A Comparison of Patients Relapsing to Addictive Drug Use with Non-relapsing Patients Following Residential Addiction Treatment in Antigua

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ABSTRACT

The outcome of a 29-day residential addiction treatment programme for persons from Antigua and Barbuda with addiction to drugs or alcohol was assessed. All 100 patients entering the drug and alcohol treatment programme at Crossroads Centre Antigua between November 1998 and October 2002 were included. All patients were assessed with regards to drug or alcohol use or abstinence in November 2002 using telephone and mail follow-up as well as informal follow-up with families and other community contacts. Crossroads Centre Antigua is a 35 bed, 29-day residential treatment centre for drug and alcohol addiction serving patients from developed countries (85%) and from the Caribbean region (15%). Patients records were also reviewed to obtain age, gender, ethnicity, drug of choice, years of problematic use, completion of the 29 day programme, family member participation at Crossroads Centre Antigua (a four-day programme) and acceptance of halfway house placement. Of the 100 Antiguan patients admitted, 46 (46%) were abstinent (non-relapsers) at average 20.7 ± 14.7 months after treatment. Abstinence did not have to be continuous. Forty-nine were known to be using drug or alcohol (49%) and five (5%) were lost to follow-up and considered to be using drugs (relapsers). Age (37.5 vs 41.1 years), gender (28% vs 22% female), ethnicity (87% vs 87% Afro-Caribbean), years of harmful use (12.7 vs 12.5 years) did not differ significantly between relapsers and non-relapsers. Crack cocaine use (67% vs 65%) and alcohol use (26% vs 31%) as primary addiction did not differ significantly between relapsers and non-relapsers. Relapsers were significantly less likely to complete the 29- day programme (81% vs 100%, $p < 0.01$), have family members participate at Crossroads (32% vs 54%, $p < 0.05$) or accept halfway house placement (4% vs 54%, $p < 0.001$). In conclusion, abstinence was achieved in 46% of those entering treatment, in 51% completing treatment, in 60% whose families participated and in 92% of those accepting halfway house placement.

Una Comparación de Pacientes que Recayeron en el uso Adictivo de Drogas, con Pacientes que no Experimentaron Recaída Tras Seguir un Tratamiento Residencial de la Adicción en Antigua

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RESUMEN

Se evaluó el resultado de un programa de 29 días de tratamiento residencial de la adicción para personas de Antigua y Barbuda adictas a drogas o alcohol. Fueron incluidos todos los pacientes de un total de 100 que entraron a formar parte del programa de tratamiento contra las drogas y el alcohol en el Crossroads Centre Antigua entre noviembre de 1998 y octubre de 2002. Todos los pacientes fueron evaluados en relación con el uso o la abstinencia de drogas o alcohol en noviembre 2002, mediante un seguimiento por vía telefónica o correo, así como a través de un seguimiento informal con familiares u otros contactos en la comunidad. El Crossroads Centre Antigua es un centro de 35 camas para el tratamiento residencial por 29 días de la adicción a las drogas o el alcohol. El centro presta servicios a pacientes de los países desarrollados (85%) y de la región del Caribe (15%). También se revisaron los récords médicos de los pacientes para obtener datos sobre edad, sexo, etnicidad, droga de elección, años de uso problemático, cumplimiento del programa de 29 días, participación de miembros de la familia en el Crossroads Centre Antigua (un programa de cuatro días) y aceptación de su inclusión en

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una "casa de medio camino." De los 100 pacientes antigüenses admitidos, 46 (46%) eran abstinentes (no recayentes) en un momento determinado, ubicado como promedio 20.7 ± 14.7 meses después del tratamiento. La abstinencia no tenía que ser continua. Se sabía que 49 (49%) estaban usando drogas o alcohol, y cinco (5%) fueron dados por perdidos del seguimiento y de regreso al uso de las drogas (recayentes). La edad (37.5 vs 41.1 años), sexo (28% varones vs 22% hembra), etnicidad (87% vs 87% Afrocaribeños), y los años de consumo perjudicial (12.7 vs 12.5 años) no presentaron diferencias significativas entre los recayentes y los no recayentes. El uso de la cocaína-crack (67% vs 65%) y el uso del alcohol (26% vs.31%) como adicción primaria, no mostró diferencias significativas entre los recayentes y los no recayentes. Los recayentes mostraron una probabilidad significativamente menor en cuanto a completar el programa de 29 días (81% vs 100%, $p < 0.01$), hacer que miembros de su familia participaran en Crossroads (32% vs 54%, $p < 0.05$) o aceptar su inclusión en la casa de medio camino (4% vs 54%, $p < 0.001$). En conclusión, se logró abstinencia en el 46% de los que adoptaron el tratamiento, el 51% de los que completaron el tratamiento, el 60% de aquellos cuyas familias participaron, y el 92% de quienes aceptaron ser ubicados en la casa de medio camino.

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INTRODUCTION

Drug and alcohol abuse represents a serious public health problem worldwide. Countries of the Caribbean are not immune (1, 2). Substance abuse is a significant problem in adults (3–5) and adolescents (6–8) in the Caribbean. In patients seen in a medical clinic in Dominica, 28% met the criteria for alcohol abuse on screening (9). For patients presenting with trauma in the Casualty department, 55% of patients in Trinidad and Tobago and 62% of patients in Jamaica were positive for alcohol or illicit drugs (1, 10). Little information is available on the treatment of persons with addiction in the Caribbean. Although programmes such as Alcoholics Anonymous (AA) appear effective (11), cultural differences associated with ethnicity have required unique sensitivities in treatment programmes in developed countries (12, 13).

Effectiveness of treatment for drug and alcohol has been questioned continually. There is difficulty in conducting broad-based epidemiologic outcome studies or controlled clinical trials (14). Clinical trials of random assignment are complicated by limited compliance and retention for sufficiently long periods of time (14). Drug use assessment may include self-report, urine testing, hair sampling, breathalyzer, enzyme immunoassay, thin layer chromatography or gas-liquid chromatography depending on cost and sensitivity needs (15). Outcome studies for addiction treatment may also include the impact of treatment on family relationships, gainful employment, improvement in health and avoidance of legal entanglements (16). The Addiction Severity Index (ASI) is a tool that tries to gauge the severity of addiction related problems including medical, social and psychologic issues from drug use as well as employment, family stability, health and psychological well-being (14, 16). Attempts are being made to match severity of addictive disease with treatment type and the American Society of Addiction Medicine (ASAM) Patient Placement Criteria is one tool (17) that is undergoing clinical evaluation (18).

Crossroads Centre Antigua, in Antigua and Barbuda, established by Eric Clapton, opened in November 1998 as a non-profit residential treatment centre for patients in Antigua and Barbuda and from overseas (19). All patients from Antigua and Barbuda meeting Diagnostic and Statistical Manual of Mental Disorders IV (DSM-IV) criteria 303 or 304 for substance abuse (20) were accepted to the programme. Antiguan patients represent about 13% of nearly 1000 admissions during the study period. Options for drug and alcohol addiction include individual therapy, self-help groups such as AA, day programmes, intensive outpatient programmes, hospitals, therapeutic communities or "halfway houses", in addition to the residential 29-day programme at Crossroads Centre Antigua (21).

This report summarizes a comparison of Antiguan patients experiencing a return to drug abuse as at November 2002 with those who had not returned to their addiction using self-reporting and informal reports from contacts in the community, a source of information unique to Antigua and Barbuda.

METHODS

A retrospective review of all medical records of patients from Antigua and Barbuda who entered the Crossroads Centre Antigua was performed. Antigua and Barbuda is an island state of 65 000 people, annual per capita income about US $5 000, 70% from tourism. Crossroads Centre Antigua is a 35-bed residential facility providing detoxification under medical supervision, followed by group and individual counselling with a strong 12-step programme orientation. The programme lasts 29 days and interested family members can participate in a four-day education and counselling Family Programme. A halfway house, the Bevon House, providing group support and housing was established in December 2000 for Antiguan men completing the programme. The average stay in the halfway house is six months. Admission to Crossroads Centre Antigua is completely voluntary as is placement at the Bevon House. Court referrals were accepted if the patient was willing to participate. The Crossroads Centre Antigua Foundation, London, United Kingdom, and New York, United States of America, was established to provide financial assistance to individuals requiring help. This

assistance was labelled "scholarship", determined on a case by case basis, based on financial information provided. No Antiguan patient was turned away for financial reasons.

All patients met DSM-IV criteria for alcohol or drug dependence (20). Following discharge, patients are routinely contacted at one month, three months, one year and yearly thereafter with regard to drug use. A self-reported mailed questionnaire is used. In addition, because Antigua is a small country (108 square miles), contacts within the recovering community and among active drug users allowed for nearly complete follow-up data for addicted persons. Data recorded from the medical records included status of current drug use, months of follow-up, age, gender, drug of choice, years of harmful drug use, family member participation, programme completion and residence in the halfway house. Data from relapsing *versus* non-relapsing patients were compared using chi-square and two-sample *t* test using STAT101 software (22). Non-significance (NS) was obtained with p – values > 0.05. Multivariate analysis was not available.

RESULTS

Between November 1998 and October 2002, 100 patients from Antigua were admitted to Crossroads Centre Antigua. Patients were classified in November 2002 as non-relapsers (abstinent at the time of assessment) or relapsers (using drugs or alcohol at the time of assessment). Abstinence did not have to be continuous. Abstinence was assessed by self-report, family and community reports, and observed recovery behaviour (*eg* AA participation). No urine, blood or hair samples were taken. Forty-six patients were non-relapsers (46%). Of those considered to be relapsers, 49 (49%) were known to have relapsed. Five patients (5%), lost to follow-up, were included in the relapse-group. Patients admitted from November 1998 to November 2000 had a relapse rate of 20/31 (65%) and those admitted from December 2000 to November 2002 had a relapse rate of 20/45 (44%), p = NS. There was no significant difference in age at admission for relapsers and non-relapsers, 37.9 years *vs* 41.1 years, p = NS (Table).

There was no significant gender difference, 28% *vs* 22% female, p = NS. Both relapse and non-relapse groups were 87% of Afro-Caribbean ethnicity, p = NS. There was no significant difference in years of self-reported harmful drug use between relapsers and non-relapsers, 12.7 years *vs* 12.5 years, p = NS.

Crack cocaine was the major drug of choice for both groups. Of the relapsers, 67% used cocaine (19% with alcohol, 13% with marijuana, 24% with alcohol and marijuana, and 11% used cocaine exclusively), 26% used alcohol (13% with marijuana, 9% alcohol exclusively, 2% alcohol and benzodiazepines, 2% alcohol, marijuana and benzodiazepines), 5% used oral opiates (2% with benzodiazepines, 2% with marijuana and cocaine) and 2% used marijuana exclusively. For non-relapsers, 65% used cocaine (20% with alcohol, 20% with marijuana, 19% with alcohol and marijuana, 4% exclusively, 2% with marijuana and benzodiazepines), 31% used alcohol (26% exclusively, 2% with marijuana, 2% with benzodiazepines), 2% used oral opiates (with benzodiazepines and alcohol) and 2% used marijuana exclusively. The use of crack cocaine (67% *vs* 65%, p = NS) or alcohol (26% *vs* 31%, p = NS) as the primary drug of choice was not significantly different between relapsers and non-relapsers. Relapsers who used alcohol primarily were less likely to use it exclusively than non-relapsers (36% *vs* 86%, p < 0.02).

Table: A comparison of Antiguan patients relapsing to drug abuse and Antiguan patients who did not relapse after admission to Crossroads Centre Antigua, 1998 to 2002

	Relapsers*	Non-Relapsers*	p-value
Age (years)	37.9	41.1	NS
Gender (female)	28%	22%	NS
Ethnicity (Afro-Caribbean)	87%	87%	NS
Years of Use	12.7	12.5	NS
Drug of Choice			
Cocaine plus	67%	65%	NS
Alcohol plus	26%	31%	NS
Months Followed	22.8	17.3	NS
Completed 29 days	81%	100%	0.01
Family Involved	32%	54%	0.05
Half Way House	4%	54%	0.001

*Relapsers are defined as persons using drugs of addiction as at November 2002. Non-relapsers are defined as persons not using drugs of addiction as at November 2002

Months of follow-up (mean 20.1 ± 14.7 months) were not significantly different between relapsers and non-relapsers (22.8 months *vs* 17.3 months, p = NS). Relapsers were significantly less likely to complete the 29-day programme than non-relapsers, 81% *vs* 100%, p < 0.01. Relapsers were significantly less likely to have family members participate in the programme than non-relapsers, 32% *vs* 54%, p < 0.05. Relapsers were less likely to live in the halfway house than non-relapsers, 4% *vs* 54%, p < 0.001). Four of the relapsers (8%) and seven of the non-relapsers (15%) were admitted twice. Three patients in both groups were taking neuroleptic medication following a stay at the Mental Hospital. There was one death from the complications of Acquired Immunodeficiency Syndrome (AIDS) in the relapse group.

Abstinence was achieved in 46% of admitted patients, in 51% of patients completing the 29-day programme, in 60% of those who had family members participate and in 92% of those who accepted halfway house placement. A total of 97% of patients required full scholarship support. Although formal ASI questionaire or ASAM placement criteria were not performed or recorded, about 40 to 50% were

not living independently (*ie* own domicile, a regular job) and about 15 to 20% were destitute by standards in developing countries (*ie* no domicile, no job). About 15% had a history of time spent in prison: nearly all short stays for theft or drug possession. The small numbers involved prevented statistical analysis of these variables.

DISCUSSION

Little information is available on outcome of persons experiencing substance abuse disorders in the Caribbean. Although drug of choice may vary from country to country, rates of drug and alcohol use and abuse are similar (1–8, 14). Alcohol remains the most common problem statistically, but use of multiple drugs is common (5, 14). Marijuana may be the major drug in Jamaica (10), while crack cocaine use predominate in Trinidad and Tobago (1) and in the Bahamas (23). In Trinidad and Tobago, a 580% increase in patients seeking treatment between 1983 and 1987 was felt to be due to the introduction of crack cocaine (1). In the Bahamas, treatment for cocaine abuse rose from zero cases in 1982 to 523 cases in 1984 (23).

In Antiguan patients admitted to Crossroads Centre Antigua, crack cocaine was the drug of choice in 66%, with 88% using cocaine in combination with other drugs. This observation is similar to cocaine users in developed countries (24, 25). Although treatment entry and detoxification may be a little easier with combined alcohol and cocaine use (24, 25), treatment outcomes may be worse (27, 28). Although data are limited from developing countries, a report from Jamaica suggests that fewer years of use and crack cocaine use more than alcohol use was more frequently associated with premature discharge from treatment (29). A two-year follow-up of crack cocaine addicts treated at an inpatient programme in Brazil revealed abstinence in 22%, death in 10%, incarceration in 9%, with 38% known relapsers and 21% lost to follow-up (30). Rates of abstinence for alcoholics is about 37 to 60% at one year and 21% four years after treatment (14, 16). The abstinence rate of 46% at an average of 21 months after treatment at Crossroads Centre Antigua compares favourably for persons from Antigua and Barbuda with both alcohol and cocaine addiction.

Treatment outcome in programmes overseas is generally better in older men of European ethnicity with intact families, higher socioeconomic status, no other mental health diagnosis and who are alcoholic (31–40). At Crossroads Centre Antigua, patients who had a mental health diagnosis (*ie* dual diagnosis) or who used opiates or drugs other than alcohol were significantly less likely to complete a 29-day stay and a non-significant trend suggested that women fail to complete treatment more than men (41). Residential programmes such as Crossroads Centre Antigua may have higher retention rates than outpatient treatment for addiction, 75 to 89% *versus* 18 to 64% (29, 33, 42, 43), but long term results are similar (44), even for dual diagnosis patients (45).

Factors identified to be associated with good outcome in Antiguan persons with addiction included programme completion, family participation and halfway house placement. In Jamaica, programme completion was seen in 77% of patients entering treatment (29), a little less than the 90% seen in the Antiguan patients. In Antigua and Barbuda, no patient who left treatment early remained abstinent.

Questionnaires and screening tools are available for identification of substance abuse disorders by caregivers in the community (46, 47). Following identification, treatment can begin. Keeping patients engaged in the recovery process is critical, the longer the better as far as outcome is concerned (47, 48). Substance abuse is both a chronic disease and a family disease (46, 49). Treatment needs to include all aspects of the patient's life, including medical, social, emotional and spiritual aspects (48) using a team of professionals. Involvement of patients in 12-step programmes, such as AA, improve attitudes and outcome (11, 48, 49, 51).

The Family Programme at Crossroads lasts four days and includes educational sessions concerning drug addiction as a disease leading to disordered relationships and responsibilities. Counselling is provided to family members regarding personal problems arising from living with addiction (49). The family members may help overcome a patient's denial during these sessions, although the programme is not necessarily for the patient's benefit. The improved outcome in these Antiguan patients whose family members participated may reflect the presence of more preserved family relationships and may be an association rather than a cause and effect.

The establishment of Bevon House, the halfway house in Antigua and Barbuda, allows for a more structured living situation and provides for a gradual return to society over a period of at least six months. Such structure may be especially useful in cocaine addicted patients (50). In addition, time is allowed for job training and participation in 12-step meetings and periodic drug testing are mandatory. In September 2004, a larger 16-bed halfway house for men and women opened in Antigua and Barbuda, replacing the smaller facility but retaining the name, Bevon House. The Crossroads experience suggests a substantial improvement in outcome if structured living and continued involvement in the recovery process can be achieved through a halfway house programme.

In summary, a 46% abstinent rate on an intention-to-treat basis has been achieved for Antiguan patients at Crossroads Centre. Factors associated with abstinence included programme completion, family member participation and acceptance of placement in a halfway house setting. This confirms the observations of others that the length of treatment, inclusion of family and social issues and providing an environment for recovery on a chronic basis are associated with improved outcomes. The Crossroads experience has also demonstrated that such a programme can succeed in a developing country. Current estimates in developed coun-

tries are that every dollar invested in treatment for addiction saves four to seven dollars in cost of untreated addiction to a society (52).

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