

Adolescent Health in the Caribbean: A Regional Portrait

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The last 2 decades have been marked by significant changes in adolescent health in Caribbean countries. There has been a shift from infectious to social morbidities caused or contributed to by individual risk behaviors and environmental factors¹⁻⁷ concurrent with rising unemployment, increased poverty, and reduced health services. Such societal influences that heighten threats to adolescent well-being signal the critical need for effective interventions that address individual, family, and community factors.⁸

Young people aged 10 to 24 years comprise about 30% of the Caribbean population. Until recently, little comprehensive health data on this group have been available. Much research has been focused on a single issue or single country. As governments in the Caribbean concentrate more attention on the health of young people,⁹ a more comprehensive picture of youth health becomes increasingly important. Data are needed to design and implement effective programs to improve and monitor trends in youth health over time. This analysis provides a descriptive portrait of youth health in the Caribbean from young people's perspectives.

Theories of adolescent development have evolved to include many interwoven factors associated with the appearance and continuation of behaviors that may affect healthy negotiation of this life stage. These factors include the physical, psychosocial, behavioral, and environmental domains, as well as both internal and external factors.¹⁰⁻¹² Within a resiliency framework, this study gathered information about assets and potential problems to present an accurate picture of Caribbean adolescent perceptions and behaviors.¹³⁻¹⁴

METHODS

Study Design and Sampling

This cross-sectional study represents a collaborative effort of the ministries of health in 9 countries, the Pan American Health Organi-

Objectives. This study assessed youth health in the Caribbean Community and Common Market countries and describes the prevalence of health-related factors.

Methods. We used a self-administered classroom questionnaire; questions addressed general health, health care, nutrition, sexual history, drug use, mental health, violence, family characteristics, and relationships with others.

Results. Most youths reported good health; however, 1 in 10 reported a limiting disability or significant health problems. Violence was a pervasive concern. Of those who reported history of sexual intercourse, many reported that their first intercourse was forced, and nearly half reported that they were aged 10 years or younger when they first had intercourse.

Conclusions. Although most young people are healthy, problems indicate the importance of monitoring trends and designing effective youth health programs. (*Am J Public Health.* 2003;93:1851-1857)

zation (PAHO), and the World Health Organization (WHO) Collaborating Centre in Adolescent Health at the University of Minnesota, Minneapolis. Of the 19 Caribbean Community and Common Market (CARICOM) countries, the following joined the regional survey: Antigua, Bahamas, Barbados, British Virgin Islands, Dominica, Grenada, Guyana, Jamaica, and St. Lucia. Together these nations represent 71% of the population and half of all countries in the Anglophone Caribbean. Although differences among participating and nonparticipating countries exist, we know of no major differences in economic and social conditions that are likely to affect adolescent health status.

Sampling procedures were implemented by statisticians at the ministries of health (MOH) in each country. The sample size was selected to be large enough to represent school-going teenagers within each country and to ensure power to detect meaningful differences between genders and among age groups and countries. (In accordance with agreements between PAHO and MOH, only combined data across the region will be published. Nation-specific data are available through the Caribbean Program Office, PAHO.) A 20% oversampling allowed for student absences and attrition caused by incomplete surveys. The number of 30-student classrooms needed to obtain the desired number of par-

ticipants distributed across grades was determined, and classrooms were selected randomly from a list of all schools in the country. All students in selected classrooms were invited to participate. In practice, there were minor procedural variations among countries. Nonproportional country samples were sought to prevent results being dominated by Jamaica, which has over half the population of the 9 participating countries.

Measurement

A draft questionnaire was reviewed by maternal and child health representatives from 19 Caribbean nations. Then, based on pilot tests in 3 countries (n=105), a core instrument was constructed. After comment by maternal and child health representatives, the questionnaire was again piloted under classroom conditions and critiqued by more than 50 school-going young people from 3 countries. The core instrument, finalized by ministry of health representatives, contained 87 multiple-choice questions with 246 possible individual responses. Questions addressed school performance, school environment, alcohol and other drug use, sexual and reproductive history, physical and sexual abuse, moral behavior (honesty), violence, mental health and suicide, practicing a religion, family characteristics, relationships with others, general health, health care, and nutrition and body image.

Data Collection and Management

In-country survey administrators were chosen mainly from ministries of health or education and received training and support from the PAHO Caribbean Program Office. Teachers were asked to introduce the survey to their class several days before data collection. On the survey day, survey administrators gave a standard introduction to each selected class. Students were informed of the purpose and content of the survey and that they could choose to participate or not, with permission to skip questions they did not want to answer. Teachers were instructed to avoid circulating during data collection to reinforce confidentiality.

Data entry was completed either within the participating country or by a selected central data entry firm. Consistency across data entry groups was assured by the use of a standard codebook. Entered data were forwarded to the University of Minnesota WHO Collaborating Centre for analysis. Suspect surveys (where 40% or more of the 160 nonbranching items were missing or where there was a pattern of improbable responses) were omitted from the dataset. Eight of the 9 countries used the survey instrument as produced, and 1 country revised the form by adding additional questions and changing others. Where changes were not substantive, results were adapted and included in the 9-country analysis. In a few cases in which the meaning of questions was altered, item-specific responses were not included in the analysis.

Consent and Confidentiality

Passive consent procedures included written information sent home with students or letters mailed to parents. There were no personal identifiers on the questionnaires. Survey administrators were instructed not to read completed surveys or to allow anyone else to do so. Completed surveys were delivered to the Country Coordinator for processing immediately after site completion. Approval for the study was obtained from the institutional review board of the University of Minnesota Human Subjects Review Committee.

Data Analysis

Descriptive analyses were conducted for all variables of interest. Rates are presented as

proportions for the total sample and by age group and gender. Age was analyzed as 3 categories of 3 years that roughly correspond to important points of school continuation in the Caribbean—points where children commonly drop out. Demographic subgroups were compared using Pearson χ^2 tests. Statistical significance was set at $P < .01$ to correct for sensitivity caused by the large sample. To better describe the region as a whole, weighting was used so that the results reflect the proportion of the population in each country. Although this approach gave more weight to the larger countries, there were only 4 out of more than 200 possible responses for which weighted results varied more than 5% from unweighted results, indicating that it was reasonable to present weighted results as representing the region and not solely the dominance of larger countries.

Validity and Participation

Each individual survey was subjected to a series of computer checks for completeness and accuracy. Surveys with more than 40% of nonbranching items left blank (13% of the weighted sample) were deleted on the assumption that whatever led to the incompleteness (e.g., poor reading ability, distractions, or disinterest) made the remaining answers untrustworthy. Surveys were also checked for invalid responses (e.g., inconsistent responses and endorsing the use of bogus drugs). Surveys were only deleted (2%) if they had 4 inconsistent responses or 2 or more clearly invalid responses.

RESULTS

Characteristics of the Sample

The total sample included 15 695 students aged 10 to 18 years from 9 countries. Over three-quarters (78.5%) of respondents were Black of African heritage, 6.5% were East Indian, 5.5% were American Indian, 2.8% were White, 0.7% were Asian, and 6.0% were “other.” A higher proportion of the survey respondents were female (61% vs 39% male). Approximately one-fifth of participants (21.4%) were 16 to 18 years of age, 47.2% were 13 to 15, and nearly a third (31.4%) were aged 12 and under. The difference in age distribution for males and females, al-

though statistically significant, was not large enough to be of practical importance (<3% in each age category).

General Health, Nutrition, and Health Care Services

One in 5 adolescents stated that their general health was poor or fair (Table 1). Younger age was associated with reported better health. In addition, almost 10% of young people (more males than females) reported having a physical condition that limits their activities. About one-sixth (about half of those who think they need to lose weight) stated they have used at least 1 weight-loss method. Although older adolescents were more likely to use diet or exercise to control weight, younger adolescents had higher rates of other methods (e.g., vomiting, laxative use). About 16% of males and females felt that they needed to gain weight.

Most adolescents (85.9%) reported having a place where they usually receive medical care; however, only 36.2% had a medical checkup and less than half had seen a dentist in the last 2 years. Regarding personal matters, many youths professed to believe that adults cannot be trusted to ensure confidentiality, including physicians (33.2%), nurses (20.8%), teachers (26.0%), guidance counselors (20.1%), peer counselors (21.4%), and parents (14.0%). Overall, males were consistently less likely to use health care services than females, and they were more likely to believe adults would not ensure confidentiality.

Mental Health, Violence, and Abuse

Although most respondents saw themselves as generally happy, 1 in 6 saw themselves as sad, angry, or irritable (Table 2). Half had felt so “down” that they wondered if anything was worthwhile. One in 6 felt their friends cared very little about them. Many of the young people surveyed reported a history of abuse in their lives. About a sixth (15.9%) stated they had been physically abused, most by an adult in their home, and 1 in 10 stated they worried about being physically abused. One-tenth reported sexual abuse, most frequently by adults outside of the home or other teens, but many reported abuse by adults in the home and by siblings. A small proportion (4.9%) reported a history of both physical

Table 1—General Health and Nutrition of Caribbean Adolescents

	Gender (%)		Age group, (%)			Total (%)
	Female	Male	<12y	13–15y	16–18y	
General health^{a-e}						
Poor	4.3	4.5	5.4	4.3	2.7	4.4
Fair	16.2	14.2	11.6	15.6	21.8	15.4
Good	34.8	39.0	34.7	37.7	36.4	36.5
Excellent	44.7	42.3	48.3	42.3	39.2	43.8
Limiting disability ^a	8.7	10.1	9.4	9.2	8.9	9.2
Exercise hard (work, play, or exercise hard enough to sweat and breathe hard)^{a-e}						
Never	26.5	21.7	30.4	23.1	17.3	24.6
1–2 times weekly	36.2	26.3	26.7	33.8	38.2	32.2
≥ 3 times weekly	37.3	52	42.8	43	44.5	43.1
Regular health problems (more than 1–2 times weekly)^f						
Developing too fast ^{a,b,d,e}	16.3	16.4	18.1	17	11.5	16.3
Body not developing ^{b-e}	11.8	12.3	2.6	12.7	9.7	12
Headache ^a	16.7	11.1	14.5	14.4	14.8	14.5
Stomachaches ^a	11.3	16.5	10.2	9.2	8.8	9.4
Acne ^{a-e}	13.6	9.5	8.7	13	15.4	12
Number of health problems reported^{a-e}						
None	49.8	55	52.4	51.5	51.8	51.8
1–2	39.4	35.1	35.2	38.3	40.5	37.7
3 or more	10.8	9.9	12.4	10.2	7.7	10.5
Body satisfaction						
Think weight is okay ^{a-d}	67.7	71.6	73.3	66.8	67.9	69.2
Look in mirror, feel okay or happy ^{a-d}	87.7	89.5	91.3	87.1	87.0	88.4
Use of weight loss methods (ever)						
Diet or exercise ^{b-e}	15.5	15.3	12.2	16.4	18.8	15.4
Laxatives ^{a-e}	14.1	16.8	18.1	15.6	9.1	15.3
Vomiting ^{a-e}	7.7	8.9	11.0	7.7	4.5	8.2
Hungry because there is not enough food						
Lack food a lot ^{b-d}	8.3	9.1	11.3	7.7	6.2	8.6
Skip breakfast because lack food	4.0	3.7	4.4	3.6	4.0	3.9
Clinic visits last 2 years						
Medical clinic ^{b-d}	36.3	36.1	29.7	38.5	41.2	36.2
Mental health service ^{b-d}	11.0	12.3	8.5	12.4	14.2	11.5
Dental visit ^{b-d}	42.1	40.0	35.9	43.2	45.4	41.3

^aStatistically significant difference between genders ($P < .01$).

^bStatistically significant difference between age groups ($P < .01$).

^cStatistically significant difference between age groups 10–12 vs 13–15 years ($P < .01$).

^dStatistically significant difference between age groups 10–12 vs 16–18 years ($P < .01$).

^eStatistically significant difference between age groups 13–15 vs 16–18 years ($P < .01$).

^fCategories: “a lot” vs. “hardly ever” or “sometimes.”

and sexual abuse, and about 1 in 6 (15.2%) reported a history of 1 or the other.

Weapons were carried to school in the previous 30 days by one-fifth of the males. One-tenth of the boys and half that many girls reported that they had at some time been knocked unconscious in a fight, with similar numbers reporting that they had been stabbed or shot. For some adolescents, the thread of violence was woven deeply into their life experiences. Two out of 5 youths reported that sometimes or most of the time they think about hurting or killing someone else. Strikingly, 1 in 6 young people in the English-speaking Caribbean reported thinking they would not live to the age of 25 years.

Tobacco, Alcohol and Other Substances

Few adolescents (1.4%) reported using tobacco. Alcohol was the most commonly used substance on a monthly or more frequent basis (females, 3.9%; males, 7.9%), followed by marijuana (females, 1.2%; males, 2.3%) and steroids (females, 1.4%; males, 3.2%). The percentage reporting use of any substances monthly or more often was relatively low (10.6%), with the highest rates among males and older adolescents. Over a fifth of young people nonetheless reported experiencing problems related to drinking or drug use, most commonly loss of friends or the breakup of a relationship. Some adolescents came from homes in which 1 or more parents had problems with drinking (13.4%) or drugs (2.8%) in the last 5 years. A small but important percentage of the adolescents reported worrying about their own drinking or drug use (7.3%), and nearly that many reported usually drinking 4 or more drinks at 1 time (5.8%). A higher percentage (6.9%) reported driving while intoxicated, and an even higher proportion (16.5%) reported riding in a motorized vehicle with people who had been drinking or using drugs.

Sexuality

Most young people (65.9%) stated they had not had sexual intercourse (Table 3). Among those, the 5 most commonly cited reasons for abstinence among both males and females were wanting to wait until marriage (females, 63%; males, 58%), wanting to wait until older (females, 53%; males, 52%), not

TABLE 2—Mental Health, Violence, and Abuse among Caribbean Youth

Behaviors and Thinking	Gender (%)		Age Group (%)			Total(%)
	Female	Male	≤ 12y	13-15y	16-18y	
Affect^{a-c}						
In general, see self as happy	84.0	82.6	86.1	82.5	81.0	83.4
In general see self as sad, angry, or irritable	16.0	17.4	13.9	17.5	19.0	16.6
Abuse						
Worry about being physically abused ^{a,c-e}	12.2	10.3	10.5	11.6	13.2	11.5
Worry about being sexually abused ^{d,f}	15.1	10.0	12.2	13.7	13.4	13.1
Ever been physically abused ^{a-d,f,g}	15.1	16.9	14.8	16.0	17.8	15.9
Ever been sexually abused ^{b,f}	10.5	9.1	9.3	10.3	10.1	9.9
Suicide						
Think I will not live to age 25y ^{c-g}	15.0	14.4	19.8	13.9	8.1	14.8
Ever tried to kill self ^{a-d}	12.8	11.0	10.8	12.7	12.9	12.1
Family member/friend tried to kill self ^{a-d,g}	23.5	19.9	16.9	23.2	28.6	22.1
Interpersonal violence (one or more times)						
Been in a fight where weapons were used ^{a-d,h}	6.4	16.7	6.6	12.3	12.6	10.5
Carried a weapon to school (last 30 days) ^{a-d,g,h}	7.3	20.1	6.6	14.5	17.7	12.2
Carried weapon at times other than school (last 30 days) ^{a-d,g,h}	13.2	31.5	11.8	23.8	27.6	20.4
Ever belonged to a gang ^{a,b,d,g}	12.9	21.8	14.2	18.4	15.1	16.5
Ever rendered unconscious from violence ^{a,c,d,g}	5.2	10.1	8.6	7.6	3.1	7.1
Ever been stabbed or shot ^{a-d,g}						
1 time	3.1	6.7	4.0	5.2	3.7	4.5
2 times	0.9	2.4	1.8	1.4	0.9	1.5
3 or more times	0.6	1.4	1.0	0.9	0.7	0.9
Rage (think about hurting/killing someone)^{a-d,g}						
Some of the time	34.1	37.0	23.0	39.0	25.5	35.2
Almost always	4.3	5.9	3.9	5.0	6.5	4.9

^aStatistically significant difference between age groups ($P < .01$).

^bStatistically significant difference between age groups 10-12 vs 13-15 years ($P < .01$).

^cStatistically significant difference between age groups 10-12 vs 16-18 years ($P < .01$).

^dStatistically significant difference between genders ($P < .01$).

^ePhysical abuse was defined as “when someone causes you to have a scar, black and blue marks, welts, bleeding, or a broken bone.”

^fSexual abuse was defined as “when someone in your family or someone else touches you in a place you did not want to be touched, or does something sexually which they shouldn’t have done to you, or forces you to touch them sexually or have sex with them.”

^gStatistically significant difference between age groups 13-15 vs 16-18 years ($P < .01$).

^hWeapon was defined as “a gun, knife, razor, bat, and chains.”

wanting to risk pregnancy (females, 42%; males, 37%), fear of disease (females, 35%; males, 33%), and not being emotionally ready (females, 37%; males 30%). The 2 most frequently cited reasons for sexual abstinence in all 3 age groups were wanting to wait until marriage and wanting to wait until older.

Of the one-third of adolescents who had had intercourse, almost half reported that their first sexual intercourse was forced. Over half of sexually active boys and about a quar-

ter of females stated that the age of first intercourse was 10 years old or younger; and almost two-thirds had intercourse before the age of 13. Males were about 3 times more likely than females to have had 5 or more sexual partners. Only a quarter of these young people always used some form of birth control and were only slightly more worried about getting pregnant or causing a pregnancy (an event that had occurred among 10% of youths). Over half of those with his-

tory of intercourse (53.3%) used a condom during their most recent intercourse. Approximately equal percentages of males (9.8%) and females (9.5%) reported a history of same-gender sexual experience and attraction.

DISCUSSION

Overall, the majority of young people say they are healthy; 4 out of 5 rate their overall health “good” or “excellent.” Nearly 9 out of 10 are satisfied with their appearance. Most feel that their mother and father care about them, and 7 out of 8 young people report no health problems at all. Few teenagers say they smoke cigarettes, and the overall reported use of drugs is relatively low. Nearly two-thirds—half of those in the older teen years—of the adolescents say that they have not had sexual intercourse. While most young people are doing well, many face significant problems. One in 10 adolescents report that they have a disability or chronic illness, and an equal proportion report that they have 3 or more health problems. This estimate of disability is conservative because, as Thorburn suggests, children in the Caribbean, as elsewhere in developing countries, may be less likely to be identified or treated for disabling conditions.¹⁵

Nutritional health findings are somewhat paradoxical in that even though most adolescents are satisfied with the way they look, they continue to focus on and worry about their physical development and weight. Although only 12% are not satisfied with their weight, many young people display signs of eating disorders: laxative use, diuretic use, and vomiting as means to control weight. These findings, although not conclusive, are consistent with research in Curacao indicating that cultural norms of dieting and thinness are not prerequisite to disordered eating.¹⁶ The high proportion of youths never eating breakfast may be cause for concern because of the positive association of breakfast with cognitive function, especially in younger adolescents.^{17,18}

Most young people in this school-based study stated they were generally happy. However, one in 9 in our study had attempted suicide, and many reported that they had a friend or relative who has tried to kill him or herself. Furthermore, nearly 1 in 7 youths re-

TABLE 3—Sexual Behavior and Sexuality of Caribbean Adolescents

	Gender (%)		Age Group (%)			Total(%)
	Female	Male	≤12y	13-15y	16-18y	
Ever had sexual intercourse ^{a-f}	22.2	51.9	22.0	34.6	51.6	34.1
First intercourse was forced (yes or somewhat) ^{b-e,g}	47.6	31.9	42.8	37.9	36.5	38.3
Age of first intercourse, years ^{b-g}						
<10	23.5	54.8	71.9	44.2	25.7	42.8
11-12	16.4	23.2	28.1	23.4	13.0	20.6
13-15	44.7	19.3		32.4	39.7	28.9
≥16	15.3	2.7			21.6	7.6
Total number of sex partners ^{b,d-h}						
1	54.0	20.9	35.2	31.1	35.3	33.2
2	18.8	14.8	20.2	14.9	16.0	16.3
3	10.5	15.4	15.2	14.5	11.6	13.8
4	3.6	9.5	5.4	7.6	7.7	7.2
5	3.3	7.0	5.9	5.7	5.5	5.7
≥6	9.9	32.5	18.1	26.2	23.9	23.9
Sexual Attraction ^{a-i,j}						
Only same sex	4.5	5.5	6.8	4.6	2.7	4.9
Equal both sexes	5.0	4.3	6.0	4.8	2.6	4.8
Only opposite	44.7	56.8	27.0	53.5	76.0	49.4
Not sure	13.3	11.7	20.4	10.2	6.5	12.7
Don't understand question	32.5	21.7	39.7	26.9	12.2	28.2
Always use birth control ^{b-g}	30.0	24.0	17.8	24.8	34.2	26.3
Used condom during most recent intercourse ^{b-g}	59.8	49.6	26.4	51.8	70.8	53.3
Have been or gotten someone pregnant ^{a-d,f}	7.0	11.6	7.5	11.7	7.6	9.6
Worry about getting/making pregnant (somewhat or a lot) ^{a-f}	28.7	32.8	21.3	32.3	42.1	30.3
If contraception were needed, where would you go: ^{a-i,j}						
Medical doctor	38.0	42.3	45.4	39.4	29.6	39.7
Public health clinic	13.5	16.7	17.0	13.0	15.4	14.8
Family planning clinic	20.4	9.6	15.0	16.1	18.6	16.1
Youth clinic	8.8	7.1	9.1	8.6	5.3	8.1
Drug store/pharmacy	15.2	19.5	11.1	18.5	23.4	16.9
Public bathroom	1.5	1.1	1.5	1.5	0.7	1.3
Mini-mart, grocery store, supermarket	2.6	3.8	0.8	3.1	7.0	3.1
Worry about getting AIDS ^{a-f}	37.2	41.1	28.7	40.4	52.5	38.7
Worry about getting AIDS ^{b-g}	46.9	45.0	34.8	44.4	56.1	46.0
Worry about getting AIDS (a lot) ^{a-f}	26.4	29.4	21.6	28.6	36.1	27.6
Worry about getting AIDS (a lot) ^{b,d-g}	32.9	33.8	26.8	31.9	41.1	33.7

^aPercentage of total respondents.

^bStatistically significant gender difference ($P < .01$).

^cSignificant difference between age groups ($P < .01$).

^dStatistically significant difference between age groups 10-12 vs 13-15 years ($P < .01$).

^eStatistically significant difference between age groups 10-12 vs 16-18 years ($P < .01$).

^fStatistically significant difference between age groups 13-15 vs 16-18 years ($P < .01$).

^gPercentage of those reporting history of intercourse.

^hPairwise comparisons using χ^2 tests with categories 1,2,3,4+.

ⁱPairwise comparisons using χ^2 tests grouping "not sure"/"don't understand."

^jPairwise age comparison of MD/clinics vs nonclinic.

port a history of physical abuse, and 1 in 10 (nearly equal for boys and girls) have been sexually abused. Both the high prevalence of sexual abuse reported by adolescent males and comparability with that reported by females is highly unusual. In most surveys of sexual abuse among adolescents, females are more likely to report abuse than their male counterparts.¹⁹ The high rates of reported physical abuse and persistent approval of corporal punishment as a disciplinary measure are reported in much of the Caribbean region.²⁰⁻²⁴ The high rates of sexual abuse reported among males may be consistent with the finding that nearly half report having had intercourse before the age of 11. Likewise, the sexual abuse reported by both males (9.1%) and females (10.5%) is especially telling in the face of these same young people reporting that their first sexual experience was forced (31.9% and 47.6% for males and females, respectively).

Reported lifetime tobacco use is low in this group compared with other studies,²⁵ but the survey question included only cigarettes, not other forms of tobacco. The rate of reported marijuana use is also low,²⁶ however, results may be influenced by a number of issues. First, marijuana is illicit and youths may not have felt comfortable reporting illicit drug use. Second, the sample is drawn from a relatively young school-going population and a proportionately older sample may have had a higher reported rate of use. Finally, the survey question focused on smoking marijuana, and some youths may drink it as a tea (P. Brandon; oral communication; April 15, 1998).

Postponing sexual intercourse appears to be a conscious choice for some adolescents, consistent with a 1997 survey of adolescent reproductive health conducted in Jamaica.²⁷ However, among sexually active youths, fewer than 3 in 10 regularly use contraception. Results indicate that perceived lack of confidentiality may be a factor in seeking contraception. Although fewer than 1 in 10 young people have been pregnant or gotten someone pregnant, many girls drop out after having a child and thus would not be counted in an in-school survey (A. Venema; written communication; November 13, 1997). In a region in which AIDS/HIV is rising,^{28,29} most young people still report that contract-

ing HIV is not a personal worry. This finding is consistent with other studies indicating a need for sexual health education.^{30,31} Same-sex attraction and behavior is not discussed frequently in the Caribbean; however, young people tell us that it is becoming more evident in adolescent social circles. One young person stated, "In my school it [homosexuality] is talked about. It's not so hidden. When you party it's even more known. There is a new trend where it's kind of acceptable." In addition, the sexual tourism industry may attract young men into same-sex relationships for economic reasons rather than because of sexual orientation.

Cultural and social differences may account for some of the similarities and differences between these findings and those of studies in the United States and in other parts of the world.^{32,33} Similar to the United States, boys are more likely to be involved in interpersonal violence and substance use.¹² Interpersonal violence and weapon carrying appear to be common among young people throughout the Western Hemisphere.^{34,35} Although it is striking that many Caribbean youths do not think they will live past 25 years of age, it is important to note that expectations of a foreshortened future have been noted among young people in the United States as well.³⁶

Whereas gender differences in reported intercourse among U.S. adolescents are small, in the Caribbean, female youths in school are only half as likely to have had sexual intercourse as their age-matched male peers. This finding is consistent with reported sexual activity gender differences in Colombia.³⁷ In addition, U.S. females are more likely to have attempted suicide, but there is no gender difference in Caribbean youths. Age differences in alcohol use, a factor in the United States, are likewise not apparent in the Caribbean,¹² but there is equal concern about concurrent use of alcohol and motor vehicles.³⁸

Several methodological considerations affect the generalizability of these findings. Foremost, the study included only adolescents attending school. In some Caribbean countries, both English-speaking and non-English speaking, less than half of older adolescents are enrolled in secondary school.³⁹ There are strong selection effects inherent in the Caribbean

school system, in that students are required to attend elementary school, but at about age 12 students are required to pass a test to go further. Thus, 10–12 year olds in school are more representative of their age group than are the older age groups in school. After age 12, youths in the academic track are selected for their academic potential and are more likely to have personal assets and support systems needed to stay in school. This may also affect their behavior and health patterns. As a consequence, what is presented here may represent the most optimistic picture of young people in the region. Second, only the English-speaking countries were involved in the study; therefore, results cannot be generalized beyond the CARICOM nations. Third, country-by-country variations in actual sampling procedures may have affected findings. The country samples were large enough in size, however, and covered sufficient schools throughout each country, that the results within each age group are likely to provide a good indication of attitudes and behavior nationally. Fourth, despite instructions and efforts at confidentiality, students may not have trusted that assurance. Finally, the high rate of questionnaires disallowed because of incompleteness may also bias results in unknown ways.

CONCLUSIONS

Adolescents represent a sizable proportion of the Caribbean population, yet public policy on youth issues has often focused only on risk behavior and has excluded the voices of young people.⁴⁰ These analyses provide a broad understanding of factors affecting the present or future health of adolescents in the English-speaking Caribbean. As the first regional study of this breadth, results serve as an information source for designing and implementing strategies aimed at reducing risk and promoting healthy youth development. Findings can also be used as a baseline to monitor regional trends in youth perceptions and health behaviors. Furthermore, these results can lead to specific hypotheses to test in future studies.

It is clear that there are some significant health-related issues facing youths in the Caribbean, but it is equally clear that most young people are doing well. If nations are to

be successful in addressing youth health, positive strategies need to be built on promoting health. Youths need to be viewed as part of the solution—and thus key partners with adults—not merely problems to be fixed. Many problems are interrelated; to affect 1 significantly influences others.⁴⁰ Strategies must be built on a framework that recognizes the links between healthy behavior and the broader context of family, community, society, and culture.⁴¹ The needs are great but so, too, are the opportunities. ■

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Contributors

L. Halcón was the lead author, coordinated the data analysis, and was principal investigator. R.W. Blum was the principal investigator on the overall study. T. Beuhring developed the sampling frame, participated in the in-country training, and worked with national-level statisticians to ensure the representativeness of the samples. E. Pate conceptualized the original study, coordinated the 9 countries collaborating in the project, and reviewed the article. S. Campbell-Forrester had a key role in instrument development, helped to ensure support from the participating countries' ministries of health, and reviewed the article. A. Venema coordinated the sample selection, oversaw data entry and management at the country level, and reviewed the article.

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Human Participant Protection

The consent protocol followed community standards requiring passive notification of parents by the school principal or senior administrator, who sent letters home

by mail or with the students. The study was approved by the institutional review board of the Human Subjects Protection Program, University of Minnesota.

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