

Early Sexual Debut and Associated Factors among In-school Adolescents in Six Caribbean Countries

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ABSTRACT

Objective: This report examines early sexual debut (< age 15 years) among 15-year old in-school adolescents in six Caribbean countries.

Subjects and Methods: The total sample included 9948 school children aged primarily 13–16 years from nationally representative samples from six Caribbean countries. Univariate and multivariate analyses were conducted to assess the relationship between early sexual debut and substance use, unintentional injuries and violence, mental distress, physical activity, protective factors and socio-economic status variables.

Results: Approximately one-fourth of the sample (26.9%) had experienced sexual debut before age 15 years, 37.2% among boys and 16.9% among girls. In multivariate logistic regression analysis, it was found that male gender, substance use (smoking and alcohol use), having been in a physical fight in the past 12 months, sedentary behaviour, truancy and lack of parental or guardian attachment were associated with early sexual debut.

Conclusion: This study found a high prevalence of early sexual debut. The risk factors identified were consistent with the Problem Behaviour Theory, which can be incorporated into broader sexual health promotion programmes.

Keywords: Adolescents, Caribbean, health risk behaviour, protective factors, sexual debut

La Iniciación Sexual a Edades Tempranas y Sus Factores Asociados entre los Adolescentes de Escuelas en Seis Países del Caribe

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RESUMEN

Objetivo: Este reporte examina la iniciación sexual temprana (< 15 años de edad) entre adolescentes quinceañeros en escuelas de seis países del Caribe.

Sujetos y métodos: La muestra total incluyó 9948 escolares, principalmente de 13 – 16 años, de muestras nacionalmente representativas de seis países del Caribe. Se realizaron análisis univariantes y multivariantes para evaluar la relación entre la iniciación sexual temprana y el uso de sustancias, las lesiones no intencionales y la violencia, la angustia mental, la actividad física, los factores protectores, y las variables del estatus socio-económico.

Resultados: Aproximadamente una cuarta parte de la muestra (26.9%) había experimentado la iniciación sexual antes de los 15 años – un 37.2% entre los varones y 16.9% entre las niñas. En el análisis multivariante de regresión logística, se encontró que el género masculino, el uso de sustancias (uso de tabaco y alcohol), el haber estado en una pelea física en los últimos 12 meses, el comportamiento sedentario, el ausentismo escolar, y la falta de apego a los padres o tutores, estuvieron asociados con la iniciación sexual temprana.

Conclusión: Este estudio encontró una alta prevalencia de la iniciación sexual temprana. Los factores de riesgo identificados estuvieron en correspondencia con la teoría del comportamiento problemático,

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que puede ser incorporado en programas más amplios de promoción de la salud sexual.

Palabras claves: Adolescentes, Caribe, conductas de riesgo de salud, factores protectores, iniciación sexual

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INTRODUCTION

Early sexual debut is associated with sexual risk behaviours and HIV infection (1, 2). Data from the English-speaking Caribbean Youth Health Survey in nine countries found that among sexually active in-school youth aged 10 to 18 years in 1997 to 1998, over half of boys and about a quarter of females reported that their sexual debut was ten years or younger; almost two-thirds reported their first sexual encounter before the age of 13 years (3). In a study among 15-year old school children in eight African countries, 27.3% had their sexual debut before age 15 years [38.1% boys and 15.8% girls] (4).

Factors associated with early sexual debut have been identified as follows: not living with both biological parents (5), lack of parental monitoring (5) and connectedness (6), having more advanced physical maturity (5), having more permissive attitudes toward sex (5, 7), alcohol use (5, 8), sexual risk behaviour (1, 9), unintended pregnancy (10), delinquency (5), violence (8), history of physical and sexual abuse (7), school problems (5) and (for girls) depressive symptoms (5).

The aim of this study is to investigate early sexual debut in Caribbean countries; to date, there has been very little recent research that has explored the determinants and risk factors of early sexual intercourse among adolescents.

SUBJECTS AND METHOD

Sample and procedure

This study involved secondary analysis of existing data from the Global School-Based Health Survey (GSHS) from six Caribbean countries (Antigua and Barbuda, Dominica, Grenada, Saint Lucia, Saint Vincent and the Grenadines, Trinidad and Tobago). Details and data of the GSHS can be accessed at <http://www.who.int/chp/gshs/methodology/en/index.html>. The GSHS survey used a two-stage cluster sample design to collect data to represent all students in grades 6 to 10 in each country. At the first stage of sampling, schools were selected with probability proportional to their reported enrolment size. At the second stage, classes in the selected schools were randomly selected and all students in selected classes were eligible to participate irrespective of their actual ages. Students completed the self-administered questionnaire during one classroom period under the supervision of trained survey administrators and recorded their responses to each question on an answer sheet suitable for computerized scanning (11).

Measures

The GSHS 10 core questionnaire modules address the leading causes of morbidity and mortality among children and adults

worldwide: tobacco, alcohol and other drug use, dietary behaviours, hygiene, mental health, physical activity, sexual behaviours that contribute to HIV infection, other sexually transmitted infections and unintended pregnancy, unintentional injuries and violence, protective factors and respondent demographics (11).

Sexual behaviours that contribute to HIV infection, other sexually transmitted infections and unintended pregnancy

The sexual behaviour items were "Have you ever had sexual intercourse?" "During your lifetime, with how many people have you had sexual intercourse?" "During the past 12 months, have you had sexual intercourse?" "The last time you had sexual intercourse, did you or your partner use a condom?" and "How old were you when you had sexual intercourse for the first time?" (11) In this study, sexual debut at 14 years or younger was used to define early sexual debut (12).

Substance use variables

Alcohol use: a) "During the past 30 days, on how many days did you have at least one drink containing alcohol."

Tobacco use: [1] smoking cigarettes [current smoking] (11).

Poverty: A measure of poverty was derived from a question reporting the frequency that a young person went hungry because there was not enough food at home in the past 30 days [most of the time or always] (11).

Mental distress variables

Loneliness: "During the past 12 months, how often have you felt lonely?" [most of the time or always]. Suicide ideation: "During the past 12 months, did you ever seriously consider attempting suicide?" [yes]. No close friends: "How many close friends do you have?" [0]. Anxious or worried: "During the past 12 months, how often have you been so worried about something that you could not sleep at night?" [most of the time or always] (11). The number of mental distress indicators was calculated by determining if students had 0, 1, 2, and 3 or 4 indicators (13).

Unintentional injury and violence

Being in a fight: "During the past 12 months, how many times were you in a physical fight?" [1 time to 12 or more times]. Bullied: "During the past 30 days, on how many days were you bullied?" [1 or 2 days to all 30 days]. "During the past 12 months, how many times were you seriously injured?" [one or more times] (11).

Physical activity

Leisure time physical activity: "During the past 7 days, on how many days were you physically active for a total of at least 60 minutes per day?" (Do not include your physical education or gym class) [7 days]. Leisure time sedentary behaviour. "How much time do you spend during a typical or usual day sitting and watching television, playing computer games, talking with friends, or doing other sitting activities" (Exclude when in school or doing homework) [3 or more hours a day] (11).

Truancy: "During the past 30 days, on how many days did you miss classes or school without permission?" [1 or 2 to 10 or more times] (11).

Peer support: "During the past 30 days, how often were most of the students in your school kind and helpful?" (11).

Lack of parental attachment. Parental attachment was assessed with three items. 1) Parental or guardian supervision: "During the past 30 days, how often did your parents or guardians check to see if your homework was done?" 2) Parental or guardian connectedness: "During the past 30 days, how often did your parents or guardians understand your problems or worries?" and 3) Parental or guardian bonding: "During the past 30 days, how often did your parents or guardians really know what you were doing with your free time?" Response options to these questions were from 1 = never to 5 = always (3). The three parental attachment items were reversed and added together to form a "lack of parental attachment index"; the Cronbach alpha of this index was 0.65 in this sample.

Data analysis

Data analysis was performed using Stata software version 11.0 (Stata Corporation, College Station, Texas, USA). This software has the advantage of directly including robust standard errors that account for the sampling design, *ie* cluster sampling owing to the sampling of school classes. In further analysis, the age of first sex variable recoded into two categories: early sexual debut (below 15 years) [1] and never sexual intercourse or first sex at 15 years [0]. Associations between substance use, economic status, mental distress, physical activity, pro-

tective factors and early sexual debut among school children were evaluated calculating odds ratios (OR). Logistic regression was used for evaluation of the impact of explanatory variables for early sexual debut (binary dependent variable). In the analysis, weighted percentages are reported. The reported sample size refers to the sample that was asked the target question. The two-sided 95% confidence intervals are reported. The *p*-value less or equal to 5% is used to indicate statistical significance. Both the reported 95% confidence intervals and the *p*-value are adjusted for the multi-stage stratified cluster sample design of the study.

RESULTS

Sample

The sample included 9948 students primarily from 13 to 16 years of age from Caribbean countries. There were slightly more male (50.4%) than female students (49.6%) and the majority of the students (75.10%) were in grades 7 to 9. Data from the different countries had been selected from 2007 to 2010 (Table 1). The overall response rate, a product of school and student response rates, varied from 67% in Antigua and Barbuda to 90% in Trinidad and Tobago.

Early sexual debut and sexual risk behaviour

In all, 26.9% of the adolescent school children reported early sexual debut; overall, this was significantly higher among boys than girls. School children from St Vincent and the Grenadines, Dominica and Grenada had the highest prevalence of early sexual debut, and adolescents from Trinidad and Tobago and St Lucia the least. One-third (33.6%) of the school children reported ever having sexual intercourse, which was also significantly higher in boys than in girls. Among the different ages, the age of first sex was highest among those who were 11 years and younger, followed by 13, 14, and 12 years. Overall, 19.5% of the school children reported having had two or more sexual partners during their lifetime, and among the sexually active, 76.7% reported condom use at last sex (Table 2).

Table 1: Sample response rate and age distribution of students surveyed; GSHS 2007–2008

Country	Survey sample n	Survey year	Overall response rate*		Age groups in years (%)				Boys in final sample %	Mean age of final sample Mean	Net primary school enrolment rate [WHO, 2013]	
			%	≤ 13 years	14 years	15 years	≥ 16 years	Male %			Female %	
Antigua and Barbuda	1186	2009	67.0	34.7	32.5	31.3	1.5	51.5	14.0	87	85	
Dominica	1642	2009	84.0	37.4	19.6	23.1	19.9	51.2	14.1	96	97	
Grenada	1542	2008	78.0	35.0	24.8	22.8	17.4	44.9	14.1	96	99	
St Lucia	1276	2007	82.0	35.7	24.2	25.3	15.4	49.1	14.1	88	88	
St Vincent and the Grenadines	1333	2007	84.0	48.9	26.5	16.4	8.3	47.3	13.7	100	97	
Trinidad and Tobago	2969	2007	90.0	31.0	22.6	27.1	9.2	49.8	14.2	98	97	
All	9948			33.3	23.5	26.0	17.2	49.0	14.1			

*Overall response rate – the product of school and the student response rate.
GSHS – Global School-Based Health Survey; WHO – World Health Organization

Table 2: Sexual behaviour characteristics

Country	Sex below 15 years		
	All	Male	Female
	%	%	%
Antigua and Barbuda	29.8	40.0	18.5
Dominica	35.2	47.3	22.9
Grenada	33.5	52.8	18.2
St Lucia	26.1	40.2	14.9
St Vincent and the Grenadines	33.5	54.4	14.9
Trinidad and Tobago	25.0	33.1	16.7
Total	26.9	37.2	16.9
	All	Male	Female
Age of first sex (in years)			
≤ 11	11.0	17.5	4.6
12	4.5	6.7	2.4
13	5.9	7.7	4.3
14	5.5	5.3	5.6
15	4.1	4.0	5.3
≥ 16	1.6	1.2	1.9
Never had sex	67.4	57.6	76.8
Two or more sex partners	19.5	27.7	11.6
Sex in past 12 months	25.0	31.0	19.5
Condom use at last sex	76.7	67.8	84.4

Early sexual debut and associated factors

In multivariate logistic regression analysis, it was found that male gender, substance use (smoking and alcohol use), having been in a physical fight in the past 12 months, sedentary behaviour, truancy and lack of parental or guardian attachment were associated with early sexual debut (Table 3).

DISCUSSION

Among 9948 primarily 13 to 16-year old school children from six Caribbean countries, 26.9% had experienced sexual debut before age 15 years (and 11% before the age of 12 years). Similar high figures among school children were found in previous studies in Caribbean and African countries (3, 4).

Table 3: Univariate and multivariate logistic regression of early coital debut

	All %	Male %	Female %	Crude OR (CI 95%) ¹	Adjusted OR (CI 95%)
Gender					
Female				1.00	1.00
Male				2.90 (2.24, 3.77)***	2.23 (1.65, 3.02)***
Poverty	6.3	6.4	6.1	1.28 (0.93, 1.75)	---
Substance use					
Current smoking	9.3	11.0	7.6	4.75 (3.46, 6.52)***	2.87 (1.80, 4.55)***
Current alcohol use (≥ 3 days in past month)	20.7	24.4	17.1	3.90 (3.29, 4.63)***	2.02 (1.52, 2.69)***
Mental distress					
0	65.3	71.4	59.4	1.00	1.00
1	23.7	21.0	26.3	1.35 (1.04, 1.75)*	1.19 (0.83, 1.69)
2-4	11.0	7.6	14.2	1.66 (1.16, 2.37)**	1.23 (0.77, 1.96)
Unintentional injuries and violence					
In a physical fight	41.9	54.9	29.1	2.85 (2.39, 3.30)***	1.54 (1.22, 1.95)***
Seriously injured	47.7	53.3	42.1	1.94 (1.65, 2.28)***	1.19 (0.88, 1.60)
Bullied	22.8	24.1	21.5	1.24 (1.04, 1.48)*	0.98 (0.75, 1.23)
Physical activity					
At least 60 minutes daily	27.2	33.7	21.0	1.04 (0.85, 1.27)	---
Sedentary behaviour	48.4	45.5	51.2	1.34 (1.14, 1.57)***	1.31 (1.05, 1.63)*
Protective factors					
Truancy	24.8	30.3	19.3	3.71 (3.00, 4.57)***	2.15 (1.53, 3.03)***
Lack of peer support at school	78.4	79.6	77.3	1.68 (1.29, 2.20)***	1.44 (0.93, 2.23)
Lack of parental/guardian attachment					
0-1 (low)	35.2	35.1	35.4	1.00	1.00
2 (medium)	27.6	26.9	28.4	1.93 (1.51, 2.47)***	1.42 (0.96, 2.09)
3 (high)	37.2	38.0	36.2	2.75 (2.14, 3.52)***	1.21, 2.53)**

* $p < 0.05$, ** $p < 0.01$ *** $p < 0.001$

Country variations in early sexual debut results (St Vincent and the Grenadines, Dominica and Grenada having the highest rates) constitute evidence that should be taken into consideration by national sexual health policy-makers to address the needs of adolescents (14). Gender differences in early sexual debut may be interpreted as reflecting traditional norms in Caribbean countries that allow or even encourage more freedom and sexual experiences for boys than for girls (15).

In agreement with other studies (5, 8), this study found that several problem behaviours (smoking, frequent alcohol use, having been in a physical fight and truancy) were found to be associated with early sexual debut. Ohene *et al* (8) found that health compromising behaviours cluster among Caribbean youth and that initiating sexual activity was a predictor of other risk behaviours, with the likelihood increasing among older adolescents. These findings seem to be consistent with the Problem Behaviour Theory (16), in which early onset of adolescent sexual behaviour is considered a behaviour with underlying influences that are shared with other problem behaviours. The clustering between sexual activity and various problem behaviours such as substance use, violence and truancy indicates that prevention programmes should broaden sexual health promotion and include these factors collectively in health interventions for early adolescents (13).

Further, the study found that lack of parental or guardian attachment was associated with early sexual debut. Similar findings were found in some previous studies (5, 6). In addition, in bivariate analysis, lack of peer support at school was associated with early sexual debut. Therefore, specific parenting programmes and interventions that strengthen young people's pro-social relationships can be promoted in reducing adolescent problem behaviours (17, 18). Moreover, this study found that sedentary behaviour was a risk for early sexual debut. Nelson and Gordon-Larsen (19) found among adolescents that relative to high TV/video viewers, the cluster of skaters/gamers was less likely to engage in the risk outcomes related to sex and other risk behaviours. Yet, the protective effect of physical activity in relation to early sexual debut was not found in this study. Mental distress, in bivariate analysis in this study, was found to be associated with early sexual debut, as was also found in some other studies (5).

Limitations

This study had several limitations. Firstly, the GSHS only enrolls adolescents who are in school. School-going adolescents may not be representative of all adolescents in a country as the occurrence of sexual behaviour may differ between the two groups. The analysis was not restricted to the age group 15–16 years and thus cannot give us the true prevalence of early sexual debut among younger study participants. As the questionnaire was self-completed, it is possible that some study participants may have misreported, either intentionally or inadvertently, on any of the questions asked. Intentional misreporting was probably minimized by the fact that study participants completed the questionnaires anonymously. Further, the

self-report of sexual behaviour should be interpreted with caution; it is possible that respondents under-reported sexual behaviour, especially females. A number of risk factors associated with early sexual debut found in other studies such as school problems, physical maturity, involvement in dating behaviour, attitudes toward sex, delinquency, history of physical and sexual abuse and characteristics of the sexual partner (5–7) were not assessed and should be assessed in future studies. Furthermore, this study was based on data collected in a cross-sectional survey. We cannot, therefore, ascribe causality to any of the associated factors in the study.

CONCLUSION

The study found a high prevalence of early sexual debut among primarily 13–16-year olds from six Caribbean countries. The risk factors identified were consistent with the Problem Behaviour Theory in which early onset of adolescent sexual behaviour is shared with other problem behaviours. Prevention programmes should broaden sexual health promotion, including problem behaviour such as substance use, violence and truancy for boys and girls in the preteen years, before sexual debut.

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