

## Short Communication

### THERAPEUTIC USE OF CANNABIS BY CRACK ADDICTS IN BRAZIL

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**Abstract**—This study ensued from clinical observations based on spontaneous accounts by crack abusers undergoing their first psychiatric assessment, where they reported using cannabis in an attempt to ease their own withdrawal symptoms. Throughout a period of nine months, the researchers followed up on 25 male patients aged 16 to 28 who were strongly addicted to crack, as diagnosed through the Composite International Diagnostic Interview (CIDI), according to CID-10 and DSM-IV diagnostic criteria. Most of the subjects (68%, or 17 individuals) ceased to use crack and reported that the use of cannabis had reduced their craving symptoms, and produced subjective and concrete changes in their behavior, helping them to overcome crack addiction. The authors discuss some psychological, pharmacological and cultural aspects of these findings.

**Keywords**—cannabis, crack, dependence, harm reduction

In the past few years, studies and reports have been published in medical literature and the general press on the therapeutic applications of cannabis in various areas (Doyle & Coles 1995; Ungerleider 1985; Zinberg 1979), such as to control anxiety and stimulate hunger in patients that are HIV-positive (Lowenthal 1995), as an antiemetic and antinauseant agent in patients suffering from neoplasia and undergoing chemotherapy (Schwartz 1994; Dow 1981), and by ophthalmologists in treating some clinical forms of glaucoma (Gonzales 1995), to mention but a few examples. Among the factors that may have contributed to the advent of such studies are the recent cultural changes in western countries that have progressively dissociated cannabis from drug abuse and slowly set it apart from the so-called hard

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drugs, such as cocaine and heroin. In addition, it is widely known that, on the whole, continued use of cannabis generates less intense craving in most individuals than does the use of other psychopharmaceuticals (Halikas 1985).

The present study ensued from a clinical observation based on spontaneous accounts by crack abusers undergoing their first psychiatric assessment, where they reported using cannabis in an attempt to ease their own withdrawal symptoms.

The use of cannabis in Brazil has a rather peculiar history. In historical records dating back to the European discovery of the country in 1500 A.D., one can find references to the use of cannabis by Portuguese explorers, who extolled its qualities as an intensifier of "preexisting" emotions; they are likely to have been the first to introduce it into the country. Later, when Brazilian society polarized into two socially and culturally distinct groups—aristocrats on the one hand, and the poor and slaves on the other—the use of cannabis seems to have been maintained for the same purpose in both social classes. It is noteworthy that, prior to the abolition of slavery in Brazil in late 19th century, the landed gentry were indeed aware of the use of cannabis by their slaves, but chose not to curb it, out of an equal awareness of its benefits in helping to keep social unrest at bay. However, in the 1930s and under the influence of North American legislation, cannabis became culturally associated with other illicit substances. Today, it is used across different social classes in Brazil and distinguished from other drugs by most drug users, on account of its effects and risks. This distinction is corroborated by epidemiological and longitudinal studies carried out in the U.S. (Chen & Kandel 1995), which have demonstrated that the use of cannabis by American youngsters in their adolescence and early adulthood declines considerably as they move into their late thirties. Only a small portion of such individuals developed drug abuse and addiction to other substances, and only one other small percentage used cannabis heavily at the end of this period.

The use of crack cocaine in Brazil had always been associated with the lower classes ever since its introduction in the early eighties. It has, however, spread into the middle and upper classes as well in the past few years, especially within the region of São Paulo. The fact is that many cocaine abusers began to find it increasingly difficult to procure cocaine powder in the usual "drug joints" of the city, where supplies had once been abundant. This may be one of the reasons why they switched to crack; the

authors believe that such was the strategy adopted by drug dealers to force the entry of crack into the city. Their strategy seems to have yielded the desired results, as the number of crack abusers seeking treatment in the past few years has surpassed that of cocaine powder users, and given the fact that many crack abusers report on the withdrawal of cocaine powder from the market. The preparation of crack is faster and cheaper, and the form in which it is marketed in Brazil seems to be the most harmful of all, since it contains kerosene, sulfuric acid, methyl alcohol, benzoic acid, and the oxidizing byproducts of these solvents, in addition to the residual alkaloids of cocaine, all of which produce dire clinical and neuropsychiatric consequences over a shorter period of time, as compared to the powdered form of cocaine.

Crack produces very specific clinical and psychiatric symptoms which are directly related to the substance and form of administration. Common symptoms include: burnt fingers, lips and oral mucosa, bronchial asthma, pulmonary edema, persistent coughing, chest pain, high and low respiratory infections, rapid weight loss, loss of appetite, and cerebral vascular accidents (Sterling & Carter 1994). These symptoms develop rapidly after individuals have used crack for a couple of times over a few days, when they are also overwhelmed by anxiety related to withdrawal. The mounting anxiety in crack abusers is usually more severe than that induced by the continuous inhalation of cocaine powder. The effects of crack cocaine last for five to 10 minutes and are characterized by the presence of stereotyped movements, recurring thoughts as in obsessive thinking, and paranoid symptoms, in addition to visual and auditory hallucinations (which may occur only while individuals are using the drug or persist for days after they have withdrawn from its use, depending on each individual's psychopathologic predispositions). From a neuropsychological standpoint, the individual's attention, concentration, visual and verbal memory, learning capacity and global production may be impaired (Cadet & Bolla 1996). Furthermore, their involvement in criminal acts such as robbery, theft, homicide, and prostitution is closely related to the use of this substance. A study conducted by Inciardi (1993) in Brazil and Miami discloses an alarming relation between crack abuse and criminal behavior. One might draw too hasty a conclusion from this study, though, for such involvement in crime seems to be more closely associated with the illegality of drug abuse than with the specific effects of this substance.

The Liverpool experiment, coordinated by psychiatrist John Marks and anthropologist Anthony Henman in the 1980s, clearly demonstrates how strict and prohibitive legislation may only serve to reinforce the transgressive aspects of drug abuse within a social environment (Marks 1994). The project also underscores the importance of the availability of a medical support team who were prepared to provide psychiatric as well as social assistance to those drug

abusers seeking help. Medication and drugs were made available in the city's drugstores upon presentation of controlled medical prescriptions. Ten years later, the number of drug abusers had declined dramatically in the region, for all illicit drugs. Furthermore, Marks observed that the connection between the use of illicit drugs and crime had ceased to exist. And, most important of all, HIV infection rates had plunged as a result of the reduced sharing of contaminated syringes by users of injectable drugs.

## MATERIALS AND METHODS

The main objective of this study was to investigate a phenomenon observed in the voluntary accounts of crack abusers seeking treatment at PROAD (Guidance and Assistance Program for Addicts): i.e., the use they made of cannabis to relieve their own withdrawal symptoms.

PROAD is an ambulatory service of the psychiatric department of the medical school of the Federal University of São Paulo (UNIFESP), which provides assistance to the community, and conducts research and teaching activities within the area of drug abuse. As it charges no service fees, most of its patients reside in the outskirts of the city, have a low income and educational level, and little access to the formal job market. PROAD's professional team is comprised of psychiatrists, psychologists, and occupational therapists, all of whom assist patients individually or in groups through clinical treatment, individual and group psychotherapy, and occupational therapy (which includes gardening and artistic activities).

Throughout a period of nine months, the researchers followed up 25 male patients aged 16 to 28 who were strongly addicted to crack, as diagnosed through the CIDI (Composite International Diagnostic Review, version 2.1; Robbins, Wing & Wittchen 1988), according to CID-10 and DSM-IV diagnostic criteria. These patients, who had gone to PROAD for assistance in São Paulo, Brazil, between August 1996 and September 1998, were given weekly psychiatric clinical treatment. Those who were diagnosed for other previous or concomitant clinical and psychiatric disorders were screened out of the sample.

All individuals who reported using cannabis were included in the sample of the project. The subjects of this study received no medication for their withdrawal symptoms because they were already using cannabis for that purpose, as reported in their voluntary accounts. Those who were included in the project were then followed up for nine months and again diagnosed by CIDI at the end of the first, third, sixth and ninth months (see Table 1). All patients who were diagnosed for other psychiatric disturbances or addiction to substances other than crack were excluded.

The subjects of this study were all single, with an average of 6.7 years of education. Four of them (16%) abandoned treatment before the end of the first three months; since they were never found again, nothing can be said of

**TABLE 1**  
**Performance of 17 (68%) Subjects of the Sample after Cannabis Use**

	Treatment Entry	After 1 month	After 3 months	After 6 months	After 9 months
Average weight	52.3 kg	56.2 kg	59.2 kg	62 kg	64.1 kg
Paranoid symptoms	+	-	-	-	-
Craving	+	-	-	-	-
Sleep disturbances	+	-	-	-	-
Crimes	+	-	-	-	-
Social reintegration	-	-	+	+	+
Avolitional symptoms	-	+	+	-	-
Crack addiction (CIDI)	+	+	-	-	-
Addiction to cannabis (CIDI)	-	+	-	-	-

Note: + indicates presence of symptom or problem, - indicates symptom was absent.

their development thereafter. The remaining subjects had developed an addiction to crack after an average of 4.2 weeks of use, but their patterns of use varied substantially, with alternating cycles of use and withdrawal. One explanation for this phenomenon might be related to the specific effects of crack and its form of administration, which can cause individuals to develop addiction within a very short period of time. Their average usage of crack was 3.2 pieces per day, oscillating considerably between use and withdrawal because the craving for the drug was particularly strong after the first few "puffs," causing the individuals to use it continuously for several days. Use was then interrupted due to severe weight loss, feebleness, worsening of paranoid symptoms, and the depletion of financial resources for procuring further supplies of the drug.

## RESULTS

Most of the subjects in our study (68% or 17 individuals) ceased to use crack and reported that the use of cannabis had reduced their craving and produced subjective and concrete changes in their behavior, helping them to overcome addiction. Their use of cannabis peaked in the first three months of treatment, when they consumed the substance at an average of three to four cigarettes per day. During this period, the use of crack declined, and the subjects declared to have overcome their addiction after an average of 5.2 weeks. In the following six months, this very same subgroup resorted to the use of cannabis only occasionally. This reduction seems to have been achieved easily in most cases, for many reported that the avolitional effects arising from the heavy use of cannabis had progressively become undesirable, urging them to diminish its use. With regard to the acute effects of the use of cannabis over this period, the subjects reported a significant decline in anxiety and withdrawal symptoms, considerable weight gain, and better sleep (see Table 1). They also reported a less overpowering urge to use crack, and to seek those people whom they had previously joined to use crack. They also

mentioned that, because the preparation of cannabis cigarettes also involved a ritual, they experienced relief and found it easier to resist the use of crack. Since crack is also inhaled, they reported that the preparation of a cannabis cigarette subjectively reproduced the preparation of a pipe for the use of crack. However, unlike crack, which is used in large cities and generally in groups gathered in slums or derelict houses where they spend days on end, very often without feeding themselves, cannabis was often consumed by the subjects with other groups of friends who used neither crack nor other forms of cocaine. Furthermore, they reported very significant changes in habits and attitudes as they began to socialize with a new group, confirming Zinberg's (1984) qualitative studies, which reveal the existence of highly significant cultural differences between groups using different psychotropic substances.

The majority of subjects of this study gradually became more pragmatic, showed better moods, returned to work, and resumed their studies or interest in activities that they had been engaged in prior to the use of crack. Four individuals were excluded from the study following the first CIDI diagnosis because they showed signs of severe depression (two cases), paranoid schizophrenia (one case), or alcoholism (one case).

The remaining subjects in the sample showed the following development: four individuals (16%) gave up treatment before the end of the first three months and were not found thereafter; four (16%) other individuals were unable to abstain from crack and maintained a pattern of use very similar to that prior to their attempts to use cannabis.

## DISCUSSION

This article strikes a new and somewhat disturbing note in that it reports a phenomenon which necessitates further research and deals with concepts that are still very recent in research on drug abuse, that is, the whole issue of minimizing damages. In addition, the authors have tried to guide

themselves by an understanding that includes the social context of the individuals, their personal characteristics as well as the psychopharmacological features of each substance, and to consider these three factors in dynamic interaction.

A study conducted in Jamaica (Dreher, Nugent & Hudgins 1994) exemplifies the role that culture may play in the establishment of different patterns of use of a given substance. This study, based on the ethnographic method, sought to evaluate two groups of pregnant Jamaican women: one group used cannabis during pregnancy, and the other did not. It is important to note that the mothers classified as users made use of cannabis for religious purposes, a widespread custom in the rural areas of Jamaica. The children of such women were then evaluated according to a detailed evaluation scale for neonates, and the results demonstrated that the children of smoking mothers rated higher on every item of the scale than did the children of nonsmoking mothers. In their discussion, the authors of the article refer to a similar study conducted among North American pregnant women (Hingson, Zuckerman & Amaro 1986), the results of which contradicted the findings of the Jamaican study. With such data at our disposal, it is possible to conclude that the cultural differences between the two countries may have determined the findings. Jamaican mothers use cannabis for religious purposes and are therefore very much in tune with the culture of their people. American mothers, on the other hand, probably feel guilty as the use of cannabis is not accepted by local culture; they may even feel segregated by and from their community, which culturally associates them with individuals who are addicted to other drugs. The use of cannabis in Brazil does not have the ritualistic connotations that it does in Jamaica; on the other hand, Brazilian culture also diverges from that which prevails in North America. In this sense, the ethnographic approach used by the authors turned out to be very suitable, given the characteristics of the phenomenon under investigation.

These findings must, nevertheless, be taken with caution. The prevailing characteristics of a given culture must not be overgeneralized as if all cultures were amenable to reduction to the human attempts to express them. This caveat stems from our awareness that our reference to North American culture in this fashion may lead to a confusing and unfortunate overgeneralization. Moreover, in the southwestern region of the United States, particularly in California, there are many researchers studying cannabis and other hallucinogens for future therapeutical applications in the various contexts (and in California and Arizona, the medical use of marijuana has been approved by the voters).

From a psychological point of view, cannabis seems to have paved the way for changes in behavior and attitudes

(Lundquist 1995), with a significant reduction of the damages and risks to which drug abusers were once exposed. This phenomenon can be equally understood from the standpoint of cerebral neurotransmitters. In this sense, serotonin plays a key role in our understanding of this phenomenon. It is widely known that, with regard to addiction to stimulants such as crack and other forms of cocaine, there is a decline in the cerebral availability of this neurotransmitter, which is in turn associated with increased impulsiveness and craving, and alterations in the hunger mechanism (Nutt 1996). The advent of PET (positron emission tomography) scanning and SPECT (single photon emission computed tomography) imaging has enabled us to understand that the continuous use of cocaine or crack produces important changes in the cerebral metabolism of serotonin, and is directly involved in the reduction of dopamine levels, which were already observed before recent findings on serotoninergic receptors were known (Cadet & Bolla 1996). Recent studies on cannabis show that this substance functions as a serotoninergic agonist, and other recent studies have shown anandamida to be the endogenous neurotransmitter that is most closely related to the cannabinoid receptors. The clinical observations made in the present study corroborate these data, demonstrating that as serotonin levels most probably increased after the subjects began to use cannabis, impulsiveness and craving symptoms declined considerably; this was coupled with significant weight gains directly related to changes in the hunger mechanism. Intriguingly, cannabinoid receptors in the brain are the most abundant as compared to the number of receptors of other psychotropic substances.

This phenomenon coincides with the observations made by Sifaneck and Kaplan (1995), who coined the term "stepping stone theory" to refer to the switch from a hard drug to a softer type and the clear reduction of damages and risks for the users that such change entails. In one of their studies, the authors described a Dutch experiment in which heavy heroin users switched to cannabis and showed milder damages thereafter.

In conclusion, the authors would like to emphasize that the use of cannabis by crack cocaine abusers observed in this study is a unique opportunity to open a new way to study such a complex phenomenon as drug abuse. However, the authors also want to emphasize that this type of study will not be feasible unless we are willing to counter dogmas, fears and prejudice. The sample and follow-up period in this study are obviously too small and short. Hence, further investigation in this specific area of drug addiction is warranted.

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