of religious ceremonies in the U.S.

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