

Original Research Article in *Journal of Adolescent Research*

Author Version

Teens Reflect on Their Sources of Contraceptive Information

Rachel Jones¹, Ann Biddlecom², Luciana Hebert³ and Ruth Milne⁴

doi:10.1177/0743558411400908

Abstract is available from [Journal of Adolescent Research](#).

Abstract

Based on semi-structured interviews with a racially and ethnically diverse sample of 58 U.S. high school students, this study examines teens' exposure to contraceptive information from a range of sources and the extent to which they trust this information. Teens reported exposure to contraceptive information from many individuals and places, most commonly school, family and friends. Few teens relied on the internet for contraceptive information, and most were wary of this source. We identified two themes that characterized teens' discussions: Wariness about hormonal methods and the compatibility of contraception and abstinence messages. The findings suggest ways that schools, a common and trusted source of sexual health information for teens, could better improve students' access to accurate contraceptive information.

Keywords

sexuality, family relationships, education/school, romantic relationships, peers/friends, media

¹ Guttmacher Institute

² United Nations Population Division

³ Department of Population, Family and Reproductive Health, Johns Hopkins Bloomberg School of Public Health

⁴ London School of Hygiene & Tropical Medicine, London, UK

Corresponding Author:

Rachel K. Jones, Guttmacher Institute, 125 Maiden Lane, New York, NY 10038

Email: rjones@guttmacher.org

Introduction

A majority of teens will have sex by age 18 (Abma et al., 2004), meaning they are at risk for unintended pregnancy and sexually transmitted infections (STIs). Information about contraception and other sexual health issues can reduce these risks and, for these reasons, it is important to understand where adolescents acquire this type of knowledge.

A 2001-2002 national survey of adolescents revealed that main sources of sexual health information were school, friends and parents (Henry J. Kaiser Family Foundation, 2003). Specifically, three-quarters of 15-17 year olds indicated that they had learned “a lot” or “some” about relationships and sexual health (presumably including contraception) from sex education classes (77%), friends (76%) and from parents (75%). Other common sources of sexual health information were media (70%, including tv shows, movies, magazines and the internet), romantic partners (50%) and healthcare providers (51%). One-third (34%) indicated that siblings were also a source of sexual health information. Other national survey data show that while schools remain a dominant source, formal school-based instruction about birth control declined from 81% of 15-19 year old males and 87% of females in 1995 to 66% of males and 70% of females in 2002 (Lindberg et al., 2006; Santelli et al., 2006). Another study using national survey data found that one-half of adolescent females and one-third of adolescent males have talked to a parent about birth control (Abma et al., 2004).

Over the last decade, exposure to the internet has increased at an almost exponential pace, and it is possible that the web is helping to fill the sexual health information gap. The overwhelming majority of teens (93%) are users of the internet, including approximately three-quarters who have a high speed connection at home (Zhao, 2009).

Studies have found that approximately one in four young adults have used the internet to find information about sex (Borzekowski & Rickert, 2001; Rideout, 2001). At least one study found that adolescents identified the internet as their most common source of information about birth control and sex, though friends and parents were identified as more valuable sources (Borzekowski & Rickert, 2001).

But most studies only provide a partial picture. First, teens draw on multiple sources of information in their everyday lives, and most research of where teens acquire sexual health information has focused on one or two potential sources—most commonly parents, school and friends (Guilamo-Ramos et al., 2006; Lindberg et al., 2000; Jaccard et al., 2000; Miller et al., 1998). Moreover, many studies are rather broad in their questioning, measuring teens' exposure to information about "relationships and sex" or "birth control and sex," which can incorporate a range of topics. Finally, most studies of where teens acquire information about contraception have little to say about the context in which the information was provided. For example, if some students attend classes where teachers only discuss the shortcomings of contraceptive methods, this is a qualitatively different type of information than one where both the pros and cons of various methods are presented.

The purpose of this exploratory study is to provide a more nuanced understanding of teens' exposure to and views of contraceptive information from a wide range of sources including school, parents and other family members, friends, romantic partners, health care providers, religious groups, the media (including television, movies, and magazines) and the internet. Based on the perspective that adolescents are active consumers of information, and distrust in an individual or source can result in ignoring or dismissing

the information provided, we also asked teens the extent to which they trusted information from key sources. Our findings are based on semi-structured interviews with a racially and ethnically diverse sample of 58 teens who were attending three public high schools with different sex education programs. Information from the interviews can help improve existing efforts to provide contraceptive information to teens as well as assist in the development of new strategies.

Methods

Our analysis is based on interviews conducted April-June 2008 with 58 high school juniors and seniors recruited from three sites: A large public high school (with approximately 1,800 students) in a mid-sized city in Indiana, a small public high school (approximately 400 students) in New York City and a large public high school (approximately 3,700 students), also in New York City. Eleven high schools were initially contacted, and we targeted high schools that were racially and ethnically diverse and that did not stand out academically as either extremely low or high-performing schools.

School sex education curricula were variable across the three schools due, in part, to different school environments. The Indiana school spent approximately two weeks of health class on sex education along with other topics such as drug abuse. At the small public school, there was no formal sex education class though group discussions of these issues sometimes occurred during an advisory period that met once a week.

Relationships between students and teachers were purposely less formal; teachers knew (and frequently used) the names of all the students, and groups of students and teachers often met on weekends for organized, extracurricular activities. Condoms were also

available at the school and a few contraceptive posters were displayed in the halls. The large New York City school had a full semester dedicated to comprehensive sex education, including condom demonstrations (for students whose parents did not opt them out), two health resource rooms where condoms were available and posters in the halls provided information about contraception, abstinence and other sexual health issues.

Recruitment of students. The environments and logistics of each school required that we be flexible in our recruitment activities. After obtaining administrative approval, we worked with a health teacher or key contact at that school to develop recruitment strategies. At the Indiana school, a short description of the study was read during the morning announcements for three weeks, a brief video clip about the study aired each morning during the schools' in-house television programming for one week and each health teacher introduced the study in health classes. Once we had obtained study approval from the New York City Board of Education, we worked with the Vice Principal of Health Education at the large public school in New York City. Several days before the interviews began, we went to junior and senior gym classes and briefly explained the study. This strategy allowed students the opportunity to ask questions and have at least a passing familiarity with the interviewers. At the small public school, the Director of Special Programs briefed teachers on the project. Teachers then explained the study to all junior and senior classes using a short study description three to four weeks before the interviews took place.

We attempted to recruit as many students as possible. At each school, a uniform set of documents was made available to all interested students and included: a short study description (stating that we were interviewing teens to find out where they obtained

sexual health information), parental consent forms (available in Spanish and English, as well as Chinese or Korean at the large NYC school), a student information sheet (where students provided their age, sex, grade and race/ethnicity) and an envelope for returning the forms in a confidential manner. All forms were returned to designated staff members at each school and all students had to submit signed parental consent forms in order to be eligible for selection. We also obtained signed consent from all students before starting the interviews.

Students were selected for interviews at each site based on our goals for racial and ethnic diversity (see below) as well as students' availability in the school day. In Indiana, a total of 38 students returned signed parental consent forms, and we conducted 29 interviews. We did not analyze three interviews with White females because that group was, in the end, already sufficiently represented. At the small public school, we interviewed nine of the 10 students that returned signed parental consent forms. At the larger New York school, a total of 35 students returned signed parental consent forms, and we interviewed 23 students.

In order to ensure a diversity of perspectives as well explore potential gender, racial and ethnic variations in the ways that adolescents acquire information about contraception, our goal was to interview seven students in each sex-race/ethnicity category of Table 1. We fell short of that goal by one interview for Asian males and two interviews each for Black and Hispanic males. The two co-authors who conducted all the interviews were White, non-Hispanic, women in their early forties, which may have presented more of a barrier to participation for teenage males, particularly those of a different racial/ethnic background. Overall the interviews are comprised of slightly more

females (n=33) than males (n=25), students from New York (n=32) than Indiana (n=26) and from the junior class (n=34) than the senior class (n=24).

Interview strategy. Confidentiality and privacy were of the utmost importance and required flexibility on the part of the authors. Interviews took place in empty classrooms and offices, or, in a few instances, outside on the bleachers of the school athletic field. All interviews were digitally recorded and were 40 minutes long on average. Every participant received a \$25 gift certificate as a token of appreciation. The project was reviewed and approved by the Guttmacher Institute's Institutional Review Board.

The overall goal of the study was to explore where teens acquired sexual health information, with a specific focus on contraception and abstinence, and the extent to which they trusted various sources. The interview guidelines were organized around the following sources: school-based sex education classes or talks, friends, boyfriends/girlfriends, family, the internet, mass media, doctors/nurses and religious groups. We asked similar questions about each source, namely what the teenager had learned (probing about abstinence and contraception) and how much they trusted the source for this information. We compiled the list of information sources based on published research and discussions with youth advocates. The interviews themselves also informed our inquiry as the first few interviewees spontaneously mentioned religious groups as a source of information; in turn, we added this source to our list. Trust was also assessed because we expected that the extent to which an individual teen trusted (or not) a particular source would help us understand how the individual processed, sought out and used information for that source. We pre-tested our original guidelines using a snowball sample of six teens from three high schools in the New York City area.

Analytic strategy. We developed a scheme of about 20 codes based on the guidelines to capture the main issues discussed and coded the 58 transcripts using QSR NVivo (version 8.0) qualitative software. Each co-author read through text searches for specific codes and prepared a matrix of the substantive themes on the topic for each study participant. We did not set out to test hypotheses regarding differences by race and ethnicity or gender, but we did examine themes along these lines to see if any notable differences emerged. Results are based on the common themes arising from these matrices.

We did not ask students about their own sexual behaviors, but during the interviews the majority of the students revealed whether or not they had had sex.⁵ Most of the teens (n=31) indicated they had not had sex, 14 that they were sexually experienced and 13 did not provide information about their sexual experience. During the analysis we were sometimes surprised at the similarities in exposure to and interest in different types of contraceptive information according to sexual experience, so our analysis identifies this characteristic in addition to age, location and race/ethnicity.

A few caveats about language. During the interviews, we did not use the term *contraception* because it was not understood by some teens. We determined during pre-testing that the term *birth control* was sometimes interpreted to mean (only) the pill (or, occasionally, other hormonal methods). We also found that some teens used the term “safe sex” as shorthand for using contraception (usually condoms) to prevent STIs and/or

⁵ We generally assumed that interviewees were referring to heterosexual, vaginal intercourse when they used the terms *sex* and *sexual activity* in regards to both their own behavior and that of others. However, we seldom clarified this definition. Several students referred or alluded to sexual activities other than vaginal intercourse (e.g. oral sex) in the context of abstinence, but we did not probe on this issue when it was voluntarily brought up. Additionally, four students indicated that they were, or potentially were, gay, lesbian or bisexual, and all related that they had not had sex; these individuals, in particular, may have been referring to sexual activities other than heterosexual vaginal intercourse.

pregnancy. Thus, during the interviews we typically used the terminology: “birth control, condoms or safe sex,” as in, “Tell me about any discussions you’ve had with family members about birth control, condoms or safe sex.” This adds a level of complexity to interpretation as, for example, some parents only talked about condoms, some only about birth control, some only “safe sex”, and still others some variation of all three. For purposes of brevity, in our analysis we often use the term *contraception* in reference to all three issues, but distinguish between birth control, condoms and safe sex when appropriate.

During the analysis, we were also confronted with terminology issues in describing teens’ responses to our questions about contraceptive information. In many situations, teens related that they had been exposed to information they already possessed. Sometimes teens had actively sought information, for example by asking parents or friends; other times it was provided to them in a more passive manner, for example in class, during commercials or in conversations initiated by others. Even within the context of “passive acquisition,” contraceptive information may have had an active component. Adolescent females may pay more attention to television commercials about hormonal contraception than males as this particular drug can have direct relevance to their lives (this point arose in the interviews). Because it is impossible to adequately distinguish between the different ways the 58 respondents processed contraceptive information from a range of sources, most commonly our analysis refers to respondents being *exposed* to information. Exposure implies passivity on the part of the respondents, and we acknowledge that this was often not the case. However, since even active consumption of information (e.g., using the internet to find out about hormonal contraception) requires

exposure to the information, we deem this characterization as accurate, if sometimes inadequate.

Findings

Most of the teens we interviewed had been exposed to information about contraception at school (n=49) and from family members (n=48) and friends (n=40). Almost half could recall exposure to contraceptive messages in traditional media forms of television and movies (n=24) and books and magazines (n=20). We considered the internet as separate from traditional media, and found that just under one-half of teens (n=18) recalled being exposed to any type of contraceptive information from this source. Similarly, we considered advertisements apart from the media in which they were presented and found that a majority of teens could recall being exposed to advertisements for hormonal contraception (n=36) and condoms (n=43). Nineteen students had received some type of contraceptive information from a doctor. Below we describe findings about each source.

School. All but one of the students exposed to the comprehensive sex education program could recall receiving information about contraception at school. Most commonly, these teens related they had received information about condoms and birth control (e.g., the pill), and several were able to cite lengthier lists that included methods such as IUDs, rings, patches and shots. At the other two schools, the contraceptive information recalled by many teens was more superficial and often limited to condoms.

I think that they should really cover things like birth control because they don't really say a lot about that. They say use a condom, pretty much. And I think they

should use more talk about birth control; say what kind of options are available and what are the side effects and risks to the person taking them.—Indiana, female, 17 years old, Hispanic, virgin

In addition to the above student, several others, usually females, related that they would have liked more information about how, exactly, hormonal contraception works.

It was more of just like inform you that it exists, pretty much. So it wasn't like they would say "yeah there is a pill and there is a shot." But they wouldn't be like "okay, this is how you would do it and this is how it works."—Indiana, female, 17 years old, non-Hispanic White, virgin

A few of the Indiana adolescents did not recall being exposed to any contraceptive information in high school, but did remember attending a condom demonstration in 8th grade. Only a few students (from all three schools) stated outright that they had not received any information about condoms, birth control or safe sex at school.

Most of the teens across all three different school-based sex education approaches trusted the sexual health information they had received from school, and only two respondents indicated that they did not trust information received at school. Schools and teachers were trusted because they were seen as having fact-based knowledge or expertise about sexual health issues and were responsible for educating adolescents.

...[T]hat's a place [school] that I would expect to know what they are talking about, to tell me the truth, to educate me on what I should know.—Indiana, male, 17, Asian, sexually experienced

Family. Most respondents, both male and female, had been exposed to contraceptive information from family members, and this information was both fact-based and experiential in content. There were important gender differences regarding content insofar as female students were far more likely than male students to obtain information about hormonal methods. Most commonly males reported receiving superficial information about condoms and that information was conveyed in what we refer to as “safe sex sound bites.”

Pretty much, like my father never really told us about that so he pretty much told us “Keep the lights off and use a condom,” and stuff like that. —Indiana, male, 17 years old, non-Hispanic White, virgin

Well, um, my dad told me one time to be careful, and my mom basically said the same thing in a different way. So they basically know, but, just only be careful, basically. —New York, male, 19 years old, non-Hispanic Black, sexually experienced

Contraceptive information was conveyed to female teens in several contexts. In most cases, a family member, usually the mother, discussed or referred to different types of contraception, or at least condoms. A few females reported discussing sisters’ and cousins’ experiences, both positive and negative, with the pill or the shot. Some female respondents related that a family member had discussed hormonal contraception in the context of helping them obtain, or offering to take them to get, a method. In most of these situations, the offer came out of concern or knowledge that the respondent was, or was getting ready to become, sexually active.

She [her mother] is always telling me about the Plan B pill. And she is always telling me about she had me at a really young age. And even though babies are a blessing, it makes everything harder. And she was like ‘if you are going to have sex, I just really wish that you tell me so that I could prepare you.’ —New York, female, 17 years old, Hispanic, unknown sexual experience status

Additionally some teens related that they had discussed, and sometimes obtained, hormonal contraception with their mothers for non-contraceptive purposes. By contrast, only a few male students we spoke to reported obtaining more “hands on” or instrumental information from family members. This occurred in the form of providing condoms, which were more likely to come from family members closer in age to the respondents, such as brothers or cousins, rather than parents.

The Asian adolescent females we interviewed were more likely than females from other racial and ethnic groups to indicate that they had not obtained any contraceptive information from family members, and both Asian females and Asian males were less likely to report having had substantive discussions about contraception with family members (and more likely to relate that contraceptive information was conveyed as “safe sex sound bites”). Several Asian respondents stated explicitly that parent-child discussions of these issues were somewhat taboo in their culture.

As with schools, family members were also highly trusted by these teens. Family members, and parents in particular, were trusted because they were honest, had the respondents’ best interests at heart, and were often willing to speak about, or at least speak from, their personal experiences. These teens tended to indicate a high level of trust based more on their overall relationship with their parent or family member and less about the amount or nature of safe sex information itself.

Well from my parents I would say, what little I have gotten I would say I trust it completely. —Indiana, male, 17 years old, non-Hispanic White, sexually experienced

...I know that when she [Mom] speaks, it's like the truth. And she speaks for what's best for me. —New York, female, 16 years old, Hispanic, virgin

Friends. Most of the teens had discussed contraception with their friends, and, again, factual and experiential information were both conveyed. Female students discussed a wider array of methods (9 methods mentioned in total) with friends than did boys (5 methods). Males related that their friends often discussed condoms in a positive light; that is, many related that their friends, including those who were not sexually experienced, advocated using condoms or used condoms themselves. At least six respondents, mostly males, had either helped friends obtain condoms or related that they had had received condoms from friends. A few males did relate that they had friends who had unprotected sex and/or believed that condoms made sex less pleasurable.

Discussions and exposure to information about hormonal methods were more varied. Among female teens, birth control was discussed for purposes of both pregnancy prevention and regulating their periods. Females also discussed strategies for obtaining birth control, the pluses and minuses of various hormonal methods and side effects. A few males related that they had discussed side effects with female friends, but for the most part they did not discuss hormonal methods with male friends.

As guys, we don't really, we talk about what we use, you know, not what the girl uses, 'cause that's kind of their thing. If they use birth control, they use it. If they don't, they don't. Um, but for guys usually the only thing is condoms that, you know, that we know about for sure. —Indiana, male, 18 years old, non-Hispanic White, sexually experienced

Most of the teens we spoke to related that contraception is promoted and encouraged among friends. While this promotion could take an instrumental role, (e.g. asking a friend if they needed a condom), it could also be encouraged through joking around or discouraging friends from “being stupid” (as in not using protection).

[S]he'd be like, “oh my friend said that she is having sex and they use like, they don't use a condom but he pulls out.” So I am always like, “No, let's not do that.” And I am glad that she is asking me and not going to someone else and saying like “oh you are doing that?” and someone is giving her false information. —Indiana, female, 18 years old, non-Hispanic White, sexually experienced

There were no strong differences by race or ethnicity with the exception of Asian females. For the most part, there was a lack of conversation around issues of safe sex among this group, largely due to the fact that the Asian females we spoke to were less likely than teens of other races and ethnicities to have talked about sex in general with their friends.

The adolescents we interviewed tended to be skeptical of at least some of the sexual health information they had obtained from friends. In particular, respondents thought, and sometimes confirmed, that friends provided them with incorrect information about contraception and pregnancy, or lied about their own sexual experiences. At the same

time, friends, like family, were trusted because they had the respondents' best interests in mind and, in some cases could speak from experience.

Girlfriend/boyfriend. Though not all of the interviewees had been in a romantic relationship, slightly more than one-third had talked with a boyfriend or girlfriend about contraception, including some who were virgins or whose sexual activity status was unknown. For the former group, discussions about contraception most often came up in the context of “if we have sex” while sexually active teens discussed whether or not and what types of contraception they were using. For some couples, these discussions, even if brief, occurred on a regular basis.

Respondent: Yeah, we do. Like we decided when we do decide we want to have sex that we both, I would get on birth control and he would get condoms. So, yeah.

Interviewer: And again, how often do you all talk about that type of stuff?

Respondent: Once or twice a month. —Indiana, female, 18 years old, non-Hispanic Black, virgin

However, in most cases it seemed that little substantive or new information was being conveyed, the exception being that a few male teens seemed to have learned a little about hormonal methods when they had female partners who used them. Most of the conversations described often seemed brief, with just enough information being conveyed to assure the partner that they were, or would be, protected from pregnancy.

Traditional Media. The contraceptive information conveyed in television and movies was talked about differently from that conveyed in magazines and books. More than a third of adolescents could recall being occasionally exposed to contraceptive messages on

television or movies, most commonly as part of a storyline—for example, a female character talking about or taking her birth control or a character talking about, purchasing or using condoms. A few recalled public service announcements promoting safe sex or condom use. Very few teens seemed to have obtained new information from these sources, though a few mentioned getting useful information from shows intended to be educational, including *Berman and Berman* and *Talk Sex with Sue Johanson*.

Magazines and books, by contrast, were typically recalled as purposely conveying factual information about contraception. Most of the students who had been exposed to contraceptive information in this format were females, and they tended to mention magazines aimed at their age group such as *CosmoGirl* and *Seventeen*. They recalled coming across information about different types of contraceptive methods as well as abstinence and STDs. While respondents generally indicated that the information from these sources was accurate, interest in the information varied; some teens seemed to eagerly absorb it—one female related that magazines were her main source of sexual health information--while others simply glanced at the articles.

Internet. About three-quarters of the teens we interviewed reported daily use of the internet, ranging from a few minutes to several hours. The other teens had less frequent exposure ranging from every other day to every few weeks. Most commonly teens used the internet for email/instant messaging and social networking (e.g., MySpace, Facebook). While slightly more than one-third had been exposed to contraceptive information in this venue, most of these teens had accessed this information for a specific purpose—typically a school project or in response to a personal problem (e.g., one teen looked up information about a missed birth control pill for her friend). Few of these

students regularly used the internet to find sexual health information and only one teen, a female, related that this was her main source of information.

The adolescents we interviewed were more likely to distrust information from this source than they were to trust it, and overall they were wary of information from the internet, regardless of whether or not they had actually sought out information from the web (Jones & Biddlecom, 2011). Wary students related that they would trust contraceptive information from the internet if it was from a reputable site. When probed, students indicated that .gov, .org and .edu sites were more likely to be trustworthy, as were sites associated with physicians or health care facilities (e.g., webmd, hospitals and health departments). Distrust of open content websites, and Wikipedia in particular, was common and awareness of the pornographic content of the web also contributed to wariness and distrust of sexual health information from this source.

Like the internet, it's pretty much just like giant billboard for sex. It's really, it's not a good place to go if you are young, because being on internet, because all the pop ups and things you could type in kind of makes you want to have sex. So it really doesn't enforce the abstinence rule and birth control, safe sex anything.
—Indiana, male, 17 years old, non-Hispanic White, sexually experienced

Advertisements. Most of the teens we interviewed had been exposed to advertisements for hormonal birth control and condoms, and only four could not recall exposure to advertisements of either type. Television, the internet and, for females, magazines were identified as the most common venues. In some cases, and especially with condoms, it did not seem that the respondents had gleaned any new information, but, rather the ads seemed to have served the purpose of maintaining or increasing awareness

of specific brands. But the way some teens discussed the ads for hormonal contraception suggested that they had gained some new information, even though the details were sometimes unclear.⁶ The potential of fewer periods promised by some hormonal methods was the most common feature recalled by both females and males.

And birth control pills that talk about having a period for females once a year or something like that or twice a year, and how it doesn't prevent you from getting an STD or whatnot. I see it very often, but I barely watch TV lately. —New York, male, 19 years old, non-Hispanic Black, unknown sexual experience status

In a few instances, advertisements provided, or reinforced, negative perceptions about hormonal methods.

Yeah, and it was like and “you may experience bleeding in between periods that could be heavier than a regular period.” I was like “Okay, I am not really seeing the pluses here.” ...We are going to lower your periods but, you might have spotting in between that's heavier than a period. I was like “Are you kidding me?” —Indiana, female, 18 years old, non-Hispanic White, sexually experienced

Many teens recalled exposure to advertisements on the internet—in the form of pop-ups or sidebar ads. However, since these advertisements typically required teens to click on them to find out information, these were less often discussed as providing substantive information.

Doctors. At least 19 teens, mostly females, had discussed contraception with doctors. Most commonly teens related that they had been asked about their sexual activity status

⁶ A few teens also referred to advertisements for the HPV vaccine and male sexual enhancement drugs when asked about contraceptive ads.

and informed that they could obtain contraception if they needed it, and/or advised to use condoms. Some teens, most commonly females, related that the information they obtained was substantive and useful.

Oh my doctor. She told me a lot about it. I feel like I have talked more about this with my doctor than my parents. She will explain to me like she will also tell me the same thing. “Its important that you practice safe sex” and she will always ask me “are you sexually active?”, and I always said “no”, but she would explain to me like, “if you do it, do it carefully, like...use condoms” and stuff like that. —
New York, female, 17 years old, Asian, virgin

But in a few notable instances both females and males related that doctors discouraged, or were perceived as discouraging, contraceptive use. While not a common source for information about contraception, these teens did trust doctors or clinics generally because they were seen to have expertise in this area.

Themes

Over the course of analyzing the 58 interviews, we identified two dominant themes that characterized teens’ discussions of the contraceptive information they were exposed to across a variety of sources. This first was wariness about contraception. Teens thought it was important to get information about contraception, but the information they were exposed to created awareness that hormonal methods could be associated with side effects, and that even with contraception, “safe sex” poses some risks. About half of the teens we interviewed, mostly females, mentioned negative aspects of hormonal birth control methods. In a few cases students clearly had inaccurate information, for example indicating these methods could “close ovarian tubes.” But many of the negative

perceptions were related to the actual side effects that some hormonal method users experience (e.g., weight gain, disrupted menstrual cycles, migraines, depression), conveyed in both the factual information teens had been exposed to as well as personal experiences of people they knew. Several females remarked that the long list of side effects that accompanied advertisements for hormonal methods perpetuated, or even created, this awareness. Several related stories of someone known to them who had become pregnant while using birth control:

My friend, she told me her sister got pregnant on it [DepoProvera]. And I am like... a lot of people tell me “well, it’s like a 100% chance; it’s like 99.9; you’re not going to get pregnant”. I am like oh. I’m pretty sure I can, it happened to this person over here. It can happen to me. —Indiana, female, 17 years old, non-Hispanic Black, sexually experienced

As demonstrated by the above situation, these negative perceptions about hormonal methods were not always strong enough for teens to disavow these methods for themselves or others. Many were aware that side effects were not inevitable and were only experienced by some women. Additionally, several teens related that they were using hormonal methods and did not discuss having any concerns or problems.

Condoms were generally portrayed and discussed in a positive manner by both male and female teens. Some teens specifically recommended condoms over hormonal methods because they did not have side effects, they reduced the risk of *both* pregnancy and STDs and gave males some amount of control and responsibility. But teens were aware that even condoms were not foolproof, noting that they can break, “pop” or expire and they are not always 100% effective in preventing STDs or pregnancy.

A number of students recalled receiving information about contraceptive failure rates from sources such as school, friends and the internet. In most cases, this information seemed to have been presented as a realistic assessment of the fact that no method is perfect and some methods are better than others. More troublesome were the few instances where teens recalled failure rates being overemphasized or inaccurate information being provided. The below quote pertains to an abstinence-only peer education program that some of the Indiana teens recalled being exposed to in middle school.

...[E]ven if you have sex and you use a condom, you can still get pregnant. That's what they told us in like 8th grade. There are still micro tiny holes in a condom so you can still get pregnant. —Indiana, female, 17 years old, Hispanic, sexually experienced

During the interviews, we probed teens' for exposure to information about abstinence as well as contraception, and one unanticipated theme arising from the interviews was that contraception and abstinence messages were generally talked about in compatible terms. Prior to the interviews, we considered contraception and abstinence to be somewhat opposing constructs, and assumed teens would regard abstinence as an "all or nothing" safe sex strategy and contraceptive information as appropriate for sexually-active adolescents. But many of the adolescents we interviewed discussed abstinence and contraception in ways that made them compatible.

Well, you can always wait. It's nothin' to rush. You can, you know -- if you do decide to do it, use condoms, 'cause, you know, things that happen that people do not want to happen: having kids; gettin' diseases and all that. —New York, female, 17 years old, non-Hispanic Black, virgin

Notably, these teens did not have a uniform definition of abstinence; over the course of a single interview a respondent might refer to abstinence as waiting until marriage to have sex, waiting until one was “ready,” or simply as “waiting.” They also tended to talk about abstinence as an option or a choice, and not as an “all or nothing” outcome. Teens discussed needing a range of information—about abstinence, about contraception, about consequences—so that they could make the right choices about sex.

I learned about every kind of birth control conceivable. I learned about abstinence. I learned about how and why, you know, the upsides and downsides, what you should look out for. Why, it’s okay to use birth control but why it is better to be abstinent.—New York, male, 18 years old, non-Hispanic White, unknown sexual experience status

Many teens also reported exposure to both contraceptive and abstinence information from the same sources. For example, many sex education classes provided information about both abstinence and contraception and a number of respondents related that parents encouraged them to wait to have sex, but to “be safe” if and when they did. Like contraception, much of the abstinence information teens were exposed to was restricted to “sound bites,” such as “don’t have sex” or “be abstinent,” as opposed to concrete strategies for delaying sex.

Discussion

Teens were exposed to and relied on a range of sources for information about contraception, and no one source could be considered the most important or dominant. Thus, studies that focus on one source provide a partial picture of the full scope of

information sources used by teens. Prior research has found that school, parents and friends are the most common sources of information about sex (Henry J. Kaiser Family Foundation, 2003; Dilorio et al., 1999; Handelsman et al., 1987; Sprecher et al., 2008), and these patterns were largely evidenced among the teens that we interviewed. However, our study suggests that quantifying these associations does not fully capture the ways that teens acquire information.

Formal sex education plays an important role. Each of the three schools where we conducted interviews had a different type of sex education, ranging from comprehensive to minimal, from semester-long courses to periodic discussions. But the information presented by teachers was almost unilaterally trusted by these high school students because of (presumed) teacher training in the subject and because schools are seen as providing accurate information.

Family, mainly parents, was also an important source of contraceptive information. Again, the level and type of information provided by this source was quite varied, but family was highly trusted because of their inherent concern for the well-being of these teens or their own experiences informing the information they were providing.

Friends were also a common source of information about safe sex, and the format varied from stories of personal experiences to teasing that conveyed safe sex messages to instrumental talk about where to obtain hormonal methods and condoms. Teens were less likely to offer full trust in what friends said because they sometimes lied, exaggerated or were in possession of incorrect information.

The intersecting issues of teens, sex and the internet have been the subject of many headlines and a quite a few research articles (Borzekowski & Rickert, 2001; Moreno et

al., 2009; Rideout, 2001; Wolak et al., 2007; Ybarra & Mitchell, 2005). However, few of the teens we interviewed regularly relied on this source, and many expressed doubts about the veracity of information pertaining to sex from this venue. While this does not diminish the potential of this source to improve sexual health education, it does suggest that the internet is not filling the sexual health information gap.

Numerically speaking, most of the teens we talked to had been exposed to contraceptive information in some “traditional” media format, but this information was somewhat sporadic and often subtle or indirect. Somewhat surprising, most of the teens we talked to could recall exposure to advertisements for hormonal contraception, and this may have been a substantive source of information for at least some teens. Other, though less common, sources of information about contraception included girlfriends and boyfriends and physicians.

Many teens were exposed to safe sex mantras from a variety of sources, but relatively few were exposed to substantive information from multiple sources. Detailed information about contraception, when described by teens, was generally limited to the side effects of hormonal methods, with some teens discussing failure rates. The one notable exception is that some females had been provided with detailed information about hormonal methods from both family members and (female) friends, for purposes of both pregnancy prevention and regulating their periods. The personal experiences of others could sometimes serve as a source of detailed information about methods. However, it was unclear if teens actually knew how to use condoms correctly and several indicated a lack of knowledge about how hormonal methods worked even though they were aware that these methods existed.

Public debate over the past decade has at times contrasted safe sex information with abstinence information and put forward the assumption that providing information about both sends a mixed message (Masland, 2009). Yet in the words of many of these teens from very different school-based programs and personal experiences, contraception and abstinence were seen as compatible and, therefore, teens need information about both. Ott et al. (Ott et al., 2006) found that many teens regard abstinence as a natural stage of development, and the choice to become sexually active is an important one. These ideas were echoed among the teens we interviewed, who related that teens need information about both contraception and abstinence so that they could make the right choices about when to have sex and how to protect themselves.

Limitations

There are several limitations to this study. First, the extent to which our study reflects where and how teens got information about contraception is only as accurate as the respondents' memories. It is possible that some teens did not recall, or failed to relate, exposure to substantive information about contraception. If the information was not relevant to the respondents at the time, or if they did not value the information or information source, they may have ignored or forgotten it. Similarly, a one-time, 40 minute interview is not the most appropriate context for allowing respondents to recall and reveal the full range of contraceptive information to which they had been exposed. Subsequent, or repeat, interviews with the same respondents would likely have allowed for better recollection of information as well as improved trust between the interviewers and the respondents.

The study focus and recruitment materials may have deterred sexually-experienced teens from participating. While the recruitment materials indicated that the interviews would focus on where students' obtained *information* about sexual health issues, several respondents related that they had expected us to question them about their sexual behavior. More than half of the teenagers we interviewed related in an unprompted way that they had not had sex. While this proportion seems reasonable, especially in light of the fact that more juniors than seniors are in the sample, we still speculate that sexually-experienced teenagers may have been more uncomfortable talking to strangers about these issues. Alternately, sexually-experienced teens may have worried that simply asking parents to sign the consent form would result in questions about their own sexual behavior. This latter situation also raises the related limitation that the requirement of written parental consent may have prevented some high school students from participating because of parental refusal (real or anticipated) for other reasons.

At the Indiana site we are aware that we interviewed two couples (e.g., four of the interviewees were members of two heterosexual romantic dyads) and that several of the students were members of the same friendship network. This information was related in the interviews and observed by the interviewers. These dynamics may have resulted in a more uniform perspective on the topics covered. We were not aware of friendship and romantic networks among the New York respondents, but we had less opportunity to view student interactions and/or they may have not mentioned it during the interview.

Finally, in the course of the interviews about 10 of the 58 students talked about being part of social groups specifically active around sexual health issues, including abstinence, HIV and AIDS awareness, and lesbian, gay or bisexual issues. These respondents were

especially motivated by sexual health issues and thus, unsurprisingly, interested in participating in our study. However, their views may not be representative of the wider student body at these schools. A counterbalance to this selectivity is that the sexual health issues adopted by these clubs are quite diverse.

Conclusion

Our findings suggest several specific directions for policy and programmatic efforts. First, findings from this study support bolstering school-based, comprehensive sex education, though our findings also show that such programs are not the only, or even the main, source of information about contraception and sexual health. Public monies are best suited to implementing comprehensive sex education programs that place sexual activity in its social context—beyond a biological, public health or moral framework and acknowledging the value of delaying sex until one is ready—and provide more detailed information about contraception, and hormonal methods in particular.

Second, information about accurate and teen friendly sexual health websites should be integrated with school-based sex education. Outreach for these websites should be expanded through a range of internet venues. Since teens are not necessarily seeking out this information, sex educators and sexual health websites need to explore strategies that bring this information to teens via social networking websites, sidebar ads and perhaps even emails.

Some sources—such as the family—are challenging in terms of interventions to improve sexual health information (Kirby, 2008; Shtarkshall et al., 2007). Formal sex education programs might play to the strength of experience that family, and to a lesser

extent friends, hold as trusted sources of sexual health information by incorporating school assignments that involve initiating discussions about sexual health with family members and close friends. The assignment nature of the task may reduce concerns (on the parts of both parents and teens) that teens are initiating these discussions because they are sexually active. Additionally, these types of exercises could tap into what is, for many teens, an already common and supportive source of information about safe sex without expending large amounts of resources for independent programs targeting families.

Even when broadly defined to include information from multiple sources, discussions of sex education often contain the implicit assumption that adolescents are blank slates that uncritically absorb information presented to them. Our study serves as a reminder that while adolescents are exposed to information from a variety of sources, they selectively pay more attention to some, actively seek out information from others and dismiss information, or certain types of information, from others. Thus, efforts to improve sexuality education must address multiple information sources.

Acknowledgements: Ann E. Biddlecom was formerly a Senior Research Associate at the Guttmacher Institute. The views expressed herein are those of the author and do not necessarily reflect the views of the United Nations. The authors thank our colleagues Heather Boonstra, Lawrence B. Finer, Laura D. Lindberg and Susheela Singh for their valuable feedback on earlier drafts of this manuscript. This project was funded by a grant from the Ford Foundation

Table 1. Respondent characteristics

	Female	Male	Total
Race/ethnicity			
White	9	9	18
Black	8	5	13
Hispanic	9	5	14
Asian	7	6	13
State			
Indiana	16	10	26
New York	17	15	32
Class			
Junior	20	14	34
Senior	13	11	24
Total	33	25	58

Reference List

- Abma, J. C., Martinez, G. M., Mosher, W. D., & Dawson, B. S. (2004). *Teenagers in the United States: sexual activity, contraceptive use, and childbearing, 2002. Vital and Health Statistics, 23(24)*.
- Borzekowski, D. L. & Rickert, V. I. (2001). Adolescent cybersurfing for health information: a new resource that crosses barriers. *Archives of Pediatrics and Adolescent Medicine, 155*, 813-817.
- Dilorio, C., Kelley, M., & Hockenberry-Eaton, M. (1999). Communication about sexual issues: mothers, fathers, and friends. *Journal of Adolescent Health, 24*, 181-189.
- Guilamo-Ramos, V., Dittus, P., Jaccard, J., Goldberg, V., Casillas, E., & Bouris, A. (2006). The content and process of mother-adolescent communication about sex in Latino families. *Social Work Research, 30(3)*, 169-181.
- Handelsman, C. D., Cabral, R. J., & Weisfeld, G. E. (1987). Sources of information and adolescent sexual knowledge and behavior. *Journal of Adolescent Research, 2*, 455-463.
- Henry J. Kaiser Family Foundation (2003). *National Survey of Adolescents and Young Adults: Sexual Health Knowledge, Attitudes and Experiences*. Menlo Park, CA: Henry J. Kaiser Family Foundation.

- Jaccard, J., Dittus, P. J., & Gordon, V. V. (2000). Parent-teen communication about premarital sex: factors associated with the extent of communication. *Journal of Adolescent Research, 15*(2), 187-208.
- Jones, R. K. & Biddlecom, A. E. (2011). Is the Internet Filling the Sexual Health Information Gap for Teens? An Exploratory Study. *Journal of Health Communication, 16*, 112-123.
- Kirby, D. (2008). Increasing communication between parents and their children about sex, editorial. *BMJ, 337*, a206.
- Lindberg, L. D., Leighton, K., & Sonenstein, F. (2000). Adolescents' reports of reproductive health education, 1988 and 1995. *Family Planning Perspectives, 32*, 220-226.
- Lindberg, L. D., Santelli, J. S., & Singh, S. (2006). Changes in formal sex education: 1995-2002. *Perspectives on Sexual and Reproductive Health, 38*, 182-189.
- Masland, M. (2009). Carnal knowledge: the sex ed debate. MSNBC. Retrieved May 28, 2009, from <http://www.msnbc.msn.com/id/3071001/>
- Miller, K. S., Kotchick, B. A., Dorsey, S., Forehand, R., & Ham, A. Y. (1998). Family communication about sex: what are parents saying and are their adolescents listening? *Family Planning Perspectives, 30*, 218-235.

- Moreno, M. A., Parks, M. R., Zimmerman, F. J., Brito, T. E., & Christakis, D. A. (2009). Display of health risk behaviors on myspace by adolescents. *Archives of Pediatrics and Adolescent Medicine, 163*, 27-34.
- Ott, M. A., Pfeiffer, E. J., & Fortenberry, J. D. (2006). Perceptions of sexual abstinence among high-risk early and middle adolescents. *Journal of Adolescent Health, 39*, 192-198.
- Rideout, V. (2001). *Generation Rx.com: How Young People Use the Internet for Health Information*. Menlo Park, CA: Henry J. Kaiser Family Foundation.
- Santelli, J., Ott, M. A., Lyon, M., Rogers, J., Summers, D., & Schleifer, R. (2006). Abstinence and abstinence-only education: a review of U.S. policies and programs. *Journal of Adolescent Health, 38*, 72-81.
- Shtarkshall, R. A., Santelli, J. S., & Hirsch, J. S. (2007). Sex education and sexual socialization: roles for educators and parents. *Perspectives on Sexual and Reproductive Health, 39*, 116-119.
- Sprecher, S., Harris, G., & Meyers, A. (2008). Perceptions of sources of sex education and targets of sex communication: sociodemographic and cohort effects. *Journal of Sex Research, 45*, 17-26.
- Wolak, J., Mitchell, K., & Finkelhor, D. (2007). Unwanted and wanted exposure to online pornography in a national sample of youth internet users. *Pediatrics, 119*, 247-257.

Ybarra, M. L. & Mitchell, K. J. (2005). Exposure to internet pornography among children and adolescents: a national survey. *Cyber Psychology & Behavior*, 8, 473-486.

Zhao, S. (2009). Parental education and children's online health information seeking: Beyond the digital divide. *Social Science and Medicine*, 69, 1501-1505.

Bios

Rachel K. Jones is a senior research associate at the Guttmacher Institute, where her research focuses on adolescent sexual health and abortion in the United States. In addition to these areas, she has coauthored articles and reports on male sexual health, pronatalist attitudes, and contraception. Most recently she completed a census of all known U.S. abortion providers.

Ann Biddlecom was formerly a senior research associate at the Guttmacher Institute and is currently Chief of the Fertility and Family Planning Section at the United Nations Population Division. Her research is in the area of sexual and reproductive health, particularly fertility and contraceptive use levels and trends. She has also coauthored journal articles on contraceptive use, men's reproductive roles, and adolescent sexual behaviors, drawing on both qualitative and quantitative data sources.

Luciana Hebert was formerly a senior research assistant at the Guttmacher Institute and is currently a PhD student at Johns Hopkins Bloomberg School of Public Health. Her work at the Institute focused on abortion.

Ruth Milne is a PhD student at the London School of Hygiene & Tropical Medicine. Her current research focuses on men's role in contraceptive decision making in the U.K. context and draws on both quantitative and qualitative sources. She has also conducted research in the developing-country context.