
Sexuality among 7th, 8th and 9th grade students in the state of Lara, Venezuela. The Global School Health Survey, 2003-2004

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Background: Effective sexual health promotion programs need to be based on evidence; this study describes a set of sexual behavioral patterns, education and other subjects related to sexual life among 7th, 8th and 9th grade students in the State of Lara, Venezuela.

Methods: During 2003 to 2004 school period, 2070 students filled out the Global School Health Survey (GSHS) –a school based cross-sectional self-administered survey that explores, among other areas, sexual behavior.

Results: Students who responded that ever had intercourse, males 27% and females 3.8%; by grade, males 18.2% (7th) and 37.6% (9th), and females 1.9% (7th) and 6.2% (9th). The group who had intercourse, 54.9% males and 25.3% females had it by age 12; 59% males and 78.6% females were sexually active in the past 12 months; 59.2% males and 43.2% females used

condom in the last intercourse; and 48.3% males and 21.5% females has 2 or more sexual partners in their life. A disparity is present in school-based information, >63% for AIDS and <32% for sexual abuse.

Conclusions: This study shows that a substantial number of students had sexual intercourse initiation at early age (<12), history of multiple sexual partners and low prevalence of condom use. An unbalanced coverage of information on AIDS and sexual abuse is highly prevalent in the school. However, the implementation and evaluation of comprehensive programs on healthy sexual life must take into account that still a majority of students report abstinence from sexual intercourse.

Key words: Abstinence, Adolescents, Adolescent health services, Health education, Sexual behavior, Sexual education, Sexual relationship, Venezuela.

It is widely accepted that biologic maturation, psychological changes (regarding personal identity) and social pressures combine to determine sexual activity in adolescents (1). Initiations of sexual interest about sex and sexual activity during adolescence are recognized patterns of behavior among adolescents and are considered an essential characteristic of the transition to adulthood (2). Of the many perspectives from which teenage sexual behavior can be viewed, the most evident

are normal developmental milestones in the life of the adolescent or risk-taking behavior. Unfortunately, in many cases, knowledge about sexuality, reproduction, and contraception is acquired after sexual activity has begun (3). Sexual risk-taking behavior by adolescents may have alarming consequences.

From 333 million cases per year of curable Sexually Transmitted Disease (STDs), i.e., trichomoniasis, chlamydial infection, gonorrhea and syphilis in the world, Latin America and the Caribbean area together with North America contribute with 50 million cases, many of them young adults, 15-29 years of age (4). Women lead reports of asymptomatic infection, making early diagnosis and treatment difficult, although asymptomatic infection can cause complications and long term sequelae (4-6). In lethal diseases such as acquired immune deficiency syndrome/ Human immunodeficiency virus (AIDS/HIV) infection, the up to 13% of reported, were 13-24 years old (7).

In Venezuela, estimates from local samples, not necessarily representative of the population, indicate that boys have their first sexual intercourse at the average age of 14 and girls at 15, both with little knowledge of “safe

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sex.” Data on prevalence and incidence of STDs and sexual abuse are scarce (8). A conservative estimation indicates that from 1983 to 1999 there were 62,000 people infected with HIV (50% between the age of 15-24); 8,047 AIDS cases were reported and 4,726 deaths were register. In another context, sexual abuse in adolescents is not explicitly reported even though social conditions that favor this behavior are present, i.e., unintended pregnancy, child abuse, domestic violence and social insecurities, each one of them recognized as major public health problems. For example, domestic violence has increased threefold in the last few years (8). For now, small-scale studies in the Caribbean and South American countries highlight that coercion plays a considerable role in the sexual relations of their young people reaching up to 48% of the women and 32% of the men surveyed, aged 10 to 17 years (9). This scarce information prevents the design, implementation and evaluation of rational health promotion programs based on valid and up-to-date data. However, in an attempt to offer a formal legal support, the 2000 Organic/Integrated Children and Adolescent Protection Law-OCAPL (la Ley Orgánica de Protección del Niño y del Adolescente-LOPNA 2000) stress education and establish the right to reproductive care (i.e., the right of the adolescent, 14 years old or older, to request reproductive health assistance and protection, including contraception)(10).

In addition, several international initiatives are mobilizing resources in order to strength countries health surveillance and prevention systems in response to the high prevalence of STDs, AIDS/HIV infection and unintended pregnancy among adolescents (11,12). Venezuela has surveillance on health related behaviors among adolescents together with the Centers for Disease Control and Prevention (CDC) and World Health Organization (WHO), The Global School Health Survey (GSHS) (13). Survey data of adolescents is useful for understanding the prevalence of sexual intercourse, age of first sexual intercourse, number of sexual partners, frequency of sexual activity, and misuse/non use of condom. All of them, risk factors related to the prevalence of STDs—including AIDS/HIV infection and unintended pregnancies (14).

In order to explore sexual activity in Venezuelan adolescents, we conducted a survey among the 7th, 8th and 9th grade students in the State of Lara (The GSHS-Lara 2003-2004). We prioritized our study in two areas. First, we assessed a set of basic practices and attitudes regarding sexual experience. Second, we analyzed the impact of formal sex education before the students went forward to senior educational years by using two sex education markers: “having had lectures concerning AIDS/HIV infection and sexual abuse” (8,9,14,15).

Methods

International strategy. Responding to the need of an international standardized surveillance epidemiological system –i.e., data comparable with the most countries- as well as a prospective monitoring of the data, the GSHS follows the steps of the Global Youth Tobacco Survey (GYTS) on method-design and implementation (16-18).

Population and Procedure for Selection. The universe of GSHS is all the students enrolled in grades 7th, 8th and 9th at the State of Lara, Venezuela period 2003-2004. The GSHS sample was constructed in two-stages, the first stage consists of sampling schools with probability of selection proportional to the school enrollment size, and the second stage consists of randomly selecting classes from grades 7th, 8th and 9th within each chosen school, all students within a selected class were invited to participate. The GSHS was administered by personnel of the Health Department Program for Cardiovascular Diseases, Ministry of health and Social Development (HDPCVD) and ASCARDIO, the latter, a non-profit non-governmental health organization incorporated in the State of Lara since 1976.

The Survey. The questionnaire of GSHS is divided in several sections according to previously selected major health problems in adolescents including sexual behavior, tobacco use, nutritional, violence, mental health, physical activity and hygiene. Each section encompasses (a) a common core for all places where GSHS is applied and (b) a “local” questionnaire section for specific countries. The core questions were developed by a group of experts from the WHO and the CDC. The local questions for the State of Lara were developed by personnel of HMPCVD and ASCARDIO. The core survey, originally in English, was translated to Spanish by bilingual personnel of ASCARDIO. The Spanish version of the survey core was validated in the following way: (a) review by experts; (b) pilot test; and (c) local groups of discussion with students. In order to be sure the Spanish and English versions of the core are equivalent, the GSHS was translated again to English by an independent translator and the consistence of the versions demonstrated. A personnel previously trained, administered the GSHS to the students. All procedures for its application were specifically described in a previously written manual also designed to protect the privacy of the students and free anonymous participation. Information was collected on variables including general demographic characteristics such as age and gender; current sexual activity; history of sexual intercourse; age of first intercourse, condom use; number of sexual partners, exposure to information concerning STDs and its prevention and access to condoms. For clarification, the questionnaire had a note with the definition of sexual

intercourse as “any sexual activity that involves vaginal, anal, or oral penetration by the penis.” Before GSHS were administered, we requested permission to the authorities of each school. School’s authorities were free to grant us permission or not.

Statistical Analysis. Prevalence its 95% confidence interval (CI95%) were calculated using the C Sample statistical program within Epi-Info version 3.3.2 from CDC, a weighting factor was applied to each student record to adjust for non-responses and for the varying probabilities of selection by. Differences between prevalence estimates were considered statistically significant (StatSig) if the 95% confidence intervals did not overlap.

Results

Characteristics of the sample. Twenty four out of 25 (96%) selected schools participated in the study. There were 2,519 randomly selected groups of students from 7th, 8th and 9th grades; 2,166 (86%) students was the general participation in the survey. Most demographic information of the schools is presented in Table 1. From 2,166 students, the questionnaires of 2,070 (96%) students were useful for analyses, 860 (41.5%) males and 1210 (58.5%) females. Most of the students, 1,444 (69.2%), were 13 to 15 years old followed by 554 (26.6%) 12 years old or less.

Table 1. Summary of Demographic Data. Global School Health Survey. State of Lara, Venezuela 2003-2004

Demographic data	7 th grade n (%)	8 th grade n (%)	9 th grade n (%)	Total n (%)
Gender				
Males	350 (40.7%)	308 (35.8%)	202 (23.5%)	860 (100%)
Females	373 (30.8%)	478 (39.5%)	359 (29.7%)	1210 (100%)
Age group				
≤ 12	455 (82.6%)	93 (16.9%)	3 (0.5%)	551 (100%)
13-15	268 (18.7%)	675 (47.0%)	492 (34.3%)	1435 (100%)
≥16	2 (2.4%)	20 (23.5%)	63 (74.1%)	85 (100%)
Total	723 (34.9%)	786 (38%)	561 (27.1%)	2070 (100%)

n= number of students
(%) = row percentage

Have you ever had sexual intercourse? Table 2 shows that 27% of the males and 3.8% of the females reported ever had sexual intercourse, this difference was StatSig. The prevalence of this characteristic increased with the educational grade without StatSig, males in 7th grade (18.2%) and 9th grade (37.6%) compared with female in 7th grade (1.9%) and 9th grade (6.2%) but always CI 95% overlapped.

Table 2. Prevalence of the Answer “Yes” Among the Students to the Question: “Have you ever had Sexual Intercourse?” According to Sex, Age Group and School-grade. Global School Health Survey. State of Lara, Venezuela 2003-2004

		Male	Female	Total
Age group				
≤ 12	n (PP%)	160 (11.3)	282 (1.4)	447 (5.2)
	IC 95%	6.6-16.0	0.4-2.4	3.6-6.9
13-15	n (PP%)	449 (29.9)	727 (4.4)	1196 (16.0)
	IC 95%	24.4-35.4	2.9-6.0	11.9-20.1
Total	n (PP%)	651 (27.0)	1054 (3.8)	1745 (14.1)
	IC 95%	22.1-31.9	2.8-4.8	10.9-17.3
School-grade				
7 th	n (PP%)	252 (18.2)	314 (1.9)	574 (9.4)
	IC 95%	11.1-25.3	0.2-3.6	6.5-12.3
8 th	n (PP%)	228 (29.3)	410 (4.0)	643 (14.8)
	IC 95%	24.2-34.3	2.0-6.0	11.2-18.5
9 th	n (PP%)	157 (37.6)	316 (6.2)	477 (19.0)
	IC 95%	30.8-44.5	3.4-9.0	12.0-25.3

n= number of students
(PP%) = pondered prevalence in percentage
IC 95%= 95% interval of confidence
Students age 16 plus are not included in this Table due to their low number

Sexual intercourse features. Table 3 shows information about those students who reported sexual intercourse. More than half males in this group (54.9%) experienced first intercourse at or before age 12 in contrast with 25.3 % of the females, this difference was StatSig. Students in the 9th grade reported lesser frequency of first sexual intercourse (36.4%) compared with 7th grade (57.5%) and 8th grade (61.9%), this difference was StatSig. Fifty-nine percent of the males and the 78% of females reported intercourse in the last 12 months, difference without StatSig. Approximately, 6 out of 10 (59.2%) males and 4 out of 10 females (43.2%) used condom during the last intercourse, the difference was not StatSig. However, the use of condoms in the 9th grade was higher (71.7%) if compared with 7th grade (55.4%) and 8th grade (24.0%), this difference was StatSig. Almost 5 out of 10 males (48.3%) compared with females (21.5%) reported history of sexual intercourse with 2 or more (≥ 2) partners.

Impact of school-based program for sexual education (sense of care and prevention) among the students. Table 4 shows that a little lesser than half of the male (47%) and 1/3 of females (37.8%) will look for condoms in the pharmacy or in the health centers if they need it. Information (interventional/preventive lectures in the school) about AIDS varies between 63.8% and 74.9% among the different grades. In the case of sexual abuse, less than 30.7% remember information about this particular issue.

Table 3. Aspects of sexual practices among the students who answer “Yes” to the question “have you ever had sexual intercourse?” Global School Health Survey. State of Lara, Venezuela 2003-2004

Sexual practices		Males	Females	7 th grade	8 th grade	9 th grade
1 st intercourse, age d”12 years	PP%	54.9	25.3	57.5	61.9	36.4
	IC 95%	46.5-63.3	13.3-37.3	44.0-71.0	50.6-73.2	25.7-47.1
Intercourse, last 12 months	PP%	59.0	78.6	64.6	53.5	67.2
	IC 95%	53.3-64.7	61.9-95.3	48.9-80.3	44.6-62.4	58.3-76.1
Condom use, last intercourse	PP%	59.2	43.2	55.4	24.0	71.7
	IC 95%	49.9-68.5	27.7-58.7	48.6-62.2	6.6-41.4	63.8-79.6
Sex-partners, ≥ 2	PP%	48.3	21.5	37.3	55.9	39.7
	IC 95%	39.0-57.6	2.9-40.1	21.4-53.2	43.1-68.7	29.8-49.6

PP%= pondered prevalence in percentage
IC 95%= 95% interval of confidence

Table 4. Prevalence of Issues Related to Safe-sex Behavior Among the Students of the 7th, 8th and 9th Grades. Global School Health Survey. State of Lara, Venezuela 2003-2004

Safe-sex markers		Males	Females	7 th grade	8 th grade	9 th grade
Look for condoms *	PP%	47.0	37.8	33.3	42.5	55.8
	IC 95%	42.8-51.3	26.9-39.6	32.2-43.4	39.1-46.0	50.0-61.7
AIDS/HIV lectures †	PP%	67.6	69.6	63.8	70.6	74.9
	IC 95%	63.2-71.9	67.0-72.1	58.7-69.0	65.7-75.6	68.3-81.5
Sexual abuselectures ‡	PP%	27.1	31.6	30.7	30.7	27.0
	IC 95%	23.6-30.6	28.7-34.5	26.8-34.6	26.1-35.3	20.5-33.5

PP%= pondered prevalence in percentage
IC 95%= 95% interval of confidence

* Students who would like to find condoms in pharmacies or health centers after the answer “Yes” to the question “If you need condoms, where you try to obtain it?”

† Students who answered “Yes” to the question “have you ever been taught about AIDS/HIV infection in the school?”

‡ Students who answered “Yes” to the question “have you ever been taught -in the school- about, what to do against sexual abuse and how prevent it?”

Discussion

Most students in this study did not have history of sexual intercourse (range of prevalence between 81% and 90.6%). These results are consistent with other studies which indicate that over 50% of teenagers are virgins until at least 17 years of age (19,20); while 27% males and 3.8% females (overall 14.1%) of our sample had sexual intercourse. The prevalence of students that had sexual intercourse increased consistently for each grade considered: 7th (9.4%), 8th (14.8%), and 9th (19%), see Table 2. Although it is difficult to compare international studies due to their different methodologies, some results and ours do not vary significantly as reported in Viborg-Denmak where 15% of adolescents <15 years of age had intercourse experience (21). In contrast, higher percentage

of intercourse experience can occur as reported in US adolescents (≤15 years old), 27.5% in males and 31.7% in females (22).

However, an overall 14.1% is a substantial number of adolescents reporting a history of sexual intercourse and deserve a consideration. Adolescents are at great risk of acquiring STDs for a number of causes and conditions, for instance (a) social causes such as, lack of easy access to STD services and condom as well as frequent and multiple sexual partners; (b) psychological causes like progression through a development stage that emphasizes sexual risk taking and sexual identity formation; and (c) biological conditions such as cervical ectopy that facilitate the transmission of certain infectious agents (22-25). In addition, adolescents are less likely to have health insurance and other financial resources, and also less likely

to understand the importance of preventive health care behavior compared to adults (5,26-28).

We are especially concerned by the early age of the first intercourse found in our study. In the group of students that responded having intercourse, 54.9% of the males and 25.3% of the females had intercourse experience at or before 12 years of age contrasting with the age 14 for males and 15 for females in the estimated from the official report (8). The possibility exists that some of these cases may be related to sexual violence or sexual abuse. Many reports point to sex intercourse, as perpetrated by young children, is a learned behavior and is associated with sexual abuse or exposure to adult sex or pornography and must be differentiated by sexual play (defined as viewing or touching of the genitalia, buttocks, or chest by pre-adolescent children separated by not more than 4 years, in which there has been no force or coercion) (1). Because of the fiduciary nature and dependency of the younger adolescent in the circle of family, relatives and friends, younger adolescents are at higher risk of being vulnerable to sexual victimization by people close to them; in contrast, the least common offender is a stranger (1,29-31). Sexual abuse is many times reported as taking place very early in life. In U.S.A., more than 54% of all rapes of women occur before age 18, and 22% of these rapes occur before age 12 (32). Under the Venezuelan Laws (33) and the laws of other national or regional governments (34), intercourse with adolescents at or before the age of 12 may convey judicial prosecution. Surprisingly, less than 32% of the students (7th to 9th grades) in our study received lectures related to sexual abuse (prevention and what to do), see Table 4.

GSHS-Lara (2003-2004) showed little differences of sexual behavior between grades 7th and 8th but relatively larger differences if 9th grade is considered. For example, few students in the 9th grade (36.4%) had first intercourse when they were younger than 12 if compared with 7th (57.5%) and 8th (61.9%); more students in the 9th grade (71.7%) used condoms more frequently than the 7th (55.4%) and 8th (24%) grades; and low prevalence of "more than two life long sexual partners" was found between 7th (37.3%) and 9th (39.7%) grades if compared with 8th (55.9%) grade, see Table 3. Also, More students of the 9th (55.8%) grade would like to practice safe sex (to find condoms in the pharmacy or health centers) if compared with 7th (33.3%) and 8th (42.5%) grades, see Table 4. The explanation for these observations is evasive. It is possible that unknown external education (greater information about the use and availability of condoms as well as more information about STDs and AIDS/HIV infection) and previous factors during entrance to the 9th grade not considered (family's influence, spirituality, or reduction of perceived peer pressure) have influenced the sexual

conduct of the 9th graders that resulted in a superior sense of care and prevention. Another possibility is that new social changes occurred during the time the 7th and 8th graders were surveyed (8). However, recent reports warn that young people are adopting risk-taking behaviors at earlier ages. Children between 8-12 years of age are smoking cigarettes, drinking alcohol, taking drugs, and having sex (35).

Concerning school-based programs of prevention against AIDS/HIV infection and sexual abuse, we found a notorious difference in the prevalence of these two sex education markers. Two third of the students (74.9%) reported have been taught about AIDS/HIV infection; however, this is still a percentage lower than reported in U.S.A. (87.9%) in the same year 2003 (36). Again, more concern arises when only less than 32% of the students reported instructional prevention and what to do with sexual abuse, see Table 4. These results point out that the school-based program for sexual education must be improved especially in sexual abuse. Other educational markers, like STDs (not-AIDS/HIV infection), use and acquisition of birth-control methods, parenthood/motherhood are expected to be included in future GSHS-Lara surveys.

Because of the adolescents spent a considerable time of their life in the school, these institutions should provide the environment necessary to assists youth when confronted with decisions that affect (in a positive or negative way) their health. Educational plans should take into account that both students with and without intercourse experience are present in each considered year from 7th to 9th grades. Privacy of adolescents must be paramount no matter if adolescent is sexually active or not. For students who want deeper or complementary explanations than offered in the ordinary sex educational lectures would be openly discussed throughout, for example, a "telephone youth lines private assistance system" or/and during the nurse's or doctor's office visit. Some potential benefits of such a system (private complementary explanations) include: by-passing embarrassing questions from the students in the class room, avoiding stigmatization of the student's personal life, and counteracting unprofessional information from some persons such as peers.

Conclusions

The GSHS-Lara 2003-2004 among students of the 7th to 9th grades, indicates a need for well planned programs of sexual health (before age of 12) due to (a) ~30% of students reporting sexual intercourse; (b) initiation at an early age; (c) a history of multiple sexual partners; and (d)

a low prevalence of condom use. We also found a disparity in the curricular importance given to two sex-related themes. Most students (>63%) received information about AIDS/HIV infection. Yet only a few (<32%) received information about sexual abuse. Future studies must be designed to better understand specific sexual behaviors –i.e. abstinence from other sexual decisions among adolescents– and justify the curricular charge of different issues in sexual education at school.

Resumen

Motivo del estudio: Para que sean efectivos los programas de salud sexual necesitan estar basados en evidencia. Este estudio describe una serie de patrones de conducta sexual, educación y otros aspectos relacionados con la vida sexual entre los estudiantes de los grados 7mo., 8vo. y 9no en el Estado Lara, Venezuela. **Métodos:** Durante el período escolar 2003 a 2004, 2070 estudiantes llenaron la Encuesta Global de Salud Escolar (EGSE) –una encuesta dirigida a estudiantes escolares, auto-administrada, de corte transversal, la cual explora –entre otros aspectos– conducta sexual. **Resultados:** Estudiantes respondiendo que alguna vez tuvieron relaciones sexuales, varones 27% y hembras 3,8%; por grados, varones 18,2% (7mo.) y 37,6% (9no.), y hembras 1,9% (7mo.) y 6,2% (9no.); del grupo que tuvo relaciones sexuales, 54,9% de los varones y 25,3% de las hembras, las tuvieron ya a la edad de 12 años; el 59% de los varones y el 78,6% de las hembras fueron sexualmente activos en los últimos 12 meses; 59,2% de los varones y 43,2% de las hembras utilizaron condón en la última relación sexual; y 48,3% de los varones y 21,5% de las hembras tuvieron 2 o más parejas sexuales en su vida. Una disparidad se presenta en la educación sexual dada en la escuela, >63% fue para SIDA y <32% fue para abuso sexual. **Conclusiones:** Este estudio soporta la opinión de que un número substancial de estudiantes (alrededor de 1/3) tuvieron relaciones sexuales, se iniciaron a una edad temprana (<12), tuvieron una historia de múltiples parejas sexuales y una baja prevalencia en el uso del condón.. Una cobertura desbalanceada sobre la información acerca del SIDA y el abuso sexual es altamente prevalente en la escuela. Sin embargo, la implementación y evaluación de programas más completos sobre vida sexual saludable debe de tomar en cuenta que todavía una mayoría de los estudiantes reportaron ser abstinentes en relaciones sexuales.

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