Prevalence and Correlates of Sexual Risk Behaviors Among Jamaican Adolescents

By Kanako Ishida, Paul Stupp and Olivia McDonald

Kanako Ishida is Oak Ridge Institute for Science and Education Fellow, and Paul Stupp is a statistician, both in the Division of Reproductive Health, Centers for Disease Control and Prevention, Atlanta, GA, USA. Olivia McDonald is director, National Family Planning Board, Kingston, Jamaica.

CONTEXT: Despite high levels of sexual activity and risk behaviors among Jamaican youth, few population-based studies have examined their prevalence or correlates.

METHODS: The prevalence of three sexual risk behaviors was assessed using data from the 2008–2009 Jamaican Reproductive Health Survey on a subsample of adolescents aged 15–19 who neither were in a union nor had a child. Factors associated with the risk behaviors were examined separately for females and males, using bivariate analysis and multivariate logistic regression.

RESULTS: In the year prior to the survey, 32% of females and 54% of males had had sexual intercourse; of those, 12% and 52%, respectively, had had more than one sexual partner, and 49% and 46% had used condoms inconsistently or not at all. School enrollment was protective against females being sexually active and males having multiple partners. Factors associated with the risk behaviors were examined separately for females and males, using bivariate analysis and multivariate logistic regression.

CONCLUSIONS: Future reproductive health programs should continue to target adolescents in venues other than schools and churches, and should also address the varying needs of females and males.

Because high levels of sexual activity and pregnancy have been found among Jamaican adolescents,1–4 health policymakers and social scientists are interested in identifying factors associated with youth’s sexual risk behaviors. During the past two decades, this interest has been further fueled by the increasing prevalence of HIV in the Caribbean region, which is the world’s highest outside of Sub-Saharan Africa.5 Numerous studies have investigated correlates of unintended pregnancy and STI risk among young Jamaican females, including early sexual debut and multiple sexual partners,6 forced first sex7 and having a first partner who is not a steady boyfriend.8 Qualitative studies from Jamaica have shown the prevalence of permissive attitudes regarding males’ early sexual debut, having multiple sexual partners, lack of condom use and violence toward females.9,10 In addition, an emphasis on masculinity and male dominance—equivalent to “machismo” in Central and South America—is deeply embedded in Jamaica’s gender system, and it encourages men to demonstrate their sexual prowess from an early age by having multiple partners and children. Following procreation, men usually provide for their children and the mothers, which is another way to assert their manhood; however, for lower class men who lack the economic resources to fulfill this role, demonstration of sexual virility is more important.11 Another widespread attitude is that females should be economically dependent on males, and this leads economically marginalized young women to use sexual activity as a means to feed and clothe themselves or to pay for school; some even have a baby to gain stable financial support from the father.12

Both quantitative and qualitative studies provide useful insight into factors associated with sexual activity and unintended pregnancy among Jamaican youth, but they are usually based on small samples, generally from school-based surveys in limited geographic areas. Furthermore, there are few reliable estimates of the national prevalence of sexual risk behaviors or studies that examine the extent to which socioeconomic status, particularly poverty, is associated with such behaviors among youth.13 For this study, we used nationally representative data from the 2008–2009 Jamaican Reproductive Health Survey (RHS), which contains detailed information on respondents’ sexual partners in the 12 months prior to the survey. We estimated—separately for females and males—the percentages of youth aged 15–19 who in the last year had been sexually active, had had multiple partners, and had used condoms inconsistently or not at all; we also examined factors thought to be correlated with these behaviors, including household wealth, school enrollment, religiosity, experience of childhood violence14,15 and agreement with traditional gender roles.16

Enrollment, Union Formation and Sexual Activity

To provide a broader framework for the sexual and reproductive health characteristics of young adults in the context of other life events, we present a brief overview of the age patterns of school enrollment, union and fertility status, and sexual activity among youth aged 15–24 (2,343 females and 2,775 males) who completed the 2008–2009 RHS.19

School enrollment among females and males decreased rapidly with age, particularly after age 16, when Jamaican students usually complete secondary school (Figures 1 and 2). Although the percentages enrolled at each age were similar for both genders, males were more likely than females to be at a grade level lower than expected for their age. Marriage was relatively rare: About 10% of females were married by age 24. In contrast, the percentage of females in either cohabiting or visiting unions increased steadily with age, reaching about 30% by age 19 and 50% by age 23. Males were substantially less likely than females to be in a cohabiting or visiting union, and marriage was even rarer. The percentages of females and males who had a child were similar to the overall percentages of those who were in a union, probably because most respondents entered a union following a pregnancy or childbirth. How-
ever, among females aged 20 or older, the percentage with a child was greater than the percentage in a union, indicating either fertility outside a union or union dissolution. Overall, because females had a child or entered unions at a younger age than males, the timing of school attendance and union and family formation was more likely to overlap for females.

At younger ages, the percentages of females who were sexually experienced were substantially lower than the percentages of males who were experienced, but this difference disappeared by age 20. The percentages of females and males who had had sex in the 12 months before the survey were only slightly lower than the percentages who had ever had sex, suggesting that once respondents first had sex, they were likely to stay sexually active. Since the percentages of sexually active males at all ages and, though less substantially, of sexually active females at age 17 or older far exceeded the percentages of those who were in a union, their sexual debut and sexual activity were more likely to occur outside of a union.

**METHODS**

**Data**

The 2008–2009 RHS was implemented by the Jamaican National Family Planning Board with technical assistance from the U.S. Centers for Disease Control and Prevention (CDC). The survey employed a multistage cluster sample design based on 2002 census tracts, and collected data using a standardized questionnaire in face-to-face, household interviews conducted from June 2008 through March 2009. Further details of this survey are documented in the final report. The sample was nationally representative and consisted of 8,259 females aged 15–49 and 2,775 males aged 15–24. For the present study, we restricted the sample to 1,074 females and 1,734 males aged 15–19 who neither were in a marital, cohabiting or visiting union* nor had a child. The CDC Ethics and Review Board exempts the Jamaican RHS from research review.

**Dependent Variables**

Three dependent variables were examined: whether respondents had had sexual intercourse in the 12 months prior to the interview, and among those who had, whether they had had more than one sexual partner in the last year, and whether they had used condoms inconsistently or not at all over this period. The last variable was based on two items: condom use at last sex with each partner, and the overall consistency of condom use (“In general, with what frequency did you use a condom with a steady/nonsteady partner(s) over the past 12 months?”)

**Independent Variables**

Key demographic and socioeconomic variables included age as of the September (the month in which school starts) prior to the interview, current school enrollment status and household wealth tercile. Current students were classified into those who were in an age-appropriate or higher grade, and those who were in a lower than age-appropriate grade. Wealth terciles were constructed using a wealth index score: the weighted sum of the number of household appliances and amenities (e.g., TV, vehicles, toilet facilities and source of water), where the weight was derived from principal components analysis.

Two dichotomous variables for childhood violence were assessed: whether the respondent had ever been slapped, kicked, shoved or hit by a parent or other adult family member; and whether they had ever seen or heard their father or stepfather slap, kick, shove or hit their mother or stepmother. Both measures referred to any time before the respondent turned age 15. For the latter measure, respondents who reported not having grown up with two parents (whether biological or not) were assigned to a third category. Since parental support, or family connectedness, has been found to be negatively associated with a wide range of youth risk behaviors, including sexual activity, we...
examined the potentially protective effects of having “a supportive adult at home.” Respondents were categorized as having such support if they answered affirmatively at least four of the following seven questions: whether there was an adult in the home who was interested in their school work; talked with them about their problems; gave them enough attention; listened to them when they had something to say; expected them to follow the rules; always wanted them to do their best; and believed that they would be a success. Frequency of attendance at religious services was categorized into three levels: at least once a week (weekly); at least once a month but less often than once a week (monthly); and less than once a month or never. To examine the expected associations between sexual risk behaviors and beliefs regarding traditional gender roles, we measured respondents’ agreement with the following three statements: “A good wife obeys her husband even if she disagrees”; “It is important for a man to show his wife or partner who is the boss”; and “It is a wife’s obligation to have sex with her husband even if she doesn’t feel like it.”

Finally, respondents were categorized by urban or rural residence, and by residence in one of the nation’s four administrative health regions: the southeast, which includes Kingston, the capital (region 1); the northeast (region 2); the northwest (region 3); and the southwest (region 4). Region 3 includes Montego Bay, known for its tourism and for high levels of HIV infection and transactional sex between tourists and Jamaicans.24

Analysis
We explored potential factors associated with sexual risk behaviors among single and childless females and males aged 15–19. First, we used Pearson’s chi-square test to examine overall bivariate associations between each of the three risk behaviors and each independent variable. We then conducted multivariate logistic regression analyses for each behavior using the same set of independent variables. For the multiple partners and condom use variables, the analytic samples were restricted to respondents who had had sexual intercourse in the past 12 months, because these variables were conditional on being sexually active. Since results of an auxiliary analysis indicated that the effect of the variables did not differ significantly by age, the final model did not include age interactions. Our estimates of the distribution of characteristics in the sample, as well as the multivariate results, reflect adjustments for unequal probabilities of selection for survey participation.

RESULTS
Sample Characteristics
The distribution of adolescents by age was similar for both genders; 57% of females were aged 15–16, as were 51% of males (Table 1). Twenty-eight percent of females were enrolled in an age-appropriate or higher grade, 43% were in a lower grade and 29% were not in school; the corresponding figures for males were 17%, 41% and 42%. Overall, female respondents were more likely than males to be in the highest tercile of household wealth (38% vs. 28%). Among females, 69% had been victims of childhood violence and 10% had witnessed parental violence; for males, those figures were 67% and 12%. Most females and males were categorized as having had a supportive adult in their home (86% and 83%, respectively). Some 45% of females and 25% of males reported attending religious services weekly. Agreement with statements endorsing traditional gender roles was similar among males and females:

\[
\begin{array}{|c|c|c|}
\hline
\text{Variable} & \text{Females} & \text{Males} \\
\hline
\text{(N=1,074)} & \text{(N=1,734)} \\
\hline
\text{Age} & & \\
15 & 35.9 & 32.2 \\
16 & 21.0 & 19.0 \\
17 & 16.8 & 17.6 \\
18 & 15.2 & 17.6 \\
19 & 11.2 & 13.6 \\
\hline
\text{Student} & & \\
Appropriate/higher grade & 28.1 & 17.1 \\
Lower grade & 42.9 & 40.8 \\
No & 29.0 & 42.1 \\
\hline
\text{Household wealth tercile} & & \\
Lowest & 27.0 & 34.9 \\
Middle & 35.0 & 36.7 \\
Highest & 38.0 & 28.4 \\
\hline
\text{Victim of childhood violence} & & \\
Yes & 69.3 & 66.9 \\
No & 30.7 & 33.1 \\
\hline
\text{Witnessed parental violence} & & \\
Yes & 9.9 & 11.9 \\
No & 84.0 & 80.8 \\
Didn’t grow up with both parents & 6.0 & 7.4 \\
\hline
\text{Had supportive adult in home} & & \\
Yes & 85.9 & 83.4 \\
No & 14.1 & 16.6 \\
\hline
\text{Attended religious services} & & \\
Weekly & 45.4 & 24.8 \\
Monthly & 18.0 & 15.5 \\
<monthly/never & 36.7 & 59.8 \\
\hline
\text{No. of traditional gender role statements endorsed} & & \\
0 & 25.1 & 24.3 \\
1–2 & 58.1 & 53.0 \\
3 & 16.8 & 22.7 \\
\hline
\text{Health region} & & \\
1 & 45.9 & 35.1 \\
2 & 13.9 & 14.5 \\
3 & 20.9 & 23.7 \\
4 & 19.3 & 26.8 \\
\hline
\text{Residence} & & \\
Urban & 52.9 & 46.7 \\
Rural & 47.1 & 53.4 \\
\hline
\text{Total} & 100.0 & 100.0 \\
\hline
\end{array}
\]

Note: Percentages are weighted.

1Enrolled students were categorized as being in an age-appropriate or higher grade, or in a lower than age-appropriate grade.
A quarter of respondents disagreed with all three statements (25% and 24%), more than half agreed with one or two (58% and 53%), and about one in five agreed with all three (17% and 23%). Finally, the adolescent population of each health region was divided almost equally between females and males, and about half of each gender lived in urban areas (53% and 47%, respectively).

**TABLE 2. Among respondents aged 15–19 who neither were in a union nor had a child, percentage who reported sexual risk behaviors in the 12 months preceding interviews, by selected variables, according to gender**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Females</th>
<th>Males</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Sexually active</td>
<td>Multiple partners</td>
</tr>
<tr>
<td>All</td>
<td>32.3</td>
<td>11.6</td>
</tr>
<tr>
<td><strong>Age</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>16.9**</td>
<td>8.2</td>
</tr>
<tr>
<td>16</td>
<td>19.0</td>
<td>6.5</td>
</tr>
<tr>
<td>17</td>
<td>39.7</td>
<td>11.2</td>
</tr>
<tr>
<td>18</td>
<td>53.9</td>
<td>15.4</td>
</tr>
<tr>
<td>19</td>
<td>66.1</td>
<td>13.4</td>
</tr>
<tr>
<td><strong>Student†</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Appropriate/higher grade</td>
<td>16.5***</td>
<td>7.4</td>
</tr>
<tr>
<td>Lower grade</td>
<td>20.8</td>
<td>12.5</td>
</tr>
<tr>
<td>No</td>
<td>64.6</td>
<td>12.2</td>
</tr>
<tr>
<td><strong>Household wealth tercile</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lowest</td>
<td>39.3*</td>
<td>16.6</td>
</tr>
<tr>
<td>Middle</td>
<td>33.4</td>
<td>10.5</td>
</tr>
<tr>
<td>Highest</td>
<td>26.3</td>
<td>8.1</td>
</tr>
<tr>
<td><strong>Victim of childhood violence</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>35.0*</td>
<td>10.8</td>
</tr>
<tr>
<td>No</td>
<td>26.1</td>
<td>14.2</td>
</tr>
<tr>
<td><strong>Witnessed parental violence</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>38.8</td>
<td>10.7</td>
</tr>
<tr>
<td>No</td>
<td>31.6</td>
<td>12.4</td>
</tr>
<tr>
<td>Didn't grow up with both parents</td>
<td>30.6</td>
<td>2.6</td>
</tr>
<tr>
<td><strong>Had supportive adult in home</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>28.1***</td>
<td>12.0</td>
</tr>
<tr>
<td>No</td>
<td>57.9</td>
<td>10.4</td>
</tr>
<tr>
<td><strong>Attended religious services</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weekly</td>
<td>15.8***</td>
<td>10.2</td>
</tr>
<tr>
<td>Monthly</td>
<td>37.7</td>
<td>5.6</td>
</tr>
<tr>
<td>&lt;monthly/never</td>
<td>50.4</td>
<td>14.4</td>
</tr>
<tr>
<td><strong>No. of traditional gender role statements endorsed</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>30.6</td>
<td>8.9</td>
</tr>
<tr>
<td>1–2</td>
<td>33.2</td>
<td>13.4</td>
</tr>
<tr>
<td>3</td>
<td>31.8</td>
<td>9.2</td>
</tr>
<tr>
<td><strong>Health region</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>31.4</td>
<td>12.2</td>
</tr>
<tr>
<td>2</td>
<td>30.6</td>
<td>11.2</td>
</tr>
<tr>
<td>3</td>
<td>28.4</td>
<td>11.0</td>
</tr>
<tr>
<td>4</td>
<td>39.8</td>
<td>15.1</td>
</tr>
<tr>
<td><strong>Residence</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Urban</td>
<td>30.3</td>
<td>15.3</td>
</tr>
<tr>
<td>Rural</td>
<td>34.5</td>
<td>8.0</td>
</tr>
</tbody>
</table>

*p<.05; **p<.01; ***p<.001. †Enrolled students were categorized as being in an age-appropriate or higher grade, or in a lower than age-appropriate grade. Notes: For multiple partners and condom use measures, the analytic sample was restricted to those who were sexually active. Pearson’s chi-square test was used to identify an over-all association between each risk behavior and each independent variable.

In the 12 months preceding the interviews, 32% of females and 54% of males aged 15–19 who neither were in a union nor had a child had had sexual intercourse. Of these respondents, 12% of females and 52% of males had had more than one sexual partner in the last year, and 49% and 46%, respectively, had used condoms inconsistently or not at all (Table 2).

The percentage of respondents who had been sexually active in the past 12 months increased with age for both females (from 17% for those aged 15 to 66% for those aged 19) and males (from 28% to 83% for these age-groups), whereas the risk of having had multiple sexual partners in this period rose with age for males only (from 38% to 67%). The risk of using condoms inconsistently or not at all in the past year was associated with age for both females and males; however, the associations were not linear. Respondents who were students were less likely to be sexually active (17–21% vs. 65% among females, and 39–40% vs. 74% among males), and males who were not enrolled were more likely than those who were to report having had multiple partners in the last year (59% vs. 43–44%). Females in the middle and lowest wealth terciles were more likely to report having been sexually active (33–39% vs. 26%), but not significantly more likely to report having engaged in the other two risk behaviors.

Having been a victim of violence during childhood was associated only with females being sexually active (35% vs. 26%). Both females and males who had not had a supportive adult in their home were more likely than others to report sexual activity in the previous year (38% vs. 28% among females, and 73% vs. 50% among males); in addition, sexually active females who had not had a supportive adult were more likely to report no or inconsistent condom use (73% vs. 41%), and males without this support were more likely to report having had multiple partners (65% vs. 49%). Among both females and males, frequency of attendance at religious services was linearly and negatively associated with having been sexually active (from 16% to 50% among females who participated weekly vs. less than monthly or never, and from 40% to 60% among corresponding males); however, it was nonlinearly associated with inconsistent or no condom use among males.

The percentage of females who had used condoms inconsistently or not at all increased with the number of traditional gender roles endorsed (from 30% of those who endorsed none to 61% of those who endorsed three), as did the percentage of males who had been sexually active (from 51% to 64%). Among male respondents, living in health region 3 was associated with a decreased likelihood of being sexually active, and living in region 4 was associated with having multiple partners and using condoms inconsistently or not at all (Table 2).
school enrollment was protective against having multiple partners (0.5–0.6); however, only enrollment in a grade lower than appropriate for their age was protective against being sexually active (0.5). Males who were in the lowest wealth tercile were less likely than those in the highest tercile to be sexually active or to have had multiple partners (0.6 and 0.4, respectively), whereas household wealth was not a significant factor for females’ sexual risk behaviors. Females who had been victims of childhood violence had increased odds of being sexually active (odds ratio, 1.7), while males who had witnessed parental violence had increased odds of being sexually active (odds ratio, 1.67). 

### Multivariate Results

Compared with 19-year-olds, 15–17-year-olds were less likely to have been sexually active in the last year (odds ratios, 0.2–0.4 for females and 0.1–0.5 for males in the same age-group), and males younger than 18 were less likely to have had multiple sexual partners during that period (0.2–0.5—Table 3). Among females, being enrolled in school—regardless of grade level—was protective against being sexually active (0.2), but only enrollment in an age-appropriate or higher grade lowered the risk of using condoms inconsistently or not at all (0.4). Among males, any

### Table 3: Odds ratios (and 95% confidence intervals) from multivariate logistic regression analyses identifying associations between selected variables and sexual risk behaviors in the previous 12 months, as reported by females and males aged 15–19 who neither were in a union nor had a child

<table>
<thead>
<tr>
<th>Variable</th>
<th>Females</th>
<th></th>
<th></th>
<th>Males</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Sexually active</td>
<td>Multiple partners</td>
<td>Inconsistent condom use/no use</td>
<td>Sexually active</td>
<td>Multiple partners</td>
<td>Inconsistent condom use/no use</td>
</tr>
<tr>
<td><strong>Age</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>0.21 (0.10–0.46)**</td>
<td>0.29 (0.05–1.73)</td>
<td>1.27 (0.45–3.58)</td>
<td>0.14 (0.07–0.25)**</td>
<td>0.16 (0.09–0.29)**</td>
<td>0.60 (0.31–1.18)</td>
</tr>
<tr>
<td>16</td>
<td>0.21 (0.10–0.43)**</td>
<td>0.24 (0.05–1.18)</td>
<td>0.92 (0.34–2.47)</td>
<td>0.30 (0.16–0.55)**</td>
<td>0.39 (0.23–0.66)**</td>
<td>0.86 (0.47–1.59)</td>
</tr>
<tr>
<td>17</td>
<td>0.42 (0.21–0.86)*</td>
<td>0.71 (0.21–2.36)</td>
<td>0.87 (0.39–1.97)</td>
<td>0.46 (0.26–0.83)*</td>
<td>0.53 (0.32–0.86)*</td>
<td>0.99 (0.56–1.76)</td>
</tr>
<tr>
<td>18</td>
<td>0.73 (0.36–1.50)</td>
<td>1.18 (0.31–4.43)</td>
<td>0.25 (0.10–0.63)**</td>
<td>1.02 (0.57–1.83)</td>
<td>0.74 (0.46–1.20)</td>
<td>0.49 (0.30–0.81)**</td>
</tr>
<tr>
<td>19 (ref)</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
</tbody>
</table>

### Notes:

* p<.05. ** p<.01. *** p<.001. † Enrolled students were categorized as being in an age-appropriate or higher grade, or in a lower than age-appropriate grade. Notes: For multiple partners and condom use measures, the analytic sample was restricted to those who were sexually active. ref = reference group.
were at elevated risk of being sexually active (1.7) or having had multiple sexual partners (1.9). Having had a supportive adult in the home was protective against being sexually active (0.5) and using condoms inconsistently or not at all (0.3) among females, but not among males. Weekly attendance at religious services was one of the most consistently protective factors. Among females, it was associated with lower odds of having engaged in each of the three risk behaviors (0.2–0.4), and among males, with lower odds of being sexually active and of having had multiple partners (0.5–0.6); monthly attendance was protective against no or inconsistent condom use among males (0.5). Females’ agreement with any statement endorsing traditional gender roles was associated with an increased risk of using condoms inconsistently or not at all (2.2–3.5), while males’ agreement with all three statements was associated with elevated odds of being sexually active (1.6).

Despite high exposure to international tourism and a high prevalence of HIV in health region 3, females and males who resided in the region were less likely than those living in region 1 to have been sexually active in the previous 12 months (odds ratios, 0.5 and 0.4, respectively). Among sexually active males, the risk of having had multiple partners was decreased in region 3 (0.5) and increased in region 4 (1.6), whereas the risk of having used condoms inconsistently or not at all was elevated in region 4 (2.3).

**DISCUSSION**

This population-based study documented the high prevalence of sexual activity among Jamaican adolescents who neither were in a union nor had a child. One-third of these 15–19-year-old females and half of the males had been sexually active in the last year, and more than half of sexually active males had had multiple sexual partners during this period. Nearly half of all sexually active adolescents had used condoms inconsistently or not at all, exposing them to a high risk of STIs and unintended pregnancy. Improvement of condom supplies and educational programs about condom use are still critically needed in Jamaica.

We found both similarities and differences in the correlates between females and males, as well as across the three sexual risk behaviors. As in other studies, the most important protective factors for both genders were school enrollment and frequent attendance at religious services. These factors appeared to influence not only whether adolescents were sexually active, but also the risks of having multiple sexual partners and using condoms inconsistently or not at all among sexually active adolescents. These findings suggest that surveys of sexual risk behaviors based on samples of students underestimate the prevalence of these behaviors among Jamaican adolescents.

Strong evidence for associations between a reduced risk of engaging in sexual risk behaviors and school enrollment (particularly among females) or frequent attendance at religious services suggests that future reproductive health programs should continue to target adolescents in venues other than schools and churches. However, this study could not determine whether an increase in the percentage of youth who were students (from 35% to 40%) among females aged 15–24, and from 29% to 38% among their male counterparts, between 1997 and 2008–2009 contributed to the decrease in adolescent fertility in the past decade, or whether increasing access to education in the future might help reduce the levels of adolescent sexual behavior. For males, enrollment in a grade lower than appropriate for their age—rather than in an age-appropriate or higher grade—was more strongly and negatively associated with being sexually active and having multiple partners, whereas enrollment in an age-appropriate or higher grade was more strongly and negatively associated with females being sexually active and using condoms inconsistently or never. This gender difference might exist because a male’s desirability as a sexual partner is associated with his future socioeconomic status, for which age-appropriate enrollment may be considered an indicator. In addition, males in the highest wealth tertile were more likely than others to be sexually active or have multiple partners, whereas the lack of association between household wealth and risk behaviors among females suggests that these outcomes are similar in all economic strata. Therefore, expansion of access to education may have had or will have differential effects on sexual behavior according to gender.

Among females, a nonnegligible portion of the associations between school enrollment and sexual activity may be attributed to heterogeneity; that is, unmeasured factors that predispose young females to stay in school may simultaneously protect them against risky sexual behaviors, regardless of their enrollment status. For example, increased knowledge, skills in acquiring information and exposure to school-based family life education may not be the factors protecting adolescents from sexual risks. Instead, students may be less likely to engage in sexual risk behaviors because they are a select group with more social capital or a stronger desire for socioeconomic advancement. Further research is needed to determine whether school attendance itself directly reduces risky behaviors, or whether unobserved characteristics related to attendance account for the negative association with school enrollment. Such research is important for assessing whether expansion of education, particularly for girls, in developing countries will help in reducing risky sexual behaviors. If the association between enrollment and being sexually active is independent, universal education is likely to reduce such levels, and consequently reduce early fertility and STI risk. However, if the association is spurious and attributable to unobserved characteristics, increased access to education may have little effect on sexual activity.

This study found adverse associations between adolescents’ sexual behaviors and violence (either experienced or witnessed as a child) or a lack of supportive adults in
the home, which suggests that providing socioemotional support to youth may help reduce their risk of STIs and unintended fertility. To better identify target groups and tailor counseling services to meet individual needs, detailed information—such as the quality of relationships between youth and their parents and whether they live in the same household—may be useful. One important factor that likely determines the quality of family relationships is family structure history, including whether youth were raised in a single-parent household for their entire lives or experienced dissolution of their parents’ union or the death of a parent, as well as the timing of union dissolution or parental death and the presence of a step-parent. Furthermore, in the Jamaican cultural context, visiting unions and matrilineal family structures need to be considered when exploring the consequences of living in a single-parent household.

Finally, the positive associations found between adolescents’ endorsement of traditional gender roles and their sexual behavior suggest that endorsement of male dominance compromises females’ condom use and encourages males’ sexual activity. In an effort to combat permissive attitudes toward male dominance, reproductive health organizations should continue to employ gender-specific educational programs about family life to address social norms related to gender roles in sexual relationships.

Limitations
This study has several limitations. First, self-reports of sexual activity may have been inaccurate, particularly among males. Because of the strong emphasis on masculinity and virility, they might have over-reported their activity and number of sexual partners. Therefore, the results for male respondents should be viewed cautiously. Second, because we restricted the sample to adolescents who neither were in a union nor had a child, this may have resulted in a nonrandom sample. Since having sexual relations usually precedes union formation, excluded adolescents were likely at increased risk for sexual activity prior to forming their union. To address this issue, we conducted an auxiliary analysis that applied the same multivariate logistic regression models for those who were in a union or had a child and treated them as being sexually active and not using condoms or using them inconsistently. The coefficient estimates (not shown) were substantially similar to the results in Table 3, suggesting that any bias due to nonrandomness of the analytic sample was likely to be minimal. However, robustness of the results for having multiple sexual partners cannot be assessed from the data.

Conclusions
This study highlights some gender differences in sexual risk behaviors and their correlates, and provides insight into program planning needs, but it also suggests several avenues for future research. Although we investigated a wide range of determinants of sexual risk behaviors, we did not exhaust them. Other potential factors that should be considered in future work include peer relationships, quality of education and community characteristics. In particular, the lack of associations between household wealth and sexual risk behaviors among females in our multivariate analysis might be explained by potential effects of a community’s socioeconomic characteristics, such as concentrated poverty, structural inequality and collective efficacy. For a more comprehensive assessment of adolescents’ risks for STIs and for unintended and early pregnancy, future studies should also examine other risk behaviors, such as forced sexual intercourse, age difference between partners and participation in transactional sex.

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préservatif de manière irrégulière ou pas du tout. La scolarité s’est révélée un facteur de protection contre l’activité sexuelle des filles et la multiplicité des partenaires chez les garçons. Les filles inscrites à un niveau approprié pour leur âge ou supérieur présentent un moindre risque d’utiliser le préservatif de manière irrégulière ou de ne pas l’utiliser du tout, tandis que les garçons inscrits à un niveau inférieur à celui approprié pour leur âge présentent un moindre risque d’activité sexuelle. Les garçons du tercile de richesse inférieur sont moins susceptibles que ceux du tercile supérieur d’avoir été sexuellement actifs et d’avoir eu plusieurs partenaires. La fréquentation hebdomadaire de services religieux représente un facteur de protection contre les trois comportements à risques pour les deux sexes, à l’exception de l’usage irrégulier ou du non usage du préservatif chez les garçons.

Conclusions: Les programmes de santé génésique futurs doivent continuer à cibler les adolescents, dans des milieux autres que les écoles et les églises. Ils doivent aussi considérer les besoins distincts des filles et des garçons.

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Author contact: kishida@cdc.gov