Published in final edited form as:
J Adolesc Health. 2012 April ; 50(4): 410–413. doi:10.1016/j.jadohealth.2011.06.007.

Patterns and correlates of parental and formal sexual and reproductive health communication for adolescent women in the United States, 2002 to 2008

Kelli Stidham Hall, PhD,
Postdoctoral Research Associate, Office of Population Research, Center for Health and Wellbeing, Princeton University

Caroline Moreau, MD, PhD, and
Associate Professional Specialist, Princeton University; Senior Research Scientist, CESP – Gender and Reproductive Health, Inserm

James Trussell, PhD
Professor of Economics; Director of the Office of Population Research, Princeton University; Visiting Professor, The Hull York Medical School

Abstract

Purpose—To investigate patterns and correlates of sexual and reproductive health (SRH) communication among adolescent women in the United States between 2002 and 2008.

Methods—We used data from adolescent women (aged 15-19yrs) in the National Survey of Family Growth (2002 and 2006-2008, n=2,326). Multivariate analyses focused on sociodemographic characteristics and SRH communication from parental and formal sources.

Results—Seventy-five percent had received parental communication, on abstinence (60%), contraception (56%), STIs (53%), and condoms (29%); 9% received abstinence-only communication. Formal communication (92%) included abstinence (87%) and contraceptive (71%) information; 66% received both while 21% received abstinence-only. From 2002 to 2006-2008, parental (not formal) communication increased (7%, $p<0.001$), including abstinence communication (4%, $p=0.03$). Age, sexual experience, education, mother's education, and poverty were positively associated with SRH communication.

Conclusions—Receipt of parental SRH communication, especially abstinence, was increasingly common among U.S. adolescents from 2002 to 2008. Strategies to promote comprehensive communication may improve adolescents' SRH outcomes.

(corresponding author) 228 Wallace Hall, Princeton University, Princeton, NJ 08544 (t) 609-258-8087; (f) 609-258-1039; (e) kshall@princeton.edu.

Conflicts of interest: We have no conflicts of interest to disclose for this work.

Implications and contribution statement: U.S. adolescents received an increase in sexual and reproductive health communication from parental sources, especially on abstinence, from 2002 to 2008. Stable formal communication patterns also emphasized abstinence. More comprehensive sex communication from multiple sources is needed to promote adolescent reproductive health.

Keywords

adolescents; sexual and reproductive health communication; sex education; information sources; United States

Introduction

Comprehensive sexual and reproductive health (SRH) information is required for informed sexual decision-making, risk behavior reduction, and health promotion across the lifespan [1]. Adolescents, who are developing cognitively and sexually, are in need of comprehensive information [1], especially poor and minority adolescents in the United States who disproportionately suffer negative SRH outcomes [2].

An understanding of the variety of sources from which adolescents receive SRH information can provide insights into SRH needs, improve knowledge and promote SRH wellbeing [3]. Communication from informal sources, including parents and especially mothers, has been linked with positive SRH outcomes including delayed sexual debut, fewer sexual partners, greater contraceptive and condom use, and negative views of unintended pregnancy [4,5]. Formal communication from schools, churches, and other community sources, while difficult to assess but recently the primary focus of research, has also been shown to reduce adolescents' sexual risk-taking [8].

From 1988 to 1995, expansion of sex education in the United States provided at least some formal instruction to nearly all adolescents [6]. Following 1995, however, policy efforts, social attention and funding have been directed to abstinence education [1,7], which has corresponded with rising teen pregnancy and STI rates and stalled progress in contraceptive use [1,2,7,8].

It is within this broader sociopolitical context that we need an improved understanding of recent patterns in SRH communication and whether potential socioeconomic disparities in SRH communication help explain current inequities in SRH among young U.S. women.

Methods

We used data from The National Survey of Family Growth (NSFG), a nationally-representative SRH survey of women and men ages 15 to 44 residing in the U.S. Data were collected via household, in-person, interviews, cross-sectionally in 2002 (n = 12,571) and then ongoing from 2006 to 2008 (n = 13,495). The response rate was 79% and 75% in cycles 6 & 7. Restricting the analysis to adolescent women (15-19 years), our final sample included 2,326 adolescents, 1,065 from 2002 and 1,261 from 2006-2008. Princeton University's Institutional Review Board approved this study.

Adolescents were asked if they had ever talked with a parent about SRH topics, including contraception (methods, where to get contraception, and how to use a condom), STIs, and how to say no to sex (referred to as abstinence [1,5,6]). In 2006-2008, adolescents were asked about human immunodeficiency virus (HIV). Adolescents were also asked whether they had ever received formal communication from schools, churches, or community centers on abstinence and methods of contraception.

We evaluated the following sociodemographic characteristics as potential determinants of SRH communication based upon previous research [1,5,6]: age, race/ethnicity, education, income, poverty, employment, insurance, birthplace, residence, religiosity, mother's education, childhood family situation, age of mother at first birth, age at menarche, sexual

intercourse experience, age at coitus, number of recent sexual partners, cohabitation and/or marriage, pregnancies, parity, and gynecological diagnoses.

We used descriptive statistics to estimate sociodemographic characteristics and SRH communication. We conducted bivariate tests to compare SRH communication by survey year and across sociodemographics. We used multivariate logistic regression to estimate the influence of each characteristic on receipt of SRH communication. We retained variables with $p<0.05$ in final models. Finally, we tested for trends over time and examined potential disparate changes in associations using interaction terms for survey year. Weighted data accounted for the stratified sampling design; standard errors and tests of significance were computed using the *svy* series of commands in Stata 11.0 (College Station, TX).

Results

Receipt of SRH communication is presented in Table 1. Nearly all adolescents received SRH communication (97%). Of the 75% who had received parental communication (75%), information was provided on STIs (53%) and contraception (56%), including contraceptive methods (50%), where to get contraception (38%) and how to use condoms (29%). How to say no to sex (abstinence) was most common (60%), with 9% receiving abstinence-only communication. Between 2002 and 2006-2008, parental communication increased (7%, $p<0.001$), including abstinence communication (4%, $p=0.03$).

Receipt of formal SRH communication was nearly universal (92%), more so on abstinence (87%) than contraceptive methods (71%); two-thirds received formal communication on both, while 21% received abstinence-only. Receipt of formal communication did not change over time ($p=0.63$).

In multivariate logistic regression models (Table 2), adolescents in 2006-2008 were 1.6 times as likely to have received parental (but not formal) SRH communication as adolescents in 2002 (CI 1.3, 2.1, $p<0.001$). Sociodemographic characteristics positively correlated with parental and formal communication included older age and sexual experience. Additionally, mother's education was positively associated with parental, and personal education and poverty were positively associated with formal communication. Among sexually-experienced adolescents, religious participation was negatively associated with formal communication. Significant interaction terms reflecting changing associations over time (Table 2) were not included in models since they did not affect point estimates.

Finally, religious participation and sexual experience were key correlates of abstinence-only SRH communication.

Discussion

We cannot discern the tone, quality, quantity or timing of SRH communication received or the accuracy of information provided by these adolescents, which prohibits in-depth understanding of relationships between adolescents' SRH communication and knowledge and behavior. However, our findings provide insights into the current prevalence, gaps and disparities in SRH communication in the U.S. Increasing parental-provided SRH communication from 2002 to 2006-2008 may reflect increasing awareness or acceptance of adolescents' sexual behavior [4,910]. On the other hand, increasing abstinence-only parental communication may illustrate parents' influence by recent conservative strategies promoting abstinence or changes in parental conservative values [4,7]. Differences in SRH communication patterns noted across socioeconomic groups, which may reinforce SRH inequalities among young, minority, undereducated, and poor women [2], complicate the picture even further.

Public health and policy strategies to facilitate delivery of comprehensive SRH information to adolescents *and their parents* are currently needed in the United States [1]. Shifting emphasis to multi-source, multi-content and appropriately-timed SRH communication and away from abstinence-only approaches, within policies, programs and the broader social context may equip adolescents with the knowledge to best inform decision-making and behavior [1,3]. Efforts to eliminate disparities in SRH communication may promote SRH for all adolescents in the U.S.

Acknowledgments

This work was supported by a training fellowship from the Center for Health and Wellbeing, Office of Population Research, Princeton University (KSH).

References

[1]. Lindberg LD, Santelli JS, Singh S. Changes in formal sex education: 1995-2002. Persp Sex Reproduc Health. 2006; 38(4):182–189.

[2]. Abma JC, Martinez GM, Copen CE. Teenagers in the United States: Sexual activity, contraceptive use, and childbearing, National Survey of Family Growth 2006–2008. National Center for Health Statistics. Vital Health Stat. 2010; 23(30)

[3]. Jones R, Biddlecom A, Herbert L, et al. Teens reflect on their sources of contraceptive information. J Adolescent Research 2011. Mar 14.2011 published online before print. doi: 10.1177/0743558411400908.

[4]. Aspy C, Vesely S, Oman R, et al. Parental communication and youth sexual behavior. J Adolesc. 2007; 30:449–66. [PubMed: 16750265]

[5]. Robert A, Sonenstein F. Adolescents' reports of communication with their parents about sexually transmitted diseases and birth control: 1988, 1995, and 2002. J Adolesc Health. 2010; 46(6):532–7. [PubMed: 20472209]

[6]. Lindberg LD, Ku L, Sonenstein F. Adolescents' reports of reproductive health education, 1988–1995. Fam Plann Persp. 2000; 32(5):220–226.

[7]. Santelli JS, et al. Abstinence and abstinence-only education: a review of U.S. policies and programs. J Adolesc Health. 2006; 38(1):72–81. [PubMed: 16387256]

[8]. Kirby, D. Emerging Answers: Research Findings on Programs to Reduce Teen Pregnancy. National Campaign to Prevent Teen Pregnancy; Washington, DC: 2001.

[9]. DiClemente RJ, Wingood GM, Crosby RA, et al. Parent-adolescent communication and sexual risk behaviors among African American adolescent females. J Ped. 2001; 139(3):407–412.

[10]. Hutchinson MK, Jemmott JB, Jemmott LS, et al. The role of mother daughter sexual risk communication in reducing sexual risk behaviors among urban adolescent females: a prospective study. J Adolesc Health. 2003; 33(2):98–107. [PubMed: 12890601]

Table 1

Receipt of Parental and Formal Sexual and Reproductive Health Communication by U.S. Adolescents, 2002 to 2006-2008

	Total (N=2,326)	2002 (N=1,065)	2006-2008 (N=1,261)	'02 vs. '06-08
Sexual and Reproductive Health Communication	**n (%)**	**n (%)**	**n (%)**	**P-value**
[*] **Received any parental and/or formal communication**	2,251 (97)	1,025 (96)	1,226 (97)	0.12
Both parental and formal	1,615 (70)	700 (66)	915 (73)	0.004
Only formal	517 (22)	270 (25)	247 (20)	0.001
Only parental	119 (5)	55 (5)	64 (5)	0.62
Neither parental or formal	75 (3)	40 (3)	35 (3)	0.08
[a] **Received any parental communication**	1734 (75)	755 (71)	979 (78)	<0.001
Any contraceptive communication	1309 (56)	581 (55)	728 (58)	0.23
Contraceptive methods	1170 (50)	531 (50)	639 (51)	0.89
Where to get contraception	881 (38)	391 (37)	490 (39)	0.89
Using condoms	668 (29)	301 (28)	367 (29)	0.85
STIs	1,237 (53)	554 (52)	683 (54)	0.13
[b] HIV	-	-	508 (40)	NA
How to say no to sex (abstinence)	1391 (60)	614 (58)	777 (62)	0.03
Only abstinence parental communication	199 (9)	81 (8)	118 (9)	0.18
Received any formal communication	2,132 (92)	970 (91)	1,162 (92)	0.63
Methods of contraception	1,643 (71)	749 (70)	894 (71)	0.72
[b] STIs	-	-	1,187 (51)	NA
[b] HIV	-	-	508 (40)	NA
How to say no to sex (abstinence)	2,030 (87)	921 (87)	1,109 (88)	0.54
Only abstinence formal communication	489 (21)	221 (21)	268 (21)	0.51
Both abstinence and contraceptive formal communication	1,541 (66)	700 (66)	841 (66)	0.85

Results are presented as frequencies with percentages and p-values (p) from chi-square comparisons between survey years.

[*] Significant differences found between those receiving parental versus formal communication p=0.01 for total sample and for 2002 but not for 2006. STI = sexually transmitted infection. HIV = human immunodeficiency syndrome.

[a] Does not include informal HIV communication since asked only in 2006-2008.

[b] Asked only in 2006-2008.

Table 2

Final Reduced Logistic Regression Models Predicting Receipt of Parental and Formal Sexual and Reproductive Health Communication for the Total Sample, 2002, 2006-2008, Among Sexually-Experienced Adolescents, and for Abstinence-Only Communication Outcomes

RECEIPT OF PARENTAL SEXUAL AND REPRODUCTIVE HEALTH COMMUNICATION					
	Model 1 Total sample (n=2,326)OR (CI) p	**Model 2 2002 (n=1,065) OR (CI) p**	**Model 3 2006-2008 (n=1,261) OR (CI) p**	**Model 4 Sexually-experienced (n=989) OR (CI) p**	**Model 5 Received only abstinence parental communication (n=199) OR (CI) p**
Year		-	-		x
2002	1			1	
2006-2008	1.6(1.3,2.1)<0.001			2.1(1.4,3.1)<0.001	
Age group			x		x
Younger Adolescents (15-17 years)	1	1		1	
Older Adolescents (18-19 years)	1.6(1.2,2.1)0.002	1.7(1.2,2.3)0.004		2.5(1.7,3.4)<0.001	
Highest level ED	x	x		x	x
9th grade			1		
10th grade			1.7(0.9,3.2)0.09		
11th grade			2.2(1.3,3.8)0.005		
12th grade			0.8(0.2,3.0)0.75		
High school diploma or GED			1.1(0.6,2.1)0.70		
Some college			1.1(0.6,2.2)0.63		
Residence	x		x	x	x
Urban		1			
Suburban		0.7(0.4,1.0)0.07			
Rural		0.6(0.4,1.0)0.04			
Mother's education			x		x
<High school	1	1		1	
High school diploma or GED	1.3(0.8,1.8)0.21	1.4(0.9,2.2)0.11		1.2(0.7,1.9)0.54	
>High school	1.6(1.2,2.3)0.006	2.1(1.4,3.2)<0.001		1.9(1.2,2.9)0.004	
Childhood family not intact	x	1	x	x	x
Intact childhood family situation		.7(.5,1.0).03			
Attend religious services now	x	x	x	x	
Weekly or more					1
Less than weekly					0.7(0.4,1.0)0.07

RECEIPT OF PARENTAL SEXUAL AND REPRODUCTIVE HEALTH COMMUNICATION					
	Model 1 Total sample (n=2,326)OR (CI) p	**Model 2 2002 (n=1,065) OR (CI) p**	**Model 3 2006-2008 (n=1,261) OR (CI) p**	**Model 4 Sexually-experienced (n=989) OR (CI) p**	**Model 5 Received only abstinence parental communication (n=199) OR (CI) p**
Never					0.5(0.3,1.0)0.04
Never had sexual intercourse	1	1	1	x	1
Has had sexual intercourse	1.7(1.3,2.2)<0.001	1.4(0.6,2.0)0.08	1.8(1.2,2.6)0.005		0.4(0.2,0.6)<0.001
RECEIPT OF FORMAL SEXUAL AND REPRODUCTIVE HEALTH COMMUNICATION					
	Model 1 Total sample (n=2326) OR (CI) p	**Model 2 2002 (n=1065) OR (CI) p**	**Model 3 2006-2008 (n=1261) OR (CI) p**	**Model 4 Had sex only (n=989) OR (CI) p**	**Model 5 Received only abstinence formal communication (n=489) OR (CI) p**
Year 2002 vs. 2006-2008	x	-	-	x	x
Age (years)			x		x
15	1	1		1	
16	0.8(0.4,1.5)0.46	0.5(0.2,1.0)0.06		0.3(0.1,1.4)0.13	
17	0.4(0.2,0.9)0.02	0.2(0.1,0.6)0.005		0.3(0.1,1.6)0.19	
18	0.5(0.2,1.3)0.14	0.2(0.1,0.7)0.01		0.2(0.1,1.0)0.05	
19	0.3(0.1,0.8)0.02	0.2(0.1,0.5)0.003		0.2(0.1,1.1)0.07	
Highest level education					
9th grade	1	1	1	1	1
10th grade	2.4(1.3,4.6)0.009	3.5(1.8,7.0)<0.001	1.7(0.5,5.3)0.37	5.7(1.7,19.1)0.005	0.9(0.6,1.3)
11th grade	4.4(2.1,9.4)<0.001	6.9(2.6,18.4)<0.001	2.3(1.0,5.5)0.04	2.6(0.9,7.2)0.07	0.6(0.4,0.9)0.02
12th grade	1.6(0.4,6.3)0.49	7.8(0.7,29.9)0.10	0.4(0.1,1.7)0.19	1.6(0.3,8.9)0.56	0.5(0.1,2.2)0.32
High school diploma or GED	4.6(1.8,11.6)0.002	9.0(2.9,27.4)<0.001	1.8(0.8,4.2)0.17	4.6(1.5,13.9)0.008	0.6(0.4,0.9)0.02
Some college	5.3(1.7,16.5)0.004	6.3(1.6,25.8)0.01	2.9(0.6,15.1)0.19	3.1(0.7,13.1)0.12	0.4(0.3,0.7)<0.001
Residence	x	x		x	x
Urban			1		
Suburban			0.5(0.2,1.1)0.10		
Rural			0.4(0.2,0.8)0.01		
>200% federal poverty level	1	x	1	1	x
<200% federal poverty level	0.6(0.4,1.0)0.03		0.3(0.1,0.8)0.02	0.5(0.3,0.9)0.03	
Mother's education	x	x	x	x	
<High school					1

RECEIPT OF PARENTAL SEXUAL AND REPRODUCTIVE HEALTH COMMUNICATION					
	Model 1 Total sample (n=2,326)OR (CI) p	**Model 2 2002 (n=1,065) OR (CI) p**	**Model 3 2006-2008 (n=1,261) OR (CI) p**	**Model 4 Sexually-experienced (n=989) OR (CI) p**	**Model 5 Received only abstinence parental communication (n=199) OR (CI) p**
High school diploma					1.5(1.0,2.2)0.03
>High school					1.6(1.1,2.4)0.01
Attends religious services now	x	x	x		
≥Weekly				1	1
<Weekly				2.2(1.1,4.6)0.03	0.7(0.5,1.0)0.03
Never				1.1(0.5,2.2)0.83	0.7(0.5,1.0)0.05
Never had sexual intercourse	1	x	1	x	x
Has had sexual intercourse	1.5(1.0,2.2)0.05		2.0(1.0,3.8)0.04		
No gynecological diagnosis	x	1	x	x	x
Gynecological diagnosis		2.2(1.2,4.0)0.01			

Results are presented as odds ratios (OR) with 95% confidence intervals (CI) and P-values (P) from multivariate logistic regression models.