Identifying types of sex conversations in adolescent health maintenance visits

Article *in* Sexual Health · September 2015

DOI: 10.1071/SH15080

CITATIONS
12

READS
209

7 authors, including:

Stewart C Chang Alexander
Purdue University West Lafayette
96 PUBLICATIONS **5,163** CITATIONS
SEE PROFILE

Kathryn I Pollak
Duke University Medical Center
202 PUBLICATIONS **8,302** CITATIONS
SEE PROFILE

Truls Østbye
Duke University Medical Center
528 PUBLICATIONS **24,280** CITATIONS
SEE PROFILE

Cleveland G Shields
Purdue University West Lafayette
128 PUBLICATIONS **6,502** CITATIONS
SEE PROFILE

Rapid #: -9749596

CROSS REF ID: **1288847**

LENDER: **UBY :: EJournals**

BORROWER: **IPL :: Main Library**

TYPE:	Article CC:CCG
JOURNAL TITLE:	Sexual Health
USER JOURNAL TITLE:	Sexual Health
ARTICLE TITLE:	Identifying types of sex conversations in adolescent health maintenance visits
ARTICLE AUTHOR:	Alexander SC
VOLUME:	
ISSUE:	
MONTH:	
YEAR:	2015
PAGES:	-
ISSN:	1448-5028
OCLC #:	

Processed by RapidX: 10/7/2015 12:37:51 PM

CSIRO PUBLISHING
Sexual Health
http://dx.doi.org/10.1071/SH15080

Identifying types of sex conversations in adolescent health maintenance visits

Stewart C. Alexander[A,G], *Sharon L. Christ*[B], *J. Dennis Fortenberry*[C], *Kathryn I. Pollak*[D,E], *Truls Østbye*[D,E], *Terrill Bravender*[F] *and Cleveland G. Shields*[B]

[A]Department of Consumer Science, Purdue University, 812 W. State Street, West Lafayette, IN 47907, USA.
[B]Department of Human Development and Family Studies, Purdue University, 1202 W. State Street, West Lafayette, IN 47907, USA.
[C]Department of Pediatrics, Indiana University School of Medicine, 410 W. 10th Street, Suite 1001, Indianapolis, IN 46202, USA.
[D]Cancer Prevention, Detection and Control Research Program, Duke University Medical Center, Duke University Medical Center, Durham, NC 27710, USA.
[E]Department of Community and Family Medicine, Duke University Medical Center, Durham, NC 27710, USA.
[F]Division of Pediatrics and Communicable Diseases, University of Michigan, 1540 E. Medical Drive, Ann Arbor MI 48109, USA.
[G]Corresponding author. Email: alexan90@purdue.edu

Abstract. ***Background*:** Physician–adolescent sexuality discussions are a recommended element in health maintenance visits, but such discussions – if they occur at all – probably vary by adolescents' characteristics and situations, and physicians' personal beliefs and training. However, little is known about the form and content of physician–adolescent sexuality discussions during health maintenance visits. ***Methods*:** We evaluated 245 physician–adolescent sexuality conversations. Using latent class analysis, we identified conversation types based on 13 sexually related topics, which occurred in at least 10% of all conversations. ***Results*:** We found four discrete types of sexuality conversations, which differed in terms of emphasis, topics addressed as part of the sexual history and risk assessment, and topics addressed in anticipatory guidance. Inquiry about partnered sexual experience was typical across all conversation types, as well as over half including discussions about body development and protective behaviours. In all four types of conversation, sexuality discussions were typically embedded in a sequence of psychosocial and behavioural topics recommended for health maintenance visits. ***Conclusions*:** The presence of sexuality conversations in the majority of these visits suggests that physicians consider sexuality to be an important issue and part of their responsibility in caring for their adolescent patients. However, the substantial variability in the types of sexuality conversations, particularly the notable omissions of many key topics, supports the importance of teaching sexual health interview skills in medical school and residency, and as part of continuing medical education and quality improvement.

Additional keywords: patient–provider communication, sexual behaviour, sexuality.

Received 25 April 2015, accepted 23 July 2015, published online 15 September 2015

Introduction

Physician–adolescent sexuality discussions are recommended elements of regular adolescent health care, but the optimal content and details of these conversations are not well defined. Boekeloo proposed that physician–adolescent sexuality discussions should ideally address nine sexual topics (development, orientation, identity, genital intercourse behaviours, extragenital intercourse behaviours, protective behaviours, communication with partners, healthy *vs.* unhealthy relationships and abuse) in the context of six elements of patient education (sexual history, risk assessment, education, anticipatory guidance, reinforcement and referral).[1]

In practice, 65–86% of paediatricians report always discussing sexual activity at preventive care visits, ~60% routinely assess protection or sexually transmissible infections, and most never discuss sexual identity.[2,3] Previously, we showed that only ~60% of health maintenance visits include sexuality discussions of any kind, and that these are usually physician-driven and seldom use inclusive language.[2,4] Studies of the content of sexuality discussions during health maintenance visits largely rely on retrospective reports of usual sexuality discussion content.[3,5–7] Thus, curricular and training interventions to improve the form, emphasis and content of sexuality discussions are hampered by an imprecise understanding of what actually is said in physician–adolescent sexuality discussions. The purpose of the present study is to identify variations in physicians' approaches to sexuality discussions during adolescent health maintenance visits.

These data could inform curricula and training – during medical school or residency, or as part of continuing medical education – to help physicians improve sexuality discussions with adolescent patients.

Subjects and methods

Overview

We analysed 245 physician–adolescent sexuality conversations audio-recorded during health maintenance visits. We extracted the 245 from a sample of 369 recordings, 124 of which recordings had no sexuality content. In addition to the audio recordings, physicians and adolescents provided demographic information in baseline surveys. We used latent class analysis (LCA) to group conversations with shared characteristics into conversation types.

Human subjects

Physicians and 18-year-old adolescents provided written informed consent, with written assent from adolescents aged 12–17 years and written consent from their parents. Physicians, adolescents and parents specifically consented to have visits audio-recorded and analysed. The study was approved by the Duke University School of Medicine Institutional Review Board and given exempt status by the Purdue University Institutional Review Board.

Study sample and procedure

The conversations analysed for this study came from the Teen CHAT (Communicating Health, Analysing Talk) study, an intervention training physicians how to counsel overweight and obese adolescents about weight loss (details provided elsewhere).[8] Overweight and obese adolescents engage in risky sexual behaviours at higher rates than adolescents with a normal weight.[9] They are more likely to use alcohol and drugs before sex, and less likely to use contraception; additionally, obese White girls are more likely to have multiple sex partners and older partners than non-White girls.[10] Boys and girls who identify as bisexual are at increased risk for obesity.[11] This makes our sample of obese adolescents especially relevant for a study of sexuality communication. In this analysis, we included only health maintenance audio recordings of visits that occurred between November 2009 and February 2012. We used health maintenance visits because health maintenance visits are when physicians are suppose to discuss issues of sexuality.

All physicians from 11 clinics in the Raleigh–Durham, North Carolina area (three academic and eight community-based practices) were eligible if they saw adolescent patients and were unlikely to move away during the study period. Clinics were chosen to represent general multi-physician practices in order to obtain as diverse a sample of physicians as possible. Eligible adolescents were identified through a medical record review. Adolescents were eligible if they were English-speaking, between 12–18 years old, had a body mass index in the $\geq$85th percentile for age and gender, and not pregnant. Potential adolescents were contacted by phone to obtain verbal permission (parent and adolescents who were 18 years old) and assent (adolescents under 18 years) to determine eligibility. At the clinic visit, adolescents and their parents provided written assent and permission. All types of visits were included in the main study.

Measures

Recorded visits

Audio recordings were reviewed for any content addressing sexual behaviour, dating, sexual identity and sexuality. Sexuality discussions were transcribed verbatim.[12]

Demographics

The following physician demographic information was collected at baseline: age, race, gender, speciality (paediatrician or family medicine), and years since graduation from medical school. Adolescent self-reported age, race and gender were also collected.

Coding

Transcripts of the sexuality talk were coded by two trained coders, using 23 sexuality topics that might be addressed during a health maintenance visit (see Table 1). These topics included Boekeloo's nine sexual topics (development, orientation, identity, genital intercourse behaviours, extragenital intercourse behaviours, protective behaviours, communication with partners, healthy *vs.* unhealthy relationships and abuse) as well as general sexuality questions and topics (abstinence, asking if the adolescent had any questions or concerns, asking about any previous sexual discussion with parents, assessing thoughts about sex, avoiding sexual situations, dating, encouraging follow-through on behavioural plans, encouraging future questions, friends' sexual behaviour, HIV, pregnancy, previous sexual partners, STIs and testing).[6,13–20] Because the sexuality talk was often brief, both coders coded 100% of identified sexuality talk. Coding disagreements ($n = 3$) were resolved by the coders and the first author.

Analysis

We decided *a priori* to include sexuality codes in the LCA only if that code was present in at least 10% of the discussions. LCA is a clustering method that groups cases (in our case, conversations) into classes that exhibit similar response patterns across multiple categorical variables (in our case, sexual topics).[21] Because it is exploratory in nature, substantive meaning should be used along with statistical model fit indices to determine which number of classes best fits the data. We used the Akaike Information Criteria and adjusted Bayesian Information Criteria statistical indices and entropy, which summarises the ability of the model to classify conversations into a given number of distinct classes. Models with lower Akaike Information Criteria and adjusted Bayesian Information Criteria, and higher entropy have better fit.

Patterns of features for each conversation type

Six separate LCA models (with two to six classes) were fitted with 13 sexual codes that were present in at least 10% of discussions. A six-class model failed to converge and was

Table 1. Frequency of communication topics
STIs, sexually transmissible infections

Code	Definition	% Discussions ($n = 245$)
1. Genital intercourse behaviours	Asks if the adolescent is having (or has ever had) genital intercourse	74[A]
2. Development	Asks or talks about physical or mental development, or both	55[A]
3. Protection behaviours	Stresses to adolescents that if they engage in sexual activity, they should incorporate methods for preventing pregnancy and STIs	54[A]
4. Dating	Asks about dating	31[A]
5. STIs	Talks about STIs	24[A]
6. Avoiding situations	Encourages adolescents to learn ways to say no to unwanted sexual intercourse or how to avoid situations that may increase pressure to engage in sexual intercourse (e.g. drugs and alcohol use, or attending unsupervised parties)	18[A]
7. Questions and concerns	Encourages adolescents to ask questions or discuss any concerns they have about sex	17[A]
8. Friends	Asks if any of the adolescent's friends have begun to have sex	16[A]
9. Future questions	Invites the adolescent to ask questions about sex in the future	16[A]
10. Abstinence	Emphasises that the safest way to prevent pregnancy and STIs, including HIV/AIDS, is to not have sexual intercourse	13[A]
11. Extragenital intercourse behaviours	Talks about arousal or pleasure outside the genital area	12[A]
12. Parent talk	Asks about sexuality discussions with parent or guardian	10[A]
13. Pregnancy	Emphasises the risks of pregnancy when having unprotected sex	10[A]
Testing	Stresses to adolescents that if they engage in sexual activity, they should have an examination to test for STIs	9
Sexual communication with partners	Asks about sexuality discussions with current or former partners about sex	9
How many partners	Asks about number of partners	7
Assess thoughts	Asks about feelings towards sex and about choice of specific behaviours	6
HIV	Describes HIV transmission and HIV risk reduction	5
Healthy and unhealthy relationships	Talks about healthy and unhealthy relationships with the adolescent	5
Abuse	Assesses history of sexual coercion (abuse)	5
Sexual orientation	Discusses issues related to sexual orientation and attraction to same-sex partners	3
Follow-through	Counsels about commitment to decisions regarding sexual behaviour	1
Gender identity	Discusses issues related to gender identity	0

[A]Denotes behaviours included in the latent class analysis.

omitted. The LCA results provide the estimated proportion of discussions in each class. In addition, the probabilities of each of the 13 sexual topics conditioned on class membership are provided. These conditional probabilities describe how the classes are distinct in terms of discussion features.

Results

The characteristics of adolescents ($n = 245$), physicians ($n = 42$; 6 family and 36 paediatric) and physician–adolescent sexuality discussions are summarised in Table 2. Eight physicians contributed only one discussion but others contributed up to 10. Most physicians contributing more than one discussion (23/34; 68%) were part of two or more discussion classes. The LCA results provide the estimated proportion of discussions in each class. In addition, the probabilities of each of the 13 sexual topics conditioned on class membership are provided. These conditional probabilities describe how the classes are distinct in terms of discussion features. Both a four-class model and five-class model fitted the data equally well according to statistical indices; however, the four-class solution is more parsimonious and therefore it was chosen. The four-class model had an entropy score of 0.79, which indicated that most conversations could be placed within one and only one class. We display the distributions of the 13 sexual codes for each of the four types of sexual conversations in Fig. 1.

Classes of sexuality discussions

Conversation type 1 (Class 1)

The first type of sexuality discussion (40%; 99 adolescents and 37 physicians) was characterised by a focus on sexual knowledge and discussing protection (see Table S1, available as Supplemental Material to this paper, for examples). This class of discussions often happened between a discussion of substance use and an assessment of depression and mood. These discussions were characterised by questions about previous sexual experience (52 adolescents were sexually inexperienced; 31 reported sexual experience; 16 did not disclose). Most of these conversations had physicians mentioning the use of protection (82%) and some of these conversations explicitly talked about using protection to avoid STIs (23%). In most cases when protection was discussed, it was either to assess whether sexually active teens were using condoms or to remind teens that if they become sexually active, they should use condoms. With females, physicians sometimes mentioned or discussed using birth control (to get a sexually active teen on birth control or to assess whether the sexually active teen was using her birth control correctly); however, this was not always the case. In many instances involving sexually non-active girls, the physician did not bring up the topic about birth control. In conversations without any discussion or mention of protection, these conversations were typically with non-sexually active teens and the length of the discussion was extremely brief. For

Table 2. Demographics and descriptive statistics of classes

Variables	Adolescents $n = 245$ Mean (s.d.)	Physicians $n = 42$ Mean (s.d.)	Visits $n = 245$ Mean (s.d.)
Age	14.6 (1.6)	39.0 (7.4)	–
Race			–
White	35%	90%	–
Black	52%	6%	–
Other	13%	4%	–
Gender (% female)	65%	67%	–
Years since medical school	–	10.0 (8.1)	–
Range of conversations by physician	–	1–10	–
Physicians with only one recording	–	19% (8/42)	–
Physicians with more than one conversation with more than one conversation type	–	68% (23/34)	–
Visit length (minutes)	–	–	25.7 (9.2)
Length of sexuality discussion	–	–	1.5 (1.3)
			% (*n*)
Gender concordant	–	–	65 (124)

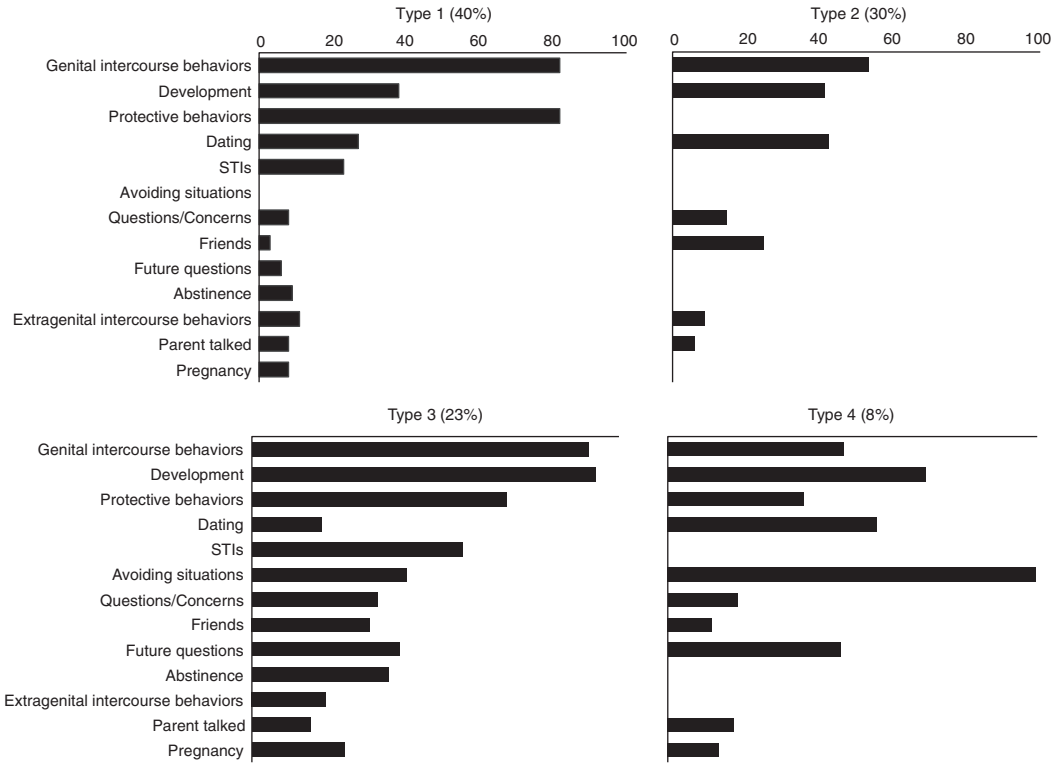

Fig. 1. Model results, showing the topics covered in each type of conversation. STI, sexually transmissible infections.

the non-protection discussions, the physician often asked about sex and dating, as well as talked about abstinence as the only way to avoid STIs.

Other less common features of Type 1 conversations included puberty and body development (38%), dating (23%), abstinence (9%), the risks of pregnancy (8%) and extragenital behaviours (11%). In Type 1 conversations, physicians rarely asked about adolescents' friends' sexual activity (3%) or whether the adolescent had talked to his or her parents about sex (8%). Additionally, physicians rarely elicited question or concerns (8%), or offered to answer any future questions the adolescent might have (6%).

Conversation type 2 (Class 3)

The second most common type occurred in 30% of sexuality discussions (74 adolescents and 35 physicians). Type 2 discussions were minimal in length and content (with the

exception of a few discussions that occurred during a physical exam) (see Table S2 for examples). Sexuality talk of this type, in most cases, consisted of simple questions and answers such as 'Are you having sex?' (54%) or 'Are you dating anyone?' (43%), or question(s) about puberty and body development (42%). Almost half of the sexual topics we measured never occurred in Type 2 discussions (protective behaviours, abstinence, STIs, pregnancy, eliciting questions or concerns, and future questions). Type 2 sexuality talk typically occurred after questions about substance or alcohol use, and preceded questions about medications or depression screenings. Most of the adolescents reported they were not sexually experienced (44 not sexually experienced; 5 sexually experienced; 25 did not disclose). Type 2 discussions included the physician asking about friends' sexual activity (25%), asking the adolescent if he or she had any questions or concerns about sex (15%), and, to a lesser extent, if they have talked with their parents about sex (8%).

Conversation type 3 (Class 4)

Twenty-one percent of discussions (52 adolescents and 30 physicians) fitted into Type 3 conversations. In these conversations, there was almost always talk about puberty (93%) and genital intercourse behaviour (91%). In fact, most discussions started with questions about these two topics, along with questions about their friends' sexual behaviours (32%) and questions about dating (9%). Conversations in this category occurred between questions about alcohol or drug use, and either depression screenings or a physical exam.

There was a significant focus on protective behaviours in these Type 3 conversations (69%), where physicians either asked the adolescent about his or her knowledge of using protection or reminded the adolescent that condoms were needed for genital sexual intercourse (See Table S3 for examples). In half of the conversations, physicians emphasised the negative consequences of sex, often with graphic descriptions of STIs (57%). Physicians also mentioned abstinence (37%) and pregnancy (25%) when discussing sex with the adolescents in this conversation group.

Most adolescents in this group reported they were not sexually experienced (41 not sexually experienced; 5 sexually experienced; 6 did not disclose). In about one-third of the conversations, physician asked if the adolescent had any questions or concerns (34%) (the highest percentage of conversations in the four conversation types). The physician also told the adolescent that if he or she had questions in the future, the physician could answer those questions (40%). Additionally, there was also an emphasis on ways to avoid unwanted situations or discussing reasons why it is useful for the adolescent to postpone sexual activity (42%). Finally, there was also talk about extragenital sexual behaviours (20%), often asking about oral sex or frottage.

Conversation type 4 (Class 2)

Eight percent of the conversations (20 adolescents and 16 physicians) clustered into a discussion type characterised by adolescents without sexual experience (17 not sexually experienced; 3 did not disclose; 0 sexually experienced) (see Table S4). In all Type 4 discussions, physicians focussed on ways to avoid situations that could increase pressure to engage in sexual intercourse, such as drug and alcohol use, or attending unsupervised parties. Type 4 discussions included talk about development and puberty (70%), dating (57%), genital sexual behaviour (48%) and protective behaviours (37%). Physicians sometimes offered to answer any future questions about sex (47%) but rarely asked the adolescent if he or she had any questions or concerns (19%). Type 4 discussions also contained questions about whether the teen had talked to their parents about sex (18%), asking if their friends were sexually active (12%) and mentions of pregnancy (14%). Finally, similar to Type 3 conversations, Type 4 conversations occurred between questions about substance use and either depression screenings or a physical exam.

Discussion

Using LCA, we identified four classes of sexuality conversations that differed in terms of emphasis, topics addressed as part of the sexual history and risk assessment, and topics addressed in anticipatory guidance. Inquiry about partnered sexual experience was typical across all conversation types. Approximately half of the discussions contained discussions about development and protective behaviours. However, many of the other sexuality topics we measured happened infrequently. Physicians contributed to more than one conversation class. Finally, discussions of sexuality were often embedded in a sequence of psychosocial and risk behavioural topics.

We found that physicians seldom use a comprehensive approach to sexuality, and several relevant issues were never or infrequently addressed. For example, the number of sexual partners is an important aspect of STI risk assessment but was seldom addressed even when adolescents reported partnered sexual experience. Assessment of prevention behaviours such as condom or contraceptive use also was not routine, and was most often omitted in conversations characterised by emphasis on the risks of sex and on postponing sexual activity. There was also little or no conversation about sexual orientation, sexual or gender identity, and healthy and safe relationships. Some have argued that it is more important with adolescents to focus on their sexual behaviour rather than orientation or identity because these issues may be unsettled.[22,23] However, a discussion of healthy and safe relationships is relevant for adolescents, given the prevalence of emotional and physical abuse among young people.[24]

We found that many physicians contributed to more than one conversation class, implying that physicians modify their approach for a given adolescent. This suggests that sexuality conversations are not simply fixed characteristics of a given physician's 'style'. This type of conversational tailoring is potentially advantageous, as it is more responsive to a specific patient's developmental capacity and current needs. A disadvantage of this approach is the possibility that stereotypes are used to guide discussions that miss the patient's needs. This implies that physicians' skills training around sexuality discussions should address stereotypes, as well as the ways in which the content of sexuality discussions could be modified to match the developmental and behavioural needs of each patient. Additional research is needed to address the differential association of conversations

types with acceptance and satisfaction by adolescent patients, and the relative efficacy of different conversation types for the provision of effective counselling.

Our findings show that sexuality conversations are typically embedded in a sequence of psychosocial and behavioural topics recommended for adolescent health maintenance visits.[25] When sexuality conversations occur during a health maintenance visit, these conversations are embedded within a larger group of other preventive health topics. Although this is a widely taught approach – often using a variety of mnemonic acronyms – grouping sexual health inquiries with assessments of other 'risk' behaviours may problematise sexuality and complicate physicians' ability to frame sexuality as a normal developmental experience.

Limitations

First, adolescents in this study were all either overweight or obese because of the design of the larger study from which the data were obtained. The potential influence of adolescent weight on sexuality conversations is difficult to predict, since none of the recommendations for addressing sexuality issues in health maintenance care are conditional on body weight. However, it is plausible that a focus on weight management during a health maintenance visit exhausts the available time and allows relatively less attention for other issues. It is also possible that physicians may have thought that overweight adolescents were less likely to engage in risky sexual behaviour, even though the opposite is true.[10] Second, although we intentionally collected data from both academically affiliated and community affiliated clinics in rural, suburban and urban settings, it is possible that local and regional medical practice standards influence the style and content of health maintenance visits in ways that differ by locale. Third, the sample size did not allow us to develop multivariable predictor models. Fourth, both physicians and adolescents were aware they were being audio-recorded. There is little evidence suggesting that awareness of audio-recording influences the style or content of physician–patient interactions. Moreover, the direction of potential influences is unclear: awareness of audio-recording could stimulate more adherence to a perceived standard for health maintenance interviews; conversely, it could inhibit sexuality conversations because of the topic's general sensitivity.[26]

Conclusion

The presence of sexuality conversations in the majority of these visits suggests that physicians consider sexuality to be an important issue and part of their responsibility in caring for their adolescent patients. However, the substantial variability in the types of sexuality conversations, particularly the notable omissions of many key topics as discussed above, supports the importance of teaching sexual health interview skills in medical school and residency, and as part of continuing medical education and quality improvement. Studies of the influence of physicians' sexuality conversation style on outcomes such as adolescent visit satisfaction or behaviours such as condom use would also inform the focus of such educational efforts.

Conflict of interest

None declared.

References

1 Boekeloo BO. Will you ask? Will they tell you? Are you ready to hear and respond?: barriers to physician–adolescent discussion about sexuality. *J Am Med Assoc Pediatr* 2014; 168: 111–3.

2 Alexander SC, Fortenberry JD, Pollak KI, Bravender T, Davis JK, Østbye T, Tulsky JA, Dolor RJ, Shields CG. Sexuality talk during adolescent health maintenance visits. *J Am Med Assoc Pediatr* 2014; 168: 163–9.

3 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: e741–7. doi:10.1542/peds.2009-0271

4 Alexander SC, Fortenberry JD, Pollak KI, Bravender T, Ostbye T, Shields CG. Physicians use of inclusive sexual orientation language during teenage annual visits. *LGBT Health* 2014; 1: 283–91.

5 Kelts EA, Allan MJ, Klein JD. Where are we on teen sex?: Delivery of reproductive health services to adolescents by family physicians. *Fam Med* 2001; 33: 376–81.

6 Schuster MA, Bell RM, Petersen LP, Kanouse DE. Communication between adolescents and physicians about sexual behavior and risk prevention. *Arch Pediatr Adolesc Med* 1996; 150: 906–13. doi:10.1001/archpedi.1996.02170340020004

7 Reznik Y, Tebb K. Where do teens go to get the 411 on sexual health? A teen intern in clinical research with teens. *Perm J* 2008; 12: 47–51.

8 Bravender T, Tulsky J, Farrell D, Alexander SC, Østbye T, Lyna P, Dolor RJ, Coffman CJ, Bilheimer A, Lin PH, Pollak KI. Teen CHAT: development and utilization of a web-based intervention to improve physician communication with adolescents about healthy weight. *Patient Educ Couns* 2013; 93: 525–31. doi:10.1016/j.pec.2013.08.017

9 Ratcliff MB, Jenkins TM, Reiter-Purtill J, Noll JG, Zeller MH. Risk-taking behaviors of adolescents with extreme obesity: normative or not? *Pediatrics* 2011; 127: 827–34. doi:10.1542/peds.2010-2742

10 Leech T, Dias J. Risky sexual behavior: a race-specific social consequence of obesity. *J Youth Adolesc* 2012; 41: 41–52. doi:10.1007/s10964-011-9670-6

11 Austin SB, Nelson LA, Birkett MA, Calzo JP, Everett B. Eating disorder symptoms and obesity at the intersections of gender, ethnicity, and sexual orientation in US high school students. *Am J Public Health* 2013; 103: e16–22. doi:10.2105/AJPH.2012.301150

12 Jefferson G. Glossary of transcript symbols with an introduction. In Lerner GH, editor. Conversation Analysis: studies from the first generation. Philadelphia: John Benjamins; 2004. pp. 13–31.

13 Macdowall W, Parker R, Nanchahal K, Ford C, Lowbury R, Robinson A, Sherrard J, Martins H, Fasey N, Wellings K. 'Talking of sex': developing and piloting a sexual health communication tool for use in primary care. *Patient Educ Couns* 2010; 81: 332–7. doi:10.1016/j.pec.2010.10.027

14 Hagan J, Shaw J, Duncan P, editors. Bright futures: guidelines for health supervision of infants, children, and adolescents, 3rd edn. Elk Grove Village, IL: American Academy of Pediatrics; 2008.

15 Wimberly Y, Hogben M, Moore-Ruffin J, Moore S, Fry-Johnson Y. Sexual history-taking among primary care physicians. *J Natl Med Assoc* 2006; 98: 1924–9.

16 Goldenring J, Rosen D. Getting into adolescent heads: an essential update. *Contemp Pediatr* 2004; 21: 64–92.

17 Levine DA. Committee On Adolescents. Office-based care for lesbian, gay, bisexual, transgender, and questioning youth. *Pediatrics* 2013; 132: e297–313. doi:10.1542/peds.2013-1283

18 Frost JJ, Lindberg LD, Finer LB. Young adults' contraceptive knowledge, norms and attitudes: associations with risk of unintended

pregnancy. *Perspect Sex Reprod Health* 2012; 44: 107–16. doi:10.1363/4410712

19 Knapp CA, Quinn GP, Rapalo D, Woodworth L. Patient provider communication and reproductive health. *Adv Exp Med Biol* 2012; 732: 175–85. doi:10.1007/978-94-007-2492-1_14

20 Zehetner A. Paediatricians should do more to address male adolescent sexual health. *J Paediatr Child Health* 2015; 51: 255–8.

21 Hagenaars JA, McCutcheon AL, editors. Applied latent class analysis. Cambridge, UK: Cambridge University Press; 2002.

22 Striepe MI, Tolman DL. Mom, Dad, I'm straight: the coming out of gender ideologies in adolescent sexual-identity development. *J Clin Child Adolesc Psychol* 2003; 32: 523–30. doi:10.1207/S15374424JCCP3204_4

23 Diamond LM. New paradigms for research on heterosexual and sexual-minority development. *J Clin Child Adolesc Psychol* 2003; 32: 490–8. doi:10.1207/S15374424JCCP3204_1

24 Glass N, Fredland N, Campbell J, Yonas M, Sharps P, Kub J. Adolescent dating violence: prevalence, risk factors, health outcomes, and implications for clinical practice. *J Obstet Gynecol Neonatal Nurs* 2003; 32: 227–38. doi:10.1177/0884217503252033

25 Rosen D, Neinstein L. Preventive health care for adolescents. In Neinstein L, Gordon C, Katzman D, Rosen D, Woods E, editors. Adolescent health care: a practical guide. Philadelphia, PA: Wolters Kluwer; 2008.

26 Themessl-Huber M, Humphris G, Dowell J, Macgillivray S, Rushmer R, Williams B. Audio-visual recording of patient–GP consultations for research purposes: a literature review on recruiting rates and strategies. *Patient Educ Couns* 2008; 71: 157–68. doi:10.1016/j.pec.2008.01.015