

Use of illicit drugs among high-school students in Jamaica

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Reported are the results of a survey to assess the prevalence of illicit drug use among high-school students in Jamaica. A total of 2417 high-school students in 26 schools were covered: 1063 boys and 1354 girls of whom 1317 were grade-10 students (mean age 15.7 years) and 1100 were grade-11 students (mean age 16.8 years). Of the students, 1072 and 1345 were from rural and urban schools, respectively, while 1126 and 1291 were children of parents who were professionals and nonprofessionals, respectively. The following drugs were used by the students: marijuana (10.2%), cocaine (2.2%), heroin (1.5%) and opium (1.2%). Illicit drug use among males, urban students and children of professionals was higher than that among females, rural students and children of nonprofessionals, respectively.

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Introduction

Drug use and abuse remain critical problems in most countries and are associated with several social and economic consequences (1). The use of illicit drugs frequently starts among schoolchildren during adolescence. Surveys in the United Kingdom indicate that 5–20% of schoolchildren use drugs, with 2–5% using them weekly and with a peak prevalence at 14–16 years of age (2). In Trinidad and Tobago, the lifetime prevalence has been found to be 8% for marijuana use and 2% for cocaine use among secondary schoolchildren (3). In Barbados, 31% of admissions to the psychiatric hospital were linked to drug abuse, which was the second most common diagnosis; cocaine and marijuana were the most commonly abused illicit drugs (4).

The misuse and abuse of drugs by adolescent schoolchildren are global problems, and Jamaica is no exception. A survey of four high-schools in Jamaica found that 60% of children had tried one or more drugs, including marijuana, and 1.3% had used cocaine (5). Another study of households in western Jamaica revealed that 9.4% used cocaine, with 6.2% in the age group 15–24 years. Most users start while in school (6). A national survey of the use of drugs in Jamaica in 1989 reported that 78% of males and 40% of females used at least one of four drugs (alcohol, cocaine, marijuana and tobacco) (7). In 1991 it was found that 14% of teenage males and 1% of females were current users of marijuana. In addition, 4.8% of teenage children in urban areas used cocaine and/or crack cocaine (8). It is therefore important to

determine the extent of drug use by Jamaican schoolchildren and to ascertain any pattern of use over time. Against this background, we investigated drug use among senior high-school students to discover whether it was prevalent in this age group. If true, drug abuse in these children is likely to persist into adulthood. Such information is essential if any education programme intended to discourage young people from abusing drugs is to succeed. The present study determined the prevalence of illicit drug use over a 4-week period (April/May 1995) among high-school students in Jamaica and correlated it with students' sex, age, school location and socioeconomic background.

Methods

In the 1994–95 academic year, there were 56 secondary high-schools in the 14 parishes of Jamaica with a total enrolment of 27 051 students in grades 10 and 11, comprising 14 430 tenth graders (mean age 15.7 years) and 12 621 eleventh graders (mean age, 16.8 years) (9). Of these schools 30 were randomly selected from the list of high-schools in Jamaica in 1994–95 prepared by the Ministry of Education, Youth and Culture (9). Of the 3000 copies of the questionnaire sent to the selected schools, only those that were duly completed by 2417 students in 26 schools (12 rural, 14 urban) were analysed. These copies represent a response rate of 80% while the sample size represents about 9% of the population of students in grades 10 and 11. The schools were located in 10 of the 14 parishes in Jamaica (Clarendon, Kingston, Portland, St Andrew, St Ann, St Catherine, St Elizabeth, St James, St Mary and St Thomas). The questionnaire was administered under examination conditions in the various schools by the class teachers with the cooperation of the vice-principals and/or principals. The duration of the questionnaire was 20 minutes.

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The questionnaire contained the following sections: section A requested information on the students' demographic data; section B asked whether the students had used the four illicit drugs (cocaine, heroin, marijuana and opium) within the previous 4 weeks; and the remaining two sections determined the students' levels of awareness of the causes and effects of drug abuse. Copies of the questionnaire were given to two experienced high-school teachers and a medical doctor who verified its content and the clarity of the language used.

The pilot survey was administered to 256 students comprising 123 grade-10 students (52 boys, 71 girls; mean age, 15.5 years) and 133 grade-11 students (57 boys, 76 girls; mean age, 16.6 years) randomly selected from one rural and one urban high-school in Jamaica. The questionnaire was administered on two occasions separated by a 4-week interval in January–February 1995. The test–retest reliability coefficients obtained were in the range 0.88–0.96 for the use of the four illicit drugs. The main study was subsequently carried out in April–May 1995.

The four drugs selected (cocaine, heroin, marijuana and opium) were chosen because previous studies indicated that they are commonly abused substances in Jamaica, which may result in severe, deleterious effects on the users (10).

Statistical analyses were performed to compare differences in students' use of the drugs by sex, age, school location, and socioeconomic background. Analyses using χ^2 tests determined any significant differences in the students' use of drugs based on these four independent variables.

Results

A total of 1063 boys and 1354 girls participated in the study: 1317 students were in grade 10 or form four (16-year-olds) and 1100 students were in grade 11 or form five (17-year-olds). Of these 2417 students, 1345 were from urban and 1072 from rural schools, respectively, while 1126 and 1291, respectively, were children/wards of professionals and nonprofessionals.

The prevalence of the use of illicit drugs by the students over a 4-week period (April/May 1995) was as follows: marijuana (10.2%); cocaine (2.2%); heroin (1.5%); and opium (1.2%) (Table 1).

The proportions of male students who used marijuana, cocaine, heroin and opium were significantly higher than those of their female counterparts (Table 2).

There were only slight differences in the proportions of the 16- and 17-year-olds who used three of the four illicit drugs (marijuana, cocaine, heroin), while the proportion of 16-year-olds who used opium was significantly higher than for 17-year-olds (Table 2).

The proportions of urban students who used marijuana, cocaine, and heroin were statistically

Table 1: Prevalence of illicit drug use among high-school students aged 16–17 years in a 4-week period (April/May 1995) in Jamaica

Drug	No. of students (<i>n</i> = 2 417)
Marijuana	247 (10.2) ^a
Cocaine	53 (2.2)
Heroin	36 (1.5)
Opium	30 (1.2)

^a Figures in parentheses are percentages

significantly higher than those of their rural counterparts, although the use of opium was only slightly more (Table 2).

The use of marijuana and cocaine by students whose parents/guardians were professionals was significantly higher than for students with non-professional parents/guardians. The proportions of the children/wards of professionals who used heroin and opium were slightly more (but not statistically significantly so) than those of the children/wards of nonprofessionals who used these drugs (Table 2).

Table 2: Prevalence of drug use by sex, age, school location and socioeconomic background among high-school students in Jamaica

	% prevalence of drug use			
	Marijuana	Cocaine	Heroin	Opium
Sex				
Male (<i>n</i> = 1 063)	17.40	4.42	2.73	2.35
Female (<i>n</i> = 1 354)	4.58	0.59	0.52	0.37
χ^2 test	106.75 ^a	39.29 ^a	19.84 ^a	19.09 ^a
Age				
16 years (<i>n</i> = 1 317)	10.02	2.20	1.59	1.59
17 years (<i>n</i> = 1 100)	10.45	2.36	1.36	0.82
χ^2 test	0.12	0.07	0.22	2.94 ^b
School location				
Rural (<i>n</i> = 1072)	6.81	1.21	0.93	0.93
Urban (<i>n</i> = 1345)	12.94	3.10	1.93	1.49
χ^2 test	24.41 ^a	9.78 ^a	4.07	1.49
Socioeconomic background				
Professional (<i>n</i> = 1126)	11.63	3.37	1.86	1.33
Nonprofessional (<i>n</i> = 1201)	8.99	1.32	1.16	1.16
χ^2 test	4.60 ^b	11.45 ^a	2.03	0.03

^a *P* < 0.01.

^b *P* < 0.05.

Discussion

Drug use and abuse have grown to such proportions that they have become priority health problems and a serious threat to the stability of social, political and legal institutions in many countries (11). In the USA, drug abuse is critically linked to crime, neglect of children, family violence, incomplete education,

homelessness, acquired immunodeficiency syndrome (AIDS), high health costs, urban decay, and decreased economic competitiveness (1).

The use of drugs commonly begins in adolescence and the age of initiation is decreasing, averaging 13–15 years in the United Kingdom, where the majority of adult addicts start using drugs in their teens (2). Earlier drug use is often associated with heavier subsequent abuse, more persistent drug use, and abuse of harder drugs. Abuse of illicit substances before the mid-teens is more likely to be associated with later delinquency, severe psychiatric disorders, and antisocial problems (2). Jamaica is no exception to drug use and abuse problems. The present study determined the prevalence of recent drug use among high-school students in Jamaica and correlated it with sex, age, school location and socioeconomic background. An anonymous self-administered questionnaire was used in the study. This method is used frequently, well accepted, and reliable and the refusal rates are low. It is possibly the optimum way to collect information about personal behaviour because of its anonymity, although careful attention must be given to the validity and reliability of responses (12).

In Jamaica, the use of marijuana is endemic, and is associated with various cultural and religious factors (13). In one survey in the USA, marijuana was the most common illicit drug chosen by teenagers, and more than 50% of high-school seniors had used it, while 25% had used it in the month prior to the survey (14). In Ontario, Canada, 15.9% of high-school students had used marijuana, and most users of any illicit drug had used it (15). In the Bahamas, 14.7% of high-school students had used marijuana (16) while, in Trinidad and Tobago, 8% of students had used it (3). In the present study 10.2% of high-school students had used marijuana in the 4 weeks prior to the administration of the questionnaire.

Marijuana use is particularly hazardous to the young as its effects on short-term memory, motivation, and energy levels may interfere with the cognitive and social development of adolescents and impair their educational attainment (1). It may also interfere with coordination and the ability to judge elapsed time, speed and distance. In addition, marijuana may interfere with the ability to track a moving object and adversely affect reaction times (14). These effects of marijuana intoxication probably contribute significantly to accidental death and injury among adolescents, especially those associated with automobile collisions (14). In a study of drug-related traffic accidents in Jamaica, marijuana was found in the blood in 22.5% of fatalities (17). This does not imply a causal relationship between marijuana use and traffic accidents, although some correlation is likely. Students using marijuana are more likely to be lower achievers in school, use alcohol and other drugs, and have friends and parents who use drugs (15).

Cocaine use and abuse have been the fastest growing drug problem in Jamaica and many countries

(18). In Ontario, Canada, 3.8% of high-school students have been reported to use cocaine and the lifetime prevalence of such use in the population reported to be 6.1% (15). In the USA, 1.9% of high-school students have used cocaine (1), while in Mexico the prevalence of its use by the same age group in urban areas has been found to be 1%. In the Bahamas, 1.7% of high-school students have used cocaine (16) and in the present study 2.2% of high-school students in Jamaica had recently used it.

Cocaine use usually begins in the late teens and early twenties, and increases thereafter (15,19). It can lead to increased cardiovascular morbidity and mortality in adolescents and young adults, and also contributes to violent deaths of young people related to illegal drug activities (20).

The prevalence of heroin use by students in this study was 1.5%, which is high and unexplained. The annual prevalence of heroin use in Ontario, Canada, between 1977 and 1987 was 1.4–2.3% (15). In New York, 1% of young adults had used heroin by the age of 18 years (19). In the present study, the proportions of male students who used illicit drugs (cocaine, heroin, marijuana, and opium) were significantly higher than those of their female counterparts. This finding is in keeping with other studies, since the prevalence of active drug use among males (7%) is greater than that of females (2%) (20, 21). In the Bahamas, male students were more likely than female students to use marijuana and cocaine (16).

Drug use and abuse affect children in all cultural and socioeconomic groups, not just the poor and the undereducated. A survey of high-school seniors found that marijuana use was directly related to parental educational levels, i.e. the higher the parental education level, the more their children used drugs such as marijuana (20). Furthermore, the prevalence of illicit drug users tends to be higher in urban (10.3%) than rural areas (3.8%) (22). This was borne out in the present study since the proportions of students who used marijuana and cocaine, and whose parents/guardians were professionals, were higher than those of students whose parents were nonprofessionals who used these two drugs. The proportions of urban students who used marijuana, cocaine and heroin were also higher than those of rural students.

The use of drugs is relatively common among high-school students in Jamaica, and measures to reduce this use should be a priority. Although the problem is multifaceted, prevention by education is important. Among the measures used should be the prevention of primary initiation, as well as secondary progression into adult abuse and to more hazardous drugs. ■

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Résumé

Consommation de drogues illicites chez des lycéens de la Jamaïque

La consommation de drogues et la toxicomanie continuent à poser un problème majeur dans la plupart des pays, avec leur cortège de conséquences sociales et économiques. La consommation de drogues illicites en milieu scolaire commence souvent au cours de l'adolescence. Les auteurs ont étudié la fréquence de la consommation récente de drogues illicites chez 2417 élèves jamaïcains du second degré scolarisés dans 26 établissements. Cet échantillon se composait de 1063 garçons et de 1354 filles, dont 1317 de 16 ans et 1100 de 17 ans. Le nombre de jeunes scolarisés était de 1072 en milieu rural et de 1345 en milieu urbain; pour 1126, les parents étaient des cadres ou des membres des professions libérales et pour 1291, ils appartenaient à

d'autres catégories socio-professionnelles. Au cours des 4 semaines précédant l'enquête, les élèves avaient consommé de la marijuana (10,2%), de la cocaïne (2,2%), de l'héroïne (1,5 %) et de l'opium (1,2%). La consommation était plus forte chez les jeunes gens que chez les jeunes filles, en milieu urbain qu'en milieu rural et chez les enfants des cadres et professions libérales que chez les enfants des autres catégories socio-professionnelles. Faire reculer la consommation de drogue chez les lycéens devrait être une priorité. Il s'agit d'un problème multiforme, mais la prévention par l'éducation est importante. Empêcher la première expérience, éviter la poursuite de cette pratique à l'âge adulte et le passage aux drogues dures font partie des mesures préventives.

Resumen

Consumo de drogas ilícitas entre los estudiantes de secundaria de Jamaica

En la mayoría de los países, el uso y abuso de drogas sigue siendo un problema crítico que no está exento de consecuencias sociales y económicas diversas. El consumo de drogas ilícitas suele comenzar en la adolescencia. Se ha estudiado la prevalencia del consumo reciente de drogas ilícitas entre los estudiantes de secundaria de Jamaica. Se encuestó en total a 2417 estudiantes de 26 institutos: 1063 varones y 1354 mujeres, de los cuales 1317 tenían 16 años y 1100 tenían 17 años. De estos estudiantes, 1072 procedían de escuelas rurales y 1345 de escuelas urbanas, mientras que 1126 eran hijos de profesionales y 1291 lo eran de no profesionales. Las drogas que consumían los estudiantes (en las cuatro semanas anteriores a la

encuesta del estudio) eran marihuana (10,2%), cocaína (2,2%), heroína (1,5%) y opio (1,2%). El consumo de drogas entre los estudiantes varones, los estudiantes de zonas urbanas y los hijos de profesionales era más alto que entre las estudiantes, los alumnos de zonas rurales y los hijos de no profesionales, respectivamente. Las medidas encaminadas a reducir el consumo de drogas entre los estudiantes deberían tener carácter prioritario. Aunque el problema es multifacético, cabe destacar la importante función preventiva que puede desempeñar la educación. En ese sentido, se requieren medidas encaminadas a prevenir la iniciación al consumo así como la ulterior progresión hacia el abuso en la edad adulta y el consumo de drogas más peligrosas.

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