

# Factors Affecting Completion of a 28-day inpatient Substance Abuse Treatment Programme at the University Hospital of the West Indies

L Barnaby, RC Gibson

## ABSTRACT

*This study investigated factors leading to premature discharge from the residential substance abuse treatment programme at the University Hospital of the West Indies (UHWI). Two hundred and twenty-four patients, mean age 36 # 9.75 and age range of 16–66 years were studied. The patients, 87.5% men, were admitted to the programme over the period July 1999 to June 2002. Sources of data, including a routine patient-monitoring form and patients' medical records, were reviewed. Data analysis, performed using the Statistical Package for Social Sciences (SPSS), included frequencies, cross-tabulations and analyses of variance (ANOVA). Crack cocaine was the drug of impact for 60% of patients, alcohol for 17% and marijuana for 8%. Treatment ended prematurely for 22.8% of persons whose reasons for leaving included signing out against medical advice or self-discharge (27.4%), absconding (19.6%), fighting (9.8%), drug use (5.9%) and other rule breaking, including sexual acting out (15.7%).*

*Premature discharge was uninfluenced by gender, age, marital status, schooling, employment status or geographical location. There were significantly more premature discharges in persons admitted primarily for crack dependence versus those admitted primarily for alcoholism ( $p < 0.05$ ). There were also significantly more premature discharges in persons with 0–10 years of using their most problematic substance when compared with 21–30 years of use ( $p < 0.05$ ) but not when compared with 11–20 years or over 30 years of use ( $p > 0.05$ ). The influence of duration of substance use requires further elucidation .*

# Factores que Afectan la Terminación del Programa de 28 días de Tratamiento por Abuso de Sustancias de los Pacientes de Ingreso en el Hospital Universitario de West Indies

L Barnaby, RC Gibson

## RESUMEN

*Este estudio investigó los factores que llevan a dar de alta prematuramente del programa residencial de tratamiento por abuso de sustancia, en el Hospital Universitario de West Indies (HUWI). Se estudiaron doscientos veinticuatro pacientes, de edad promedio 36 +/- 9.75 y rango de edad 16–66 años. Los pacientes, 87.5% hombres, ingresaron al programa en el periodo de julio 1999 a junio 2002. Se revisaron las fuentes de los datos – incluyendo un formulario de rutina para el monitoreo de los pacientes, y las historias clínicas. El análisis de datos, realizado mediante el Paquete Estadístico para la Ciencias Sociales (SPSS), incluyó frecuencias, tabulaciones cruzadas y análisis de varianza (ANOVA). La cocaína crack fue la droga de impacto en el 60% de los pacientes, el alcohol en el 17%, y la marihuana en el 8%. El tratamiento terminó prematuramente para 22.8% de las personas cuyas razones para abandonarlo incluyeron firmar su renuncia a la asistencia médica o darse de alta a sí mismos (27.4%), fugas (19.6%), peleas (9.8%), uso de drogas (5.9%), y otras violaciones de las reglas, incluyendo conductas sexuales inadecuadas (15.7%). El alta prematura no se produjo por influencias de género, edad, estado civil, escolaridad, empleo o localidad geográfica. Se produjeron significativamente más altas prematuras en personas ingresadas al programa fundamentalmente por dependencia del crack, en comparación con aquellas que entraron fundamentalmente por alcoholismo*

( $p < 0.05$ ). *Hubo también significativamente más altas prematuras en personas con 0–10 años de uso de su sustancia más problemática en comparación con aquellas con 21–30 años de uso ( $p < 0.05$ ), pero no en comparación con 11–20 años o más de 30 años de uso ( $p > 0.05$ ). La influencia de la duración del uso de la sustancia requiere elucidación posterior.*

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## INTRODUCTION

Although the length of time substance-dependent patients remain in treatment is positively associated with their long-term improvement (1, 2), many persons terminate treatment prematurely. Researchers outside of the Caribbean region have investigated several factors which seem to have an influence on premature termination of treatment (attrition). These include those related to the patient – *viz*: age, gender, educational attainment, social class, employment status, psychosocial functioning, referral status and motivation; to the drug – *viz*: the severity of drug abuse and the types of drug abused; and to the treatment – *viz*: the physical site (residential or outpatient) and the actual modalities of treatment provided (3–8).

In summary, attrition was more likely in the young male, less well educated, lower social class, unemployed individual with associated psychological distress, depression or psychosis, who was not self-referred and who had low motivation to enter treatment. Graduation and maintenance of follow-up treatment was associated with being female and with abuse of alcohol only, compared with polydrug (more than 5 drugs) abuse.

Persons dependent on cocaine, especially crack-cocaine had particularly high attrition rates (9–13). This was related to the severity (level and length) of their dependence. However, regardless of the drug abused and of the site of treatment, length of time in treatment was positively correlated with a good outcome (14, 15).

Although a substantial proportion of their work has not been published, Caribbean researchers have conducted treatment outcome studies examining sociodemographic, alcohol-, substance- and treatment-related factors in outpatient as well as hospitalized populations (unpublished Reid-Bartlett, Ramoutar). Several studies highlight the role of Alcoholics Anonymous (AA) and Narcotics Anonymous (NA), indicating that active engagement in the self-help groups in conjunction with psychological and behavioural approaches was responsible for maintaining sobriety/abstinence in recovering alcohol and substance dependent persons particularly in Trinidad and Tobago (16) and Jamaica (17) in contrast to the studies cited above (9–14 *op cit*),

The pattern of drug use was found to be related to outcome in one Trinidadian study, with the most favourable outcome being found in polysubstance abusers (those using more than 5 drugs, including cocaine) as opposed to those using a single substance or multiple (2–5) drugs (18).

Caribbean studies have not addressed specifically inpatient retention or attrition issues, although reviews of the

Substance Abuse Unit at the University Hospital of the West Indies (UHWI), Kingston, and of other drug treatment facilities in Jamaica have been conducted over the period 1993–1996 (unpublished data). The authors wished to examine a number of sociodemographic factors which may be associated with patients' interruption or completion of treatment.

The objectives of the study were to determine the distribution of sociodemographic characteristics among patients admitted to the programme, to review stated reasons for premature discharge and to investigate the possible association between patient characteristics and length of stay in the programme.

## SUBJECTS AND METHODS

From 1991 to 2004, the Drug Assessment, Detoxification and Rehabilitation Unit of the University Hospital of the West Indies provided substance abuse treatment by means of a 28-day inpatient programme, to which persons were admitted as voluntary, screened patients. Staff of the 8-bed unit utilized a multi-modality approach to treatment, emphasizing group psychotherapy but including as well, individual psychotherapy, education, medication for detoxification and for coexisting psychiatric disorders, hypnosis for smoking cessation, creative arts therapy and attendance at Alcoholics Anonymous and Narcotics Anonymous. The unit also offered weekly new- and follow-up outpatient clinics.

The subjects were all admitted to the programme between July 1999 and June 2002. They consisted of 224 men and women ranging in ages from 16–66 years, with diagnoses ranging from dependence on a single drug (alcohol, crack-cocaine or cannabis) to polydrug dependence with crack-cocaine as the main drug of impact.

Coded routine patient-monitoring forms providing sociodemographic information, details of drug use history and previous exposure to treatment as well as the medical records with details of their progress in treatment during their UHWI admission were reviewed. The Statistical Package for Social Sciences (SPSS) was used in data analysis. In addition to frequency studies and cross-tabulations, analyses of variance (ANOVA) were conducted.

## RESULTS

Of the 224 patients admitted, males comprised 87.5% ( $n = 196$ ) and females 12.5% ( $n = 28$ ). The mean age and standard deviation of the patients was  $36 \pm 9.75$  years. The single, never married comprised 70%, married 14%, divorced 4%, separated 5% and common-law unions 7% of the admissions. Regarding educational level, 2% had no formal education,

13% had primary level, 66% had received secondary level education, 16% college/university and 3% postgraduate education (Table 1). Students comprised 2% while home-makers

Table 1: Sociodemographic findings

Sex:	Male	87.5% (N=196)
	Female	12.5% (N=28)
Marital Status:	Never married	70%
	Married	14%
	Divorced	4%
	Separated	5%
	Common law	7%
Schooling:	None	2%
	Primary	3%
	Secondary	66%
	Tertiary	16%
	Post graduate	3%
Job Status:	Unemployed	50%
	Temp unemployed	9%
	Full time job	27%
	Occasional job	9%
Geographical Location:	Kgn and St Andrew	53%
	St Catherine	19%
	Others	28%

and retirees were each 1%. Despite the educational levels attained, 50% were unemployed, 27% had permanent jobs, 9% occasional jobs and 9% were temporarily unemployed. Admissions were islandwide, primarily from Kingston and St Andrew (53%) but also from St Catherine (19%) and the other rural parishes (28%). The drug of impact *ie* the drug for which the person sought help was crack-cocaine for 60%, alcohol for 17%, marijuana for 8% and other substances for 15% of patients (Table 2). These other substances included

Table 2: Factors related to substance use and programme completion

Primary drug	Crack	60%
	Alcohol	17%
	Marijuana	8%
	Other (incl. benzodiazepines)	15%
	Nicotine, amphetamine, analgesics)	
Programme Completion	Completed	77.2%
	Premature discharge	22.8%
Reasons for pre-mature discharge*	Against medical advice	27.5%
	Absconding,	19.6%
	Fighting	9.8%
	Drug use	5.8%
	Other rule breaking (incl. sexual acting out)	29.6%
	Other (incl. transfer to other service)	17.0%

\*In some patients, there was more than one reason for discharge

seasoned spliff or marijuana laced with cocaine; powdered cocaine, tobacco, amphetamine, analgesics and benzoiaz-

epines. Over twenty-two per cent (22.8%) left treatment prematurely: leaving against medical advice or self-discharge (27.4%), absconding (19.6%), fighting (9.8%), drug use (5.9%) and other rule-breaking *ie* sexual acting out and profanity (15.7%).

Premature discharge was not influenced by gender, age, marital status, schooling, employment status or geographical location. There were significantly more premature discharges in persons admitted primarily for crack cocaine dependence than in those admitted primarily for alcoholism. ANOVA of number of days in treatment of persons using alcohol *versus* crack-cocaine revealed a mean difference of  $3.56 \pm 1.24$  days with  $p < 0.05$ . ANOVA of the duration of use of alcohol *versus* crack-cocaine revealed a significant difference ( $p < 0.05$ ).

There were also significantly more premature discharges in persons with 0–9 years of using their most problematic substance when compared with those with 20–29 years of use. The mean difference was 4.00–1.52 days ( $p < 0.05$ ). However, this was not the case for persons with 10–19 years and over 30 years of use ( $p > 0.05$ ).

## DISCUSSION

The attrition rate for this study population was 22.8% and thus the programme was completed by 77.2% of the patients. From the 1993 evaluation study of four treatment centres in Jamaica (Campbell), drop-out rates varied from 15% in an out-patient centre to 60% in a long-term (4-month) rehabilitation centre. In one halfway house-type facility, run by the Salvation Army, the drop-out rate was 22% but records for 52% of the patients were not located so it seems likely that this may be a falsely low figure.

The 1993 study by Combie-Thomas of 38 alcohol and substance abusers admitted to the University Hospital of the West Indies Unit showed 11% attrition and thus 89% completion of the 30-day programme.

The Trinidad study of patterns of substance use over the period 1990–1993 as a predictor of outcome among clients at the Substance Abuse Prevention and Treatment Centre (SAPTC), Caura Hospital, classified substance abusers into single, multiple (2–5 drugs) and polydrugs use. Only 25% of the 275 inpatients failed to complete, with the most favourable outcome being found in poly-substance abusers (17). An earlier study of outpatient treatment at SAPTC, Caura, found that 25% of persons with alcoholism failed to complete the programme but 53% of multi and polydrug users dropped out (Table 3).

In the present Jamaican study, Forty-seven per cent (47%) of premature discharges resulted from absconding or self-discharge (*ie* against medical advice) and this may reflect poor motivation in these patients; 31.4% were discharged for behaviour problems (rule-breaking)

Comparison with SAPTC patients indicated that they, too, left against medical advice, absconded or were discharged because of infringement of rules. The researcher

Table 3: Other studies (unpublished) of drug treatment centres

	Alcohol dependence only %	Poly/ multiple substance %	Premature discharge %	Completion %	Clean time 6 months %	Clean time 1 year %
<b>Jamaica</b>						
Addiction Alert Organization*	Out Patient 18	8	15	84	50 male and 42 female	
Patricia House Residential Rehab*		94	60	40	29	
Salvation Army Half- way House*		18	22 (but 52% of admissions had no records)	19		6
28-day Inpatient Substance Abuse Unit	*28	16	36	62	53	
UHWI	#		11	89		
<b>Trinidad</b>						
Substance Abuse Prevention and Treatment Centre SAPTC Caura	^Outpatient      + In-patient 42	58	25 alcoholics and 53 drug addicts  25	75 alcoholics and 47 drug addicts  76	40	20

\* Campbell *et al* 1993

# Combie-Thomas (1996)

^ Reid (1992)

+ Ramoutar 1993

there theorized denial and unwillingness to accept the extent of their dependency as the possible cause of this.

Persons with alcoholism had fewer premature discharges and completed the treatment programme more than polysubstance users and those with cocaine dependence. A review of the literature on substance abuse treatment dropouts concluded that patients who use more drugs have higher attrition rates (14). The results of this study seem to concur with this finding. The Caura study seems to contradict that finding. This may reflect programmatic differences or differences related to psychosocial or other factors.

The influence of duration of substance use requires further clarification. Fewer alcoholics than crack-cocaine addicts left prematurely. The finding that in this study persons using their drug of impact for over 20 years were more likely to remain in the programme for a longer period than those

using for periods shorter than ten years, suggests they may be more likely to be alcoholic, more severely ill with comorbid medical and/or psychiatric conditions and/or have greater insight and motivation. Those with shorter periods of use may be more likely to be crack-cocaine users, may have an element of denial of the extent of their dependency, may feel capable of maintaining their own abstinence and thus fail to appreciate the need for complete treatment. This would accord with cited research which reveals that alcoholics remain in treatment for longer than the crack-cocaine addict.

The present programme is heavily group oriented. A number of patients presented with poor coping mechanisms and personality deficits. The increased use of more individual therapies *eg* counselling, supportive and re-educative psychotherapy and hypnotherapy in the programme may prevent attrition of crack users as well as early users what-

ever their drug of abuse. Anger management approaches have been found to be effective in substance abuse treatment programmes (17). Strengthening of the anger management component of the programme, so as to minimize the confrontations that led to discharge of some patients prematurely may also be of significant benefit.

Finally, some outcome studies indicate that for the most severely affected patients, ninety days or longer in residential programmes were needed to improve outcomes (7). The short duration of the UHWI programme may thus itself affect the attrition rates and outcomes.

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