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Receipt of Sexual Health Information From Parents, Teachers, and Healthcare Providers by Sexually Experienced U.S. Adolescents

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Abstract

Objective—To describe the extent to which sexually experienced adolescents in the United States receive sexual health information (SHI) from multiple of three sources: parents, teachers, and healthcare providers.

Design—Descriptive analysis.

Setting—2006–2010 National Survey of Family Growth.

Participants—Heterosexually experienced, unmarried/non-cohabiting females (n = 875) and males (n = 1,026) ages 15–19 years.

Main Outcome Measures—Self-reported receipt of birth control, sexually transmitted infection/human immunodeficiency virus (STI/HIV), and condom information from parents, teachers, and healthcare providers.

Results—Parent and teacher SHI sources were reported by 55% and 43% of sexually experienced female and male adolescents, respectively, for birth control information; and by 59% and 66%, respectively, for STI/HIV information. For sexually experienced adolescents reporting both parent and teacher sources, about one-third also reported healthcare provider as a source of birth control information, and one-quarter of females and one-third of males reported a healthcare provider as a source of STI/HIV information, respectively. For sexually experienced adolescents reporting no SHI from either parent or teacher sources, only one in ten reported healthcare providers as a source of birth control information, with a similar proportion reporting healthcare providers as a source of STI/HIV information. SHI receipt was found to vary by gender with more females than males reporting birth control information receipt from parents and teachers, and about one in six males reporting no birth control or condom information receipt from either source.

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Conclusions—Study findings highlight gaps in sexual health information receipt from parents, teachers, and healthcare providers among sexually experienced adolescents, as well as gender differences across information sources.

Keywords

Sex education; Sex information; Sexual development

Sexual development is an important, normal task of adolescence [1] but sexually experienced adolescents are at risk for unintended pregnancy and sexually transmitted infections (STI). Providing sexual health information (SHI) to adolescents reduces negative outcomes of sexual behaviors [2–5]. Thus, public health (e.g., Healthy People 2020), education, and medical organizations recommend parents, teachers, and healthcare providers educate adolescents about sexual health [5–8]. The receipt of reliable, accurate SHI by sexually experienced adolescents is critically important because this population is both more at risk for negative consequences of sexual behavior, and expresses more concern regarding sexual health topics than their sexually inexperienced counterparts [9]. It is therefore crucial to understand the extent to which sexually experienced adolescents receive SHI; however, little is known about the proportion of these youth in the United States who report SHI receipt that can be reinforcing from multiple sources including parents, teachers, and healthcare providers.

Ideally, sexually experienced adolescents should receive medically accurate, reinforcing SHI from multiple sources [10]. Past interventions show that adolescents who receive SHI frommultiple reliable sources (e.g., parents and teachers) have improved sexual behavioral outcomes compared to those who do not [3,11–13]. However, most studies that have examined national samples of adolescents' SHI receipt describe single sources of SHI only [14–18]. For example, these studies have found that approximately half of sexually experienced adolescents reported SHI receipt from parents [19], up to two-thirds from a teacher [20], and less than one-third from a health care provider [14,19]. However, it is unclear whether the same adolescents are receiving this information from all sources or not. A few studies have reported on both parent and teacher sources of SHI and describe disparate results. One older study found that few (16%) sexually experienced 15-to-16-year-olds received SHI from both parents and teachers with one-third reporting no SHI receipt from either source [21]; whereas a more contemporary study found that a majority (73%) of all 15-to-19-year-old females reported SHI receipt from parents and teachers with only 3% reporting no SHI receipt from either source [22]. However, these studies did not differentiate their findings by sexual experience or only focus on females. Further, healthcare providers as an information source were not included.

Examination of SHI receipt by gender among sexually experienced adolescents is needed to appropriately address gaps in information delivery. The current state of SHI receipt among sexually experienced males is less than desirable. Although male adolescents are more likely than females to be sexually active and engage in risk behaviors [23], they are less likely than females to talk with a parent about sexual topics [19–24] and access related healthcare services [25]. Furthermore, limited attention has been given to gender patterns in the overall

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receipt of SHI, taking into account multiple sources. A recent study examining multiple sources of SHI among urban African-American youth found that males reported family and teachers as major SHI sources compared to females who reported health professionals in addition to family and teachers [26]. However, this smaller-scale qualitative study focused only on information sources rather than also including specific topics discussed, and its findings are not generalizable to a national sample. A recent study conducted among a national sample of adolescents found that only half of sexually experienced males reported receipt of birth control (e.g., hormonal method) information from teachers, compared to two-thirds of females [2]; however, this study did not specifically examine condom information receipt from teachers or other sources.Thus,to gain a better understanding of sexually experienced female and male SHI receipt in the United States, an examination of multiple SHI sources by gender and topic is needed.

Given the current gaps in the literature, the goals of this study are to describe the extent to which a nationally representative sample of sexually experienced 15-to-19-year-olds report SHI receipt from parents, teachers, and healthcare providers, and whether receipt of SHI from these sources varies by gender and topic. Based on past literature, we hypothesize that among sexually experienced adolescents, few will report SHI receipt from all three sources, and that female reports of SHI receipt will be higher than that of males.

Methods

Study procedures

Data for these analyses come from the 2006–2010 National Survey of Family Growth (NSFG), a nationally representative household survey that assesses reproductive health and contraception practices among 22,682 respondents aged 15 to 44 years. Among respondents, 2,284 females and 2,378 males were between the ages of 15 and 19. All respondents completed a face-to-face interview with NSFG personnel and an audio computer assisted self- interview to gather more sensitive data. The survey used a multi-stage, stratified, clustered sampling frame to collect interviews continuously from June 2006 to June 2010. Detailed survey methodology has been described elsewhere [27,28]. The current analyses include non-married, non-cohabitating, heterosexually experienced females (n = 875) and males (n = 1,026) aged 15-to-19-years old. All available data from 2006 to 2010 were needed to provide a sufficient sample for analyses with the subpopulation of sexually experienced adolescents. The Institutional Review Board approved this analysis.

Measures

Sexual health information sources and topics

Parent source—Respondents provided a dichotomous response to whether they had received information prior to age 18 from a parent regarding: (1) birth control methods and information about where to obtain birth control; (2) information on STI and/or how to prevent HIV; and (3) how to use a condom.

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Teacher source—Respondents provided a dichotomous response to whether they had received information prior to age 18 at a school, church, community center, or some other place regarding (1) birth control methods; and (2) STI and/or preventing HIV/AIDS.

Healthcare provider source—Female respondents were asked whether they had received "counseling or information" from a healthcare provider on birth control, and "counseling for, or been tested or treated for a sexually transmitted disease" in the last year. Male respondents were asked whether they had received "advice or counseling" from a healthcare provider in the last year regarding methods of birth control, STI, and/or HIV/AIDS; each topic was measured separately.

Parent, teacher, and healthcare provider sources—First, in order to examine multiple sources of SHI, topics were identified that were assessed among females and males from three sources: parents, teachers, and healthcare providers. Parent and teacher sources were assessed in the NSFG using similar—but not always identical—language for both males and females, including information received on birth control and STI/HIV. Therefore, for information received from parents and teachers on each of these two topics, a 4-level measure was developed and coded as: receipt of SHI from both a parent and teacher; parent only; teacher only; and neither parent nor teacher. Because survey questions measuring SHI receipt from a healthcare provider used largely different language for males and females, a combined measure was not created for this source, but rather SHI receipt from this source was examined by gender among adolescents reporting parent and teacher sources.

Background characteristics

Background characteristics included age coded categorically; lived with both parents from birth to age 18 years (yes/no); race/ethnicity (non-Hispanic white, non-Hispanic African-American, Hispanic, or other); maternal education level (less than/equal to high school diploma/GED or at least some college or more); and place of residence (city center, city region, or other).

Data analysis

Analyses were conducted in STATA 11 and used the *svy* command to adjust for survey weights and design [27,28]. First, receipt of each SHI topic from each source was measured and chi-squared tests were conducted to evaluate differences by gender. Next, the combined distribution of SHI receipt from parents and teachers for each topic were measured and tested for differences by gender. Because many sexually experienced adolescents did not report birth control or STI/HIV information receipt from a parent but did report parents as sources of condom information (measured as a separate survey item for parent source of information), additional measures were created for birth control and STI/HIV information receipt, respectively, that included condom information receipt from a parent source. Finally, to identify the additional receipt of SHI from a healthcare provider, differences in the proportion of adolescents reporting SHI from a healthcare provider in the last year were examined by parent and teacher sources and stratified by gender.

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Bivariate and multivariate analyses explored the relationships between adolescents' background characteristics and SHI receipt; however, these analyses yielded little variation. Findings are not shown, but are available by request.

Results

The sample of sexually experienced adolescents was equally split between 15–17-year-olds and 18–19-year-olds (Table 1). The majority of the sample reported not having lived with both parents from birth to age 18 years and reported white race. About half the sample reported maternal completion of some college education or higher. Most resided in a suburban region.

Sexual health information sources by topic

Parent source—Sexually experienced females were more likely than males to report parents as a source of birth control information (67% vs. 41%, respectively, $p \leq .001$), and less likely than males to report parents as a source of condom information (38% vs. 52%, respectively, $p \leq .001$). About two-thirds of respondents reported parents as a source of STI/HIV information, with no gender differences observed (62% females, 64% males).

When condom information was included in STI/HIV and birth control information receipt from parents, females were less likely than males to report STI/HIV and condom information receipt (65% vs. 72%, respectively, $p < .05$), but no gender differences were observed in receipt of birth control and condom information (69% females, 63% males).

Teacher source—More sexually experienced females than males reported teachers as a source of birth control information (75% vs. 63%, respectively, $p < .001$). Almost all respondents reported teachers a source of STI/HIV information with no observed gender differences (95% females, 96% males).

Healthcare provider source—More sexually experienced females than males reported healthcare providers as a source of STI/HIV information in the last year (27% vs. 21%, respectively, $p < .05$); no gender differences were observed in the receipt of birth control information from a healthcare provider (27% females, 22% males).

Parent and teacher sources by topics

Birth control information without and with condom information—Sexually experienced adolescents' report of birth control information receipt from parents and teachers varied significantly by gender (chi-square = 1,111.2, $p < .001$). Few respondents reported birth control information receipt from both parents and teachers, with more females reporting receipt than males (12% females, 4% males) and many reporting no birth control information receipt from either source (20% females, 35% males) (Table 2).

When condom information was included in birth control information receipt, the overall distribution of information receipt from parents and teachers also varied significantly by gender (chi-square = 474, $p < .001$). About half of sexually experienced adolescents reported information about birth control, including condoms, from both parents and teachers, with

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more females reporting this than males (55% females, 43% males). Few sexually experienced female adolescents (10%) and about one-fifth of sexually experienced male adolescents (17%) reporting not receiving this information from either source.

Sexually transmitted infection/human immunodeficiency virus information without and with condom information—About one-fifth of sexually experienced adolescents reported STI/HIV information receipt from parents and teachers (23% females, 22% males) and 8% reported not receiving this information from either source. STI/HIV information receipt from parents and teachers did not vary by gender.

When condom information was included in STI/HIV information receipt, the majority of respondents reported information receipt from parents and teachers (59% females, 66% males) and few reported not receiving this information from either source (5% females, 4% males). STI/HIV information receipt including condom information from parents and teachers did not vary by gender.

Parent, teacher, and healthcare provider sources by topic

Birth control—Birth control information receipt from a healthcare provider in the last year was reported by about one-third of sexually experienced adolescents who also reported birth control including condom information receipt from parents and teachers (32% females, 29% males); by less than one-fifth who also reported receiving this information from parents only (3% females, 21% males); by about one-fifth who also reported receiving this information from teachers only (23% females, 14% males); and by about one-tenth who reported receipt from neither parents nor teachers (7% females, 13% males). Reports of birth control information receipt from parents, teachers, and healthcare providers in the last year did not vary significantly by gender (Table 3).

Sexually transmitted infection/human immunodeficiency virus—STI/HIV information receipt from a healthcare provider was reported by one-third of sexually experienced female adolescents and one-fifth of sexually experienced male adolescents who also reported receipt of STI/HIV information including condoms from parents and teachers (30% females, 22% males); by less than one-quarter who also reported receiving this information from teachers only (26% females, 17% males); and by one-tenth who reported receipt from neither parents nor teachers (8% females, 9% males). Reports of STI/HIV information receipt from parents, teachers, and healthcare providers in the last year did not vary significantly by gender.

Comment

As hypothesized, this study found that among a nationally representative sample of sexually experienced adolescents few reported sexual health information receipt from parents, teachers, and healthcare providers. This study also found substantial gender differences in sexually experienced adolescents' reports of SHI receipt; males were generally less likely to report receipt of sexual health information than females with the exception being that more males than females reported condom information receipt from parents. Among the three sources explored, respondents were least likely to report healthcare providers as a source.

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Study findings indicate the need to identify strategies to engage each of these constituents—parents, teachers and healthcare providers—in the delivery of SHI to sexually experienced adolescents.

Adolescents identify parents, teachers, and healthcare providers as important and desirable sources of SHI [29]. However, findings from this study show for the first time among a national sample of sexually experienced adolescents that few report receiving SHI from all three sources and many do not get it from more than one source. This suggests a need for strategies to engage all three constituents in efforts aimed at improving SHI delivery to sexually experienced adolescents. Reliable sexual health resources are widely available, and strategies to improve the delivery of SHI might be adapted from other successful health prevention efforts that engage multiple constituents. For example, exposure to preventive education in both school and community settings has been found to be associated with decreased cigarette use among adolescents [30]. Enhanced efforts to improve sexual health information delivery to sexually experienced youth also need to address unique barriers to both adult-delivery and adolescent-receipt of SHI, such as improving adult-youth communication [10] and improving literacy around sexually explicit media [31].

Because the majority of birth control options are femaledependent, it is not surprising that females in this study more often reported being the recipients of birth control information. However, it is concerning that nearly one out of five sexually experienced males report never having received birth control/condom information from parents and/or teachers. Furthermore, few of this group of males received birth control information from healthcare providers either. A substantial policy retreat from formal instruction about birth control has left an increasing proportion of adolescents receiving only abstinence education in schools [32]. Based on the findings from this study, other potentially trusted sources do not seem to be filling this information gap. Study findings also show that sexually experienced females are less often involved in condom education than males, despite the preventive benefits that condoms afford to all youth. In order to overcome these gender-biases in SHI delivery, communities should acknowledge that comprehensive SHI for all adolescents is appropriate [1,5,6,33] and supported by parents [34–36]. Furthermore, contraception use increases when both partners agree on method selection [37], which relies on both male and female adolescents' access to accurate SHI.

Among the three sources examined in this study, healthcare providers were identified as being least involved in the delivery of SHI content to sexually experienced adolescents. These findings are consistent with past research showing that healthcare providers' SHI delivery to adolescents is poor [14,19,38,39]. However, the current study's findings contribute two important new observations. First, by focusing on sexually experienced adolescents, this study highlights a population with more immediate SHI needs that are going unmet in the healthcare setting. Second, study findings demonstrate that providers are not filling the gap for sexually experienced adolescents who report not getting this type of information from their parents and teachers despite clear recommendations for SHI education in the healthcare setting [7,15]. Because the majority of sexually experienced adolescents interface with the healthcare system [14,39,40], healthcare providers are missing many important opportunities to deliver SHI to this population. In the context of expanded

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coverage for clinical preventive and sexual health counseling services under the Patient Protection and Affordable Care Act [1,5,7], study findings also suggest that strategies are needed to improve SHI delivery by healthcare sources.

This study has several limitations. First, the NSFG is cross-sectional and asks respondents to retrospectively report on SHI receipt. Second, current NSFG measures do not assess the timing of SHI receipt from each source in relation to coitarche, the quality of information received, or receipt of SHI from other important sources such as peers, media, or the Internet [9]. Third, the NSFG does not measure the exact content or "tone" of the sexual health information; some messages about contraception may discourage use, while others might promote it. Thus, it is not possible to determine from this data whether SHI from multiple sources is actually reinforcing a similar message and set of information, or providing conflicting perspectives. Fourth, reliance on self-report measures might contribute to reporting bias, but socially desirable response bias is unlikely given the overall low rates of SHI receipt from all three sources. Offsetting these limitations is the study's use of a nationally representative sample of sexually experienced adolescents and the assessment of SHI receipt from three sources on several SHI topics.

Study findings highlight gaps in sexual health information receipt from parents, teachers, and healthcare providers among a national sample of sexually experienced adolescents and support the need to identify strategies to improve the coordination of SHI delivery to these youth. Future research should track whether Patient Protection and Affordable Care Act implementation and coordinated efforts to involve parents, teachers, and healthcare providers in educating teens about sex and its consequences will lead to improvements in SHI receipt among sexually experienced adolescents.

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Implications and Contribution

Findings from this study support the need for improvements in sexually experienced adolescents' receipt of medically accurate SHI from multiple reliable sources. Study findings highlight the need for parents, educators, and healthcare providers to work together to reinforce SHI especially among sexually experienced youth.

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Table 1

Demographics and report of SHI receipt among sexually experienced 15–19-year-olds by gender

	Females	Males
	Total % (N)[a]	Total % (N)[a]
Demographics		
Age group		
15–17 years	42.4 (387)	44.9 (463)
18–19 years	57.6 (487)	55.1 (563)
Lived with both parents from 0–18 years of age		
Yes	40.8 (348)	46.1 (415)
No	59.2 (526)	53.9 (611)
Race/ethnicity		
White	57.5 (426)	53.9 (447)
African-American	20 (227)	21.4 (277)
Hispanic	16.7 (186)	18.9 (255)
Other	5.8 (35)	5.8 (47)
Maternal education		
Some high school or less	46.6 (442)	49.9 (524)
Some college or more	53.3 (431)	49.4 (493)
Place of residence		
Central city	31.2 (371)	31.2 (410)
City region	45.4 (352)	48.5 (469)
Not city region	23.5 (151)	20.3 (147)
Information source and topic		
Parent		
Birth control	67.1 (570)	40.6 (400)***
STI/HIV	61.8 (538)	64.0 (666)
Condom	38.1 (351)	52.4 (551)***
Birth control including condoms	69.2 (597)	62.5 (650)
STI/HIV including condoms	64.7 (563)	71.6 (743)*
Teacher		
Birth control	75.8 (665)	63.0 (655)***
STI/HIV	95.3 (840)	95.9 (979)
Healthcare provider		
Birth control	26.9 (261)	21.6 (235)
STI/HIV	26.9 (261)	21.1 (237)*

Gender statistically significant at

* $p < .05$;

*** $p < .001$.

HIV = human immunodeficiency virus; STI = sexually transmitted infection.

[a] N is unweighted, percent is weighted.

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Table 2

Reports of SHI receipt among sexually experienced 15–19-year-olds by gender without and with condom information receipt from parent source

SHI topic	Not including condom receipt from parent		Chi square	Including condom receipt from parent		Chi square
	Females % (N)[a]	Males % (N)[a]		Females % (N)[a]	Males % (N)[a]	
Birth control						
Both parent and teacher	11.7 (93)	4.2 (52)	1,112.1***	54.9 (474)	42.5 (441)	473.6***
Parent only	4.4 (33)	1.3 (18)		14.3 (123)	20.2 (209)	
Teacher only	64.2 (572)	59.1 (603)		20.9 (191)	20.8 (214)	
Neither parent nor teacher	19.8 (177)	35.4 (352)		9.9 (87)	16.5 (161)	
STI/HIV						
Both parent and teacher	22.9 (187)	22.2 (227)	8	58.9 (516)	65.8 (680)	127.9
Parent only	2.5 (19)	2.1 (21)		5.8 (47)	5.8 (63)	
Teacher only	66.4 (601)	67.8 (699)		30.4 (272)	24.2 (246)	
Neither parent nor teacher	8.2 (68)	8.0 (79)		4.9 (40)	4.3 (37)	

HIV = human immunodeficiency virus; SHI = sexual health information; STI = sexually transmitted infection.

[a] N is unweighted, percent is weighted.

*** $p < .001$.

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Table 3

Percent of sexually experienced 15–19-year-old adolescents who reported SHI receipt from a healthcare provider in the last 12 months among adolescents reporting parent/teacher SHI receipt by gender

SHI topic	SHI receipt from a healthcare provider			
	%[a] birth control		%[a] STI/HIV	
	Females	Males	Females	Males
Birth control[b,c]				
Both parent and teacher	31.5	28.7	–	–
Parent only	2.8	21.3	–	–
Teacher only	23.0	14.2	–	–
Neither parent nor teacher	7.3	13.4	–	–
STI/HIV[b,c]				
Both parent and teacher	–	–	29.5	23.5
Parent only	–	–	nr[d]	nr[d]
Teacher only	–	–	25.5	17
Neither parent nor teacher	–	–	7.5	9.1

HIV = human immunodeficiency virus; SHI = sexual health information; STI = sexually transmitted infection.

[a] Percent is weighted.

[b] Birth control and STI/HIV information is inclusive of condom information.

[c] Chi-squared analyses did not find any significant differences in SHI receipt by healthcare provider by gender among each parent/teacher category.

[d] Not reported because it does not meet standards of reliability or precision.