HHS Public Access

Author manuscript

JAMA Pediatr. Author manuscript; available in PMC 2015 May 12.

Published in final edited form as:

JAMA Pediatr. 2014 February ; 168(2): 163–169. doi:10.1001/jamapediatrics.2013.4338.

Sexuality Talk During Adolescent Health Maintenance Visits

Stewart C. Alexander, PhD,
Department of Medicine, Duke University Medical Center, Durham, North Carolina; Health Services Research and Development Service, Durham VA Medical Center, Durham, North Carolina

J. Dennis Fortenberry, MD, MS,
Department of Pediatrics, Indiana University School of Medicine, Indianapolis

Kathryn I. Pollak, PhD,
Cancer Prevention, Detection, and Control Research Program, Duke Cancer Institute, Durham, North Carolina; Department of Community and Family Medicine, Duke University School of Medicine, Durham, North Carolina

Terrill Bravender, MD, MPH,
Division of Adolescent Medicine, Nationwide Children's Hospital, The Ohio State University, Columbus

J. Kelly Davis, BA,
Department of Medicine, Duke University Medical Center, Durham, North Carolina

Truls Østbye, MD, PhD,
Department of Community and Family Medicine, Duke University School of Medicine, Durham, North Carolina

James A. Tulsky, MD,
Department of Medicine, Duke University Medical Center, Durham, North Carolina; Health Services Research and Development Service, Durham VA Medical Center, Durham, North Carolina

Rowena J. Dolor, MD, and

Corresponding Author: Stewart C. Alexander, PhD, Department of Medicine, Duke University Medical Center, 411 W Chapel Hill St, Durham, NC 27701 (alexa045@mc.duke.edu).

Supplemental content at jamapediatrics.com

Author Contributions: Dr Alexander had full access to all of the data in the study and takes responsibility for the integrity of the data and the accuracy of the data analysis.
Study concept and design: Alexander, Fortenberry, Bravender, Østbye, Tulsky, Dolor, Shields.
Acquisition of data: Alexander, Pollak, Østbye. Analysis and interpretation of data: Alexander, Fortenberry, Pollak, Bravender, Davis, Østbye, Tulsky, Shields.
Drafting of the manuscript: Alexander, Fortenberry, Shields.
Critical revision of the manuscript for important intellectual content: All authors.
Statistical analysis: Alexander, Shields.
Obtained funding: Alexander, Pollak, Bravender, Østbye.
Administrative, technical, or material support: Alexander, Fortenberry, Bravender.
Study supervision: Alexander, Østbye, Tulsky.

Conflict of Interest Disclosures: None reported.

Department of Medicine, Duke University Medical Center, Durham, North Carolina

Cleveland G. Shields, PhD
Department of Human Development and Family Studies, Purdue University, West Lafayette, Indiana

Abstract

Importance—Physicians may be important sources of sexuality information and preventive services, and one-on-one confidential time during health maintenance visits is recommended to allow discussions of sexual development, behavior, and risk reduction. However, little is known about the occurrence and characteristics of physician-adolescent discussions about sexuality.

Objective—To examine predictors of time spent discussing sexuality, level of adolescent participation, and physician and patient characteristics associated with sexuality discussions during health maintenance visits by early and middle adolescents.

Design, Setting, and Participants—Observational study of audio-recorded conversations between 253 adolescents (mean age, 14.3 years; 53% female; 40% white; 47% African American) and 49 physicians (82% pediatricians; 84% white; 65% female; mean age, 40.9 years; mean [SD] duration in practice, 11.8 [8.7] years) coded for sexuality content at 11 clinics (3 academic and 8 community-based practices) located throughout the Raleigh/Durham, North Carolina, area.

Main Outcomes and Measures—Total time per visit during which sexuality issues were discussed.

Results—One hundred sixty-five (65%) of all visits had some sexual content within it. The average time of sexuality talk was 36 seconds (35% 0 seconds; 30% 1-35 seconds; and 35% ≥36 seconds). Ordinal logistic regression (outcome of duration: 0, 1-35, or ≥36 seconds), adjusted for clustering of patients within physicians, found that female patients (odds ratio [OR] = 2.58; 95% CI, 1.53-4.36), older patients (OR = 1.37; 95% CI, 1.13-1.65), conversations with explicit confidentiality discussions (OR = 4.33; 95% CI, 2.58-7.28), African American adolescents (OR = 1.58; 95% CI, 1.01-2.48), and longer overall visit (OR = 1.07; 95% CI, 1.03-1.11) were associated with more sexuality talk, and Asian physicians were associated with less sexuality talk (OR = 0.13; 95% CI, 0.08-0.20). In addition, the same significant associations between adolescent, physician, and visit characteristics were significantly associated with greater adolescent participation.

Conclusions and Relevance—Our study may be the first to directly observe sexuality talk between physicians and adolescents. We found that one-third of all adolescents had annual visits without any mention of sexuality issues; when sexuality talk occurred, it was brief. Research is needed to identify successful strategies physicians can use to engage adolescents in discussions about sexuality to help promote healthy sexual development and decision making.

Trial Registration—clinicaltrials.gov Identifier: NCT01040975

Physicians can help promote healthy sexuality in their adolescent patients by providing education and counseling about sexual development and by discussing sexually transmitted infections and pregnancy prevention.[1-3] Each of these interventions requires that physicians talk with adolescents about sex. Accurate information supports healthy sexual

development,[4] and the American Medical Association and American Academy of Pediatrics recommend that physicians provide confidential time during early and middle adolescents' health maintenance visits to discuss sexuality and counsel about sexual behavior and risk reduction.[5,6] However, while physicians report comfort with sexual history taking, they report discomfort and lack of confidence in discussing sex and sexuality.[7,8]

Fewer than one-third of physicians believe that they are effective at reducing risky sexual behavior of adolescent patients.[9] Adolescents are less likely to perceive physicians as good sources for sexual information compared with parents or peers[10] and report relatively low rates of discussions about sexual issues during health maintenance visits. When done properly, effective discussions of sexuality can change the way adolescents view and approach sexual discussions with their health care providers.[4] Because many adolescents currently find it difficult to initiate sexuality discussions with adults,[11] adolescents would prefer that physicians bring up the topic of sex and sexuality.[12,13] Despite the importance of this topic, little is known about whether and how physicians initiate these discussions. Studies need to move beyond self-report data to direct observational studies examining communication between adolescents and physicians during annual health maintenance visits.

This article examines the frequency and duration of sex talk between physicians and adolescents during health maintenance visits as well as physician and patient factors associated with the likelihood that such talk takes place.

Methods

Participants

The conversations analyzed for this study came from Teen CHAT, a study examining how health care providers talk to overweight adolescents about attaining a healthy weight. This randomized trial began collecting audio recordings in November 2009 and is ongoing.[14] For this analysis, we included annual visits from November 1, 2009, to February 29, 2012. All adolescent participants provided written assent and physicians and parents of the adolescents provided written consent. The study was approved by the Duke University School of Medicine Institutional Review Board and was given exempt status by the Purdue University Institutional Review Board.

Study Sample and Procedures

Physicians and their adolescent patients were recruited from 11 clinics in the Triangle Region of North Carolina (3 academic and 8 community-based practices). Eligible physicians were pediatricians and family physicians from identified practices that included adolescent patients. Eligible adolescent participants had a body mass index (BMI; calculated as weight in kilograms divided by height in meters squared) *z* score of the 85th percentile or higher for age and gender, were aged 12 to 18 years, were not pregnant, and spoke English. Because we are interested in health maintenance visits by early and middle adolescents, we only included data from adolescents between ages 12 and 17 years undergoing health

maintenance visits (including first-time and sports physicals but excluding chronic care management follow-up visits).

To identify eligible adolescents, study staff reviewed the medical records of the 49 physicians to identify all eligible adolescents who already had an appointment in the coming 2 weeks. Study staff called all potential participants to obtain verbal permission (parent) and assent (adolescent). We screened 3558 adolescents; 342 (10%) refused participation in the study. The main reasons for refusal were (1) too busy, (2) not interested, (3) reluctant to be recorded, (4) parent felt adolescent was too young, and (5) other unspecified reasons. Most of the remaining adolescents were ineligible for the study: BMI *z* score lower than the 85th percentile for age and gender, did not speak English, visit cancelled or rescheduled, cognitively impaired, older than 18 years, distance farther than 70 miles, pregnancy, telephone disconnected, or closed due to phase category filled. At the day of the clinic visit, study staff met with the adolescent and parent and obtained written assent and permission. After completion of consent procedures, study staff escorted the adolescent to the examination room and placed an audio recorder in an unobtrusive location.

Measures

We administered baseline demographic surveys to physicians and adolescents. For the current analysis, all recordings were reviewed by 2 researchers for sexuality talk. Sexuality talk was defined as any comment, question, or discussion related to sexual activity, sexuality, dating, or sexual identity. By our definition, sexuality talk did not require individuals to discuss the topic further or require the adolescent to participate.

By listening to the recordings, we identified the following: (1) total sexuality talk time (all talk by the physician and/or adolescent); (2) who initiated the topic; and (3) whether it occurred during an explicit confidentiality discussion.

All sexuality talk was transcribed verbatim using the Jefferson method of transcription.[15] The Jefferson method is a standardized method for representing conversations by linguistic and important lexical contexts. Using this method, we also subdivided all speaking turns into individual statements. We broke content into statements allowing analysts to see how much content is shared within longer monologues.

Based on the transcripts, we developed a codebook to identify the level of adolescent participation (ie, how engaged the adolescent was in the sexuality talk). Adolescent participation consisted of 7 levels: level 0, no sexual content; level 1, physician speaks but does not try to involve the adolescent; level 2, physician speaks directly to the adolescent but the adolescent never verbally responds; level 3, adolescent responds yes or no to questions; level 4, adolescent responds to questions beyond a simple yes or no; level 5, adolescent offers a disclosure at least once; and level 6, adolescent engages in at least part of a conversation (eTable in Supplement).

Analysis

We examined sample demographic characteristics as well as the distributions and intercorrelations of our variables. Because 253 patients were seen by 49 physicians, our

multivariate analyses were adjusted for clustering within physician but not by clinic because physicians practiced in more than 1 clinic. Because the time of sexuality talk was highly skewed, we created a trichotomous variable of seconds of sexuality talk: none (0 seconds), middle (1-35 seconds), and high (≥36 seconds) to create a variable with nearly equal numbers of encounters in each level. Finally, we used ordinal logistic regression to examine demographic variables (physician and patient age, race, and gender as well as race and gender concordance) and visit-specific variables (actual visit time and confidentiality discussion) associated with the number of seconds (in 3 categories) of sexuality talk. We conducted 1 overall ordinal logistic regression testing for proportional odds and 2 logistic regressions, one examining none vs middle and high and a second examining none and middle vs high. We used SAS version 9.3 statistical software (SAS Institute, Inc) and Proc SurveyLogistic clustered by physician to conduct our analyses.

We conducted a similar logistic regression using adolescent participation as the dependent variable. Because this variable was also skewed, we created a dichotomous variable in which adolescent participation at level 4 or higher was coded high (1) and lower than level 4 was coded low (0). Theoretically, this requires an adolescent to contribute to the discussion beyond a yes or no response to the physician.

Results

Sample Characteristics

Of the 49 physicians, 40 were pediatricians. Most physicians were female (65%) and 84% were white. The mean age was 40.9 years, and the mean time since medical school was 11.8 years. Of the 253 adolescents, 53% were female, 47% were African American, and 40% were white. The mean age was 14.3 years. On average, parents had some post–high school education (mean education, 13.1 years for fathers and 14.1 years for mothers) (Table 1).

Conversation Characteristics

Physicians spent a mean (SD) of 22.4 (9.3) minutes in the examination room. They discussed confidentiality in 31% of the visits. Sexuality talk was identified in 65% of health maintenance visits, with total sexuality talk of 1 to 35 seconds in 30% and 36 seconds or longer in 35% (Table 2). In all conversations with sexuality talk, the physician brought up the topic (no adolescent initiated the talk). Table 3 shows the breakdowns of frequency, time, physician statements, and patient statements across levels of adolescent participation in sexuality talk.

Among all 253 conversations, the physician spoke without attempting to engage the adolescent in the discussion (level 1; mean utterances, 5.5 by physicians and 0 by adolescents) in 2% of the visits. The physician spoke while the adolescent silently responded (level 2; mean utterances, 4.8 by physicians and 0 by adolescents) in 2%. Adolescents made a mean (SD) of 2.2 (1.6) yes or no responses to a mean (SD) of 6.5 (6.8) physician statements that lasted a mean (SD) of 31.6 (41.4) seconds (level 3) in 17% of visits. Adolescents made a mean (SD) of 7.0 (4.8) statements to a mean (SD) of 14.6 (11.8) physician statements that lasted a mean (SD) of 68.0 (59.9) seconds (level 4) in 35% of

visits. Adolescents made a mean (SD) of 9.0 (5.4) statements to a mean (SD) of 17.2 (11.1) physician statements that lasted a mean (SD) of 103.9 (107.4) seconds (level 5) in 4% of visits. Finally, adolescents made a mean (SD) of 19.6 (7.2) statements to a mean (SD) of 26.4 (14.6) physician statements that lasted a mean (SD) of 113.6 (75.6) seconds (level 6) in 4% of visits. There were no visits in which the adolescent initiated sexuality talk and only 4 in which the parent brought up the topic.

Multivariate Analysis

Table 4 shows the results of 3 multivariate logistic regression analyses. The first model assumed proportional odds across levels of time talking about sexuality, which was upheld ($P < .59$). This model shows that African American adolescents were almost 60% more likely to have sexuality talk and nearly 2 times more likely to talk for 36 seconds or longer. Asian physicians were nearly 90% less likely to have sexuality talk of any length. Female adolescents were more than twice as likely to spend more time talking about sexuality than were male adolescents. For each year of age, adolescents were 49% more likely to receive sexuality talk. When an adolescent's visit contained confidentiality, the likelihood of longer sexuality talk was more than 4 times higher. For each minute increase in actual visit time, there was a 6% increased likelihood of longer sexuality talk. No other variables were significant in this model. We obtained nearly identical results whether we used the dichotomous variable of sexuality talk or used the level of adolescent participation as outcome variables. All models included interaction terms for age × race, which were nonsignificant.

Table 5 shows the results of a similar logistic regression of the dichotomous variable adolescent participation. We found similar results except that African American adolescents did not participate at higher levels than other adolescents' participation levels and that total visit minutes were not significantly associated with participation. However, adolescents seeing Asian physicians had lower participation levels. Female and older adolescents had higher participation levels, and confidential discussions were also associated with higher levels of participation.

Discussion

This study used audio-recorded sexuality talk between physicians and adolescents during annual health maintenance visits rather than simply relying on physician or adolescent self-report.[9,16] Our finding that physician-adolescent discussions are on average less than 40 seconds suggests that the content of such discussions is quite limited. We also found that sexuality discussions were influenced by both patient and physician characteristics. Physicians were more likely to initiate sexuality discussions with girls, adolescents reporting African American race, and older adolescents.

In addition, longer conversations and conversations with explicit confidentiality discussions were more likely to include sexuality conversations. In terms of physician characteristics, Asian physicians were significantly less likely to have sexuality discussions.

We also found that adolescents never initiated sexuality talk and often were reluctant to engage beyond minimal responses to direct questions. This suggests that physicians must be proactive in addressing sexuality issues with adolescents and cannot assume that adolescents will initiate discussions if topics are sufficiently important. Even when sexuality discussions occurred, less than 3% of the visit's time was devoted to sexuality, and very few visits involved actual interchange between the physician and adolescent. Even within the limited time typically allotted to health maintenance visits, such limited exchange is likely to be inadequate to meet the sexual health care and prevention needs of adolescents. Indeed, simply reading the suggested anticipatory guidance questions regarding sexual health from the American Academy of Pediatrics Bright Futures guidelines takes longer than 35 seconds without even allowing time for answers.[6]

One-third of all adolescents had health maintenance visits without any mention of sexual issues. This low proportion is concerning given that the guidelines of the American Medical Association and American Academy of Pediatrics recommend education and guidance on sexuality and sexual decision making for all adolescents.[5,6] Although adolescents may have access to sexuality information from a variety of sources, receipt of accurate information in a safe and supportive environment suggests that physicians could do more in support of adolescents' healthy sexual development. Even if adolescents are reluctant to engage in sexuality talk, physicians initiating such conversations sends a clear message to adolescents that sexuality is an appropriate and normal discussion topic at health maintenance visits, which may open the door for more extensive and detailed discussions during future visits.

A finding of additional importance is that physicians' sexual discussions were almost twice as likely when patients were girls. This gender difference may reflect physicians' perceptions of greater vulnerability of girls in terms of consequences of pregnancy and sexually transmitted infections. As one physician told his patient, “It is girls who take the hit.” This finding suggests that boys may be less likely to receive the potential benefits of health maintenance visits, especially because these may occur in the context of preparticipation examinations, and may be less likely to receive sexuality counseling, teaching, and screening.[17-19] Boys mention reasons for not talking about sexuality with their health care providers such as feeling uncomfortable, being worried about confidentiality, and avoiding being lectured to by their physician.[20] Thus, most sexual information for boys comes from parents, friends, and the array of contemporary media rather than physicians.[21-24] All of these information sources may have substantial misinformation about health risks relating to sex.[25]

Older adolescents were more likely to include sexuality talk in their health maintenance visits compared with younger adolescents. By waiting until adolescents are older to discuss sexual issues, health care providers miss opportunities to identify adolescents who are contemplating sexual activities. The most recent Youth Risk Behavior Surveillance System survey[26] shows that only 9% of boys and 3% of girls report having had sexual intercourse before age 13 years; however, the percentages increase to 38% and 28%, respectively, by grade 9 (or about age 14 years) and 63% and 63%, respectively, by grade 12. Both the American Academy of Pediatrics and the American Medical Association indicate that early adolescence is the time to start having these important discussions–before adolescents

become sexually active.[5,6] Discussions with early adolescents should include an assessment of sexual intention along with the provision of sexual counseling with sexually active adolescents about ways to reduce sexual risks and developing contingency plans with adolescents who are not interested in engaging in sexual activities.[27,28]

Finally, we found that sexuality discussions were more likely when the overall health maintenance visit was longer and when there was an explicit discussion of confidentiality. Lack of time is often mentioned as a barrier to effective preventive health counseling, suggesting the potential importance of alternative means of information gathering to supplement discussions that may occur.[29] Although confidentiality discussions are recommended as a component of all health care visits with adolescents,[6,30] we found that only 31% of the visits contained confidential conversations. A similar frequency is reported in at least 1 other study.[31] Adolescents are less likely to seek health care and more likely to withhold information about sexuality when explicit confidentiality discussions are omitted.[32,33]

The study has several limitations. First, all adolescents in this study were in the 85th percentile or greater for weight. There is no major reason to expect physicians to speak differently to adolescents about sexuality based on their weight unless they assume that they are less sexually active. This may be true, but when overweight adolescents are sexually active, they engage in more risky sexual behavior than non-obese adolescents.[34] Second, we only recorded health maintenance visits, the time when it is most recommended that physicians have these conversations. Some discussions about sexual issues may occur at other types of visits as well. Third, the presence of an audio recorder may have discouraged discussions of especially sensitive issues such as sexuality. Future research could consider use of masking technologies to verify the results of our study.

Our study also does not examine in detail the content of sex discussions. This more detailed understanding would be useful in guiding physician training for sexual health interviews and for development of practice patterns that could be more supportive of such physician-adolescent interactions. These could support goals of improving adolescents' sexual health and the prevention of sexually transmitted infections and unplanned pregnancy.

Conclusions

One-third of adolescent patients do not receive any talk about sex, sexuality, and/or dating from their physicians during their annual health maintenance visits. When sexuality is discussed, the conversations are brief, lasting an average of 36 seconds.

Adolescents' engagement in these discussions varied. When physicians asked them questions about sex, about half of the teens responded to yes or no questions with limited answers, and only 4% of adolescents had prolonged conversations with their physicians. Adolescent girls, older adolescents, and conversations with an explicit confidential discussion were more than 4 times as likely to have to have any sexuality talk. The findings suggest that physicians are missing opportunities to educate and counsel adolescent patients

on healthy sexual behaviors and prevention of sexually transmitted infections and unplanned pregnancy.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

Acknowledgments

Funding/Support: This work was supported by grant R01HL092403 from the National Heart, Lung, and Blood Institute.

Role of the Sponsor: The funding organization had no role in the design and conduct of the study; collection, management, analysis, and interpretation of the data; preparation, review, or approval of the manuscript; and decision to submit the manuscript for publication.

Additional Contributions: Sidney Graves, BA, and Alexis Irons, BA, assisted with data collection. We thank all the adolescents, parents, and physicians who allowed us to record their annual visits.

References

1. US Preventive Services Task Force. Behavioral counseling to prevent sexually transmitted infections: US Preventive Services Task Force recommendation statement. Ann Intern Med. 2008; 149(7):491–496. W95. [PubMed: 18838729]
2. Lawrence, R.; Gootman, J.; Sim, L., editors. Adolescent Health Services: Missed Opportunities. Washington, DC: National Academies Press; 2008.
3. Committee on Adolescence, American Academy of Pediatrics. Achieving quality health services for adolescents. Pediatrics. 2008; 121(6):1263–1270. [PubMed: 18519499]
4. Farrisi D. Counseling adolescents about sexual health risk and safer sex. HIV Clin. 2012; 24(2):11–12. [PubMed: 22734159]
5. Guidelines for Adolescent Prevention Services (GAPS). Chicago, IL: American Medical Association; 1997. American Medical Association.
6. Hagan, JF.; Shaw, JS.; Duncan, P., editors. Bright Futures: Guidelines for Health Supervision of Infants, Children, and Adolescents. 3rd. Elk Grove Village, IL: American Academy of Pediatrics; 2008.
7. Skelton JR, Matthews PM. Teaching sexual history taking to health care professionals in primary care. Med Educ. 2001; 35(6):603–608. [PubMed: 11380865]
8. Shindel AW, Ando KA, Nelson CJ, Breyer BN, Lue TF, Smith JF. Medical student sexuality: how sexual experience and sexuality training impact US and Canadian medical students' comfort in dealing with patients' sexuality in clinical practice. Acad Med. 2010; 85(8):1321–1330. [PubMed: 20671459]
9. Henry-Reid LM, O'Connor KG, Klein JD, Cooper E, Flynn P, Futterman DC. Current pediatrician practices in identifying high-risk behaviors of adolescents. Pediatrics. 2010; 125(4):e741–e747. [PubMed: 20308220]
10. Marcell AV, Halpern-Felsher BL. Adolescents' beliefs about preferred resources for help vary depending on the health issue. J Adolesc Health. 2007; 41(1):61–68. [PubMed: 17577535]
11. Boekeloo BO, Schamus LA, Cheng TL, Simmens SJ. Young adolescents' comfort with discussion about sexual problems with their physician. Arch Pediatr Adolesc Med. 1996; 150(11):1146–1152. [PubMed: 8904854]
12. Marcell AV, Bell DL, Lindberg LD, Takruri A. Prevalence of sexually transmitted infection/human immunodeficiency virus counseling services received by teen males, 1995-2002. J Adolesc Health. 2010; 46(6):553–559. [PubMed: 20472212]

13. Burstein GR, Lowry R, Klein JD, Santelli JS. Missed opportunities for sexually transmitted diseases, human immunodeficiency virus, and pregnancy prevention services during adolescent health supervision visits. Pediatrics. 2003; 111(5, pt 1):996–1001. [PubMed: 12728079]
14. Bravender T, Tulsky J, Farrell D, et al. Teen CHAT: development and utilization of a web-based intervention to improve physician communication with adolescents about healthy weight. Patient Educ Couns. published online August 23, 2013. 10.1016/j.pec.2013.08.017
15. Jefferson, G. Glossary of transcript symbols with an introduction. In: Lerner, GH., editor. Conversation Analysis: Studies From the First Generation. Philadelphia, PA: John Benjamins; 2004. p. 13-31.
16. Kitts RL. Barriers to optimal care between physicians and lesbian, gay, bisexual, transgender, and questioning adolescent patients. J Homosex. 2010; 57(6):730–747. [PubMed: 20582799]
17. Rand CM, Shone LP, Albertin C, Auinger P, Klein JD, Szilagyi PG. National health care visit patterns of adolescents: implications for delivery of new adolescent vaccines. Arch Pediatr Adolesc Med. 2007; 161(3):252–259. [PubMed: 17339506]
18. Marcell AV, Klein JD, Fischer I, Allan MJ, Kokotailo PK. Male adolescent use of health care services: where are the boys? J Adolesc Health. 2002; 30(1):35–43. [PubMed: 11755799]
19. Division of STD Prevention, National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention, Centers for Disease Control and Prevention. Atlanta, Georgia: Mar 28-29. 2006 Male chlamydia screening consultation. meeting report, May 22, 2007. http://www.cdc.gov/std/chlamydia/chlamydiascreening-males.pdf [Accessed November 27, 2013]
20. Rubin SE, McKee MD, Campos G, O'Sullivan LF. Delivery of confidential care to adolescent males. J Am Board Fam Med. 2010; 23(6):728–735. [PubMed: 21057068]
21. O'Keeffe GS, Clarke-Pearson K. Council on Communications and Media. The impact of social media on children, adolescents, and families. Pediatrics. 2011; 127(4):800–804. [PubMed: 21444588]
22. Peter J, Valkenburg PM. The use of sexually explicit Internet material and its antecedents: a longitudinal comparison of adolescents and adults. Arch Sex Behav. 2011; 40(5):1015–1025. [PubMed: 20623250]
23. Gray NJ, Klein JD, Noyce PR, Sesselberg TS, Cantrill JA. Health information-seeking behaviour in adolescence: the place of the Internet. Soc Sci Med. 2005; 60(7):1467–1478. [PubMed: 15652680]
24. Harvey KJ, Brown B, Crawford P, Macfarlane A, McPherson A. “Am I normal?”: teenagers, sexual health and the Internet. Soc Sci Med. 2007; 65(4):771–781. [PubMed: 17499898]
25. Sulak PJ, Herbelin S, Kuehl AL, Kuehl TJ. Analysis of knowledge and attitudes of adult groups before and after attending an educational presentation regarding adolescent sexual activity. Am J Obstet Gynecol. 2005; 193(6):1945–1954. [PubMed: 16325595]
26. Centers for Disease Control and Prevention. [Accessed November 27, 2013] Youth Risk Behavior Surveillance: United States, 2011. http://www.cdc.gov/mmwr/pdf/ss/ss6104.pdf
27. Pillai AS, Sprockel PT, Barthmare SC. Tips for talking to teens about STDs. J Fam Pract. 2009; 58(2):76–81. [PubMed: 19203490]
28. Rietmeijer CA. Risk reduction counselling for prevention of sexually transmitted infections: how it works and how to make it work. Sex Transm Infect. 2007; 83(1):2–9. [PubMed: 17283359]
29. Perkins MB, Jensen PS, Jaccard J, et al. Applying theory-driven approaches to understanding and modifying clinicians' behavior: what do we know? Psychiatr Serv. 2007; 58(3):342–348. [PubMed: 17325107]
30. Ford C, English A, Sigman G. Confidential health care for adolescents: position paper for the Society for Adolescent Medicine. J Adolesc Health. 2004; 35(2):160–167. [PubMed: 15298005]
31. Ford CA. Which adolescents have opportunities to talk to doctors alone? J Adolesc Health. 2010; 46(4):307–308. [PubMed: 20307818]
32. Klein JD, Wilson KM, McNulty M, Kapphahn C, Collins KS. Access to medical care for adolescents: results from the 1997 Commonwealth Fund Survey of the Health of Adolescent Girls. J Adolesc Health. 1999; 25(2):120–130. [PubMed: 10447039]

33. Lehrer JA, Pantell R, Tebb K, Shafer MA. Forgone health care among US adolescents: associations between risk characteristics and confidentiality concern. J Adolesc Health. 2007; 40(3):218–226. [PubMed: 17321421]

34. Averett S, Corman H, Reichman NE. Effects of overweight on risky sexual behavior of adolescent girls. Econ Inq. 2013; 51(1):605–619.10.1111/j.1465-7295.2011.00396.x

Table 1

Participant Characteristics

Variable	Value
Adolescents (n = 253)	
Age, mean (SD), y	14.3 (1.7)
Female, %	53
BMI, mean (SD)	29.8 (6.1)
BMI percentile, mean (SD)	94.5 (4.1)
Race, %	
White	40
African American	47
Asian American	1
Multiracial	8
Other	2
Not reported	1
Parents' education, mean (SD), y	
Father	13.1 (2.3)
Mother	14.1 (1.9)
Physicians (n = 49)	
Age, mean (SD), y	40.9 (8.5)
Female, %	65
Pediatrician, %	82
Race, %	
White	84
African American	10
Asian American	6
Time since medical school, mean (SD), y	11.8 (8.7)

Abbreviation: BMI, body mass index (calculated as weight in kilograms divided by height in meters squared).

Table 2

Characteristics of Visits

Variable	Frequency (%)
Sex content	164 (65)
Confidentiality	78 (31)
Adolescent alone at least some time in session	137 (54)
Duration of sexuality talk, s	
0	89 (35)
1-35	76 (30)
≥36	88 (35)
Level of adolescent participation[a]	
0	91 (35)
1	6 (2)
2	5 (2)
3	43 (17)
4	88 (35)
5	9 (4)
6	10 (4)
Total visit time, mean (SD), min	22.4 (9.3)
Duration of sexuality talk, mean (SD), min	0.6 (1.0)

[a]Levels of adolescent participation are as follows: 0 indicates no sexuality talk; 1, physician speaks but does not try to involve the adolescent; 2, physician speaks but adolescent never responds verbally; 3, physician asks questions and the adolescent only responds with yes or no; 4, adolescent responds to questions beyond yes or no; 5, adolescent offers a disclosure at least once during interaction but it does not result in a conversation; and 6, adolescent engages in a conversation at least for part of it–maybe not throughout.

Table 3

Level of Adolescent Participation

Level of Adolescent Participation[a]	Visits, No. (%)	Mean (SD)			
		Time, s	Physician Statements, No.	Adolescent Statements, No.	Physician to Adolescent Statements, Ratio
0	91 (35)	0	0	0	NA[b]
1	6 (2)	18.8 (17.7)	5.5 (4.7)	0	NA[b]
2	5 (2)	26.8 (29.5)	4.8 (5.4)	0	NA[b]
3	43 (17)	31.6 (41.4)	6.5 (6.8)	2.2 (1.6)	2.95
4	88 (35)	68.0 (59.9)	14.6 (11.8)	7.0 (4.8)	2.10
5	9 (4)	103.9 (107.4)	17.2 (11.1)	9.0 (5.4)	1.90
6	10 (4)	113.6 (75.6)	26.4 (14.6)	19.6 (7.2)	1.35

Abbreviation: NA, not applicable.

[a] Levels of adolescent participation are as follows: 0 indicates no sexuality talk; 1, physician speaks but does not try to involve the adolescent; 2, physician speaks but adolescent never responds verbally; 3, physician asks questions and the adolescent only responds with yes or no; 4, adolescent responds to questions beyond yes or no; 5, adolescent offers a disclosure at least once during interaction but it does not result in a conversation; and 6, adolescent engages in a conversation at least for part of it–maybe not throughout.

[b] Undefined, division by 0.

Table 4

Logistic Regression for Predictors of Time Talking About Sexual Issues[a]

	Modeling, OR (95% CI)		
Predictor	**Rank Order[b] (n = 253)**	**0 vs 1, 2[c] (n = 253)**	**0, 1 vs 2[c] (n = 253)**
African American adolescent	1.58 (1.01-2.48)	1.4 (0.83-2.38)	1.91 (1.06-3.44)
African American physician	1.93 (0.72-5.20)	2.4 (0.67-8.60)	1.42 (0.38-5.31)
Asian physician	0.13 (0.08-0.20)	0.13 (0.07-0.24)	0.12 (0.03-0.50)
Female adolescent	2.58 (1.53-4.36)	2.45 (1.30-4.62)	2.72 (1.44-5.14)
Adolescent age	1.37 (1.13-1.65)	1.49 (1.18-1.89)	1.21 (1.00-1.47)
Confidentiality	4.33 (2.58-7.28)	4.27 (2.24-8.13)	4.03 (2.18-7.45)
Total visit time, min	1.07 (1.03-1.11)	1.08 (1.03-1.12)	1.06 (1.01-1.11)

Abbreviation: OR, odds ratio.

[a] Adjusted for clustering of adolescent patients within physicians. Adolescent alone in room was not used in the model because of the empty cell.

[b] Proportional odds assumption upheld.

[c] Time spent talking about sex is coded as the following: 0 indicates 0 seconds; 1, 1 to 35 seconds; and 2, 36 seconds or longer.

Table 5

Logistic Regression for Predictors of Adolescent Participation in Conversation About Sexual Issues

Predictor	Modeling, Rank Order, OR (95% CI)[a] (n = 253)
African American adolescent	1.08 (0.66-1.77)
African American physician	1.75 (0.51-6.04)
Asian physician	0.32 (0.16-0.63)
Female adolescent	2.54 (1.32-4.90)
Adolescent age	1.31 (1.09-1.58)
Confidentiality	2.51 (1.34-4.72)
Total visit time, min	1.04 (1.00-1.08)

Abbreviation: OR, odds ratio.

[a] Proportional odds assumption upheld.