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ARTICLE

Adolescents' Reported Consequences of Having Oral Sex Versus Vaginal Sex

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ABSTRACT

OBJECTIVE. The present study examined whether adolescents' initial consequences of sexual activity differ according to type of sexual activity and gender.

METHODS. Surveys were administered to 618 adolescents recruited from 2 public high schools in the autumn of ninth grade (2002) and at 6-month intervals until the spring of tenth grade (2004). Analyses were limited to the 275 adolescents (44%) who reported engaging in oral sex and/or vaginal sex at any assessment. Participants were 14 years of age at study entry, 56% female, and of diverse socioeconomic and ethnic backgrounds.

RESULTS. In comparison with adolescents who engaged in oral sex and/or vaginal sex, adolescents who engaged only in oral sex were less likely to report experiencing a pregnancy or sexually transmitted infection, feeling guilty or used, having their relationship become worse, and getting into trouble with their parents as a result of sex. Adolescents who engaged only in oral sex were also less likely to report experiencing pleasure, feeling good about themselves, and having their relationship become better as a result of sex. Boys were more likely than girls to report feeling good about themselves, experiencing popularity, and experiencing a pregnancy or sexually transmitted infection as a result of sex, whereas girls were more likely than boys to report feeling bad about themselves and feeling used.

CONCLUSIONS. Adolescents experience a range of social and emotional consequences after having sex. Our findings have implications for clinical practice and public health campaigns targeted toward youth.

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Key Words
adolescence, gender, sexual behavior, risk-taking, decision-making

Abbreviations
NSFG—National Survey of Family Growth
STI—sexually transmitted infection

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NATIONWIDE, MORE THAN one half of male and female adolescents between the ages of 15 and 19 years have engaged in oral sex.[1] By the end of ninth grade, 1 of 5 adolescents might have engaged in oral sex,[2] and ≥50% of predominately heterosexual adolescents have had oral sex before their first experience of vaginal intercourse.[3,4] More adolescents report having oral sex than vaginal sex,[5,6] and few adolescents who engage in oral sex are using barrier protection against sexually transmitted infections (STIs).[4,5]

Oral sex, by virtue of its high prevalence among adolescents and potential negative consequences, is both a medical and public health issue. It is of critical importance to understand how the physical and mental health of adolescents may be affected by engagement in oral sex, in comparison with vaginal sex. The limited number of studies that examined adolescents' engagement in oral sex focused on perceived consequences. Those studies suggested that adolescents' perceptions of oral sex are favorable, especially in comparison with vaginal sex. In response to an open-ended question about why teenagers choose to have oral sex, >25% of ninth-graders listed expected pleasure, improvement in one's relationship, and popularity as benefits.[7] Adolescents expect that oral sex will result in fewer physical health risks (eg, pregnancy or STI) and social and emotional risks (eg, relationship becoming worse, gaining a bad reputation, or feeling guilty) than vaginal sex.[2,8] However, no study has identified the consequences of oral sex that adolescents actually experience and examined whether these consequences differ from those of vaginal sex. The present study is the first to examine the outcomes that sexually experienced male and female adolescents report as a direct consequence of having oral and/or vaginal sex.

Although medical evidence supports adolescents' perceptions that oral sex is less risky than vaginal sex in terms of experiencing a negative physical health outcome (eg, STI), oral sex is not without risk.[9,10] Contraction of several STIs, including gonorrhea, syphilis, and chlamydia, through oral sex is possible.[9] Qualitative work suggests that adolescents do consider negative health outcomes before having oral or vaginal sex but they view the outcomes as avoidable.[11]

Positive and negative social and emotional consequences may be of greater importance in determining sexual behavior than the threat of negative physical health outcomes. Adolescents expect to experience positive consequences, including strengthened relationship intimacy, sexual pleasure, and increased social standing, if they engage in vaginal or oral sex, although expectations of pleasure are somewhat higher for vaginal sex than for oral sex.[2,7,12–15] Adolescents are aware that negative social and emotional consequences may occur as a result of having sex, but they view such consequences as less likely with oral sex, compared with vaginal sex.[2] Many researchers have recommended that sexual risk reduction efforts include discussion about social and emotional consequences of having sex. However, no study has determined to what extent adolescents experience nonphysical outcomes. Positive outcomes of sexual behavior may be particularly important to consider if they are experienced more frequently than negative outcomes and thus serve to reinforce sexual behavior.

Another important factor to consider is gender, because it may be a key determinant of whether adolescents experience positive or negative social and emotional consequences after having sex. Although girls encounter societal pressures to appear sexually attractive, simultaneously they are pressured to restrict actual sexual behavior; in contrast, boys' sexuality and sexual behavior are generally accepted.[16–18] Girls may thus be more likely to experience negative consequences and less likely to experience positive consequences of having sex, compared with boys, because society punishes them for violating chastity norms that are applied selectively to girls.

The goals of the present study were (1) to identify the actual physical, social, and emotional consequences that ninth-grade and tenth-grade adolescents report after first engaging in oral and/or vaginal sex; (2) to determine whether positive and negative consequences of having sex differ for oral versus vaginal sex; and (3) to determine whether consequences differ according to adolescent gender. Information provided by the present study may be used to inform the design of sex education interventions for youths and to guide patterns of communication about sex between adolescents, health care practitioners, and other key adults.

METHODS

Participants

Data Collection

This study is part of a larger investigation on adolescent sexual behaviors and perceptions. Data were collected every 6 months during the ninth and tenth grades, between late 2002 and early 2004. Analyses in the present study were limited to sexually experienced adolescents' report of consequences of sexual activity from the first time point at which they indicated having oral or vaginal sex.

Sample Selection and Recruitment

Participants were recruited from mandatory ninth-grade classes in 2 California public high schools. Researchers introduced the study to all students in the ninth grade. On the day of recruitment, 1180 students were in attendance and received consent packets to share with their parents. Of this number, 665 students (56%) returned signed parental consent forms, with 637 adolescents (96% of the eligible sample) completing surveys in the

first wave of data collection. Participants did not differ from the overall population of students in their school, in terms of ethnicity and socioeconomic status.

Sample Attrition

At the first assessment during the autumn of ninth grade, 618 adolescents provided information about their sexual history. Ninety-three percent of this sample completed surveys during the spring of ninth grade; the proportions of sample subjects who completed surveys during the autumn and spring of tenth grade were both 83%. Participants who completed fewer surveys were more likely to be male and to have vaginal sexual experience, parents who had separated or divorced, worse grades, and lower educational goals than participants who completed a greater number of surveys ($P < .01$). Reports of parental education, employment, and religiosity did not vary according to the number of surveys participants completed.

Sample Characteristics

Analyses in the present study were restricted to the 275 adolescents who reported engaging in oral and/or vaginal sex by the spring of tenth grade (44% of 618 subjects). In the autumn of ninth grade, adolescents were 14 years of age (SD: 0.4 years) and 56% female. Participants reported diverse ethnic backgrounds, including 40% white, 19% Latino, 17% Asian or Pacific Islander, 4% black, and 20% multiethnic or other ethnicity. Participants' report of their mother's education varied (professional or graduate degree, 7%; 4-year college degree, 13%; 2-year college degree, 10%; some college education, 20%; high school degree, 21%; did not graduate from high school, 13%; less than ninth grade education, 3%; unknown, 13%).

Procedure

After we obtained institutional review board approval, written parental consent, and adolescent assent, students completed self-administered surveys in the autumn and winter of academic years 2002/2003 and 2003/2004.

Measures

Sexual History Characteristics

At each time point, participants were asked whether they had ever engaged in vaginal sex or oral sex. A categorical variable indicating type of sex was created, reflecting whether adolescents had experienced oral sex only, vaginal sex only, or both oral and vaginal sex at the time point at which sexual activity was first reported.

Consequences of Engaging in Sex

Participants were asked to indicate whether they had experienced a number of potential positive and negative social and emotional consequences as a result of engaging in sexual behavior (Table 1). Items were selected on the basis of pilot data and adolescent interviews.[11] Two negative physical consequences of having sex were also assessed, namely, becoming pregnant or impregnating another person and contracting a STI. Four items were added over the course of the survey (Table 1). Some consequences were assessed on a 6-point scale ranging from none to ≥5 times, whereas other consequences were assessed by asking adolescents whether the consequence had ever occurred (yes/no). All consequences were examined as dichotomous (yes/no) variables. Classification of consequences as positive or negative was made by the study authors and was not based on judgments provided by youths.

Variables were created to reflect whether adolescents reported specific consequences of previous sexual activity at the first time point they indicated being sexually experienced. Therefore, for adolescents who were sexually experienced by time 1, time 1 consequences were used; for adolescents who became sexually experienced between time 1 and time 2, time 2 consequences were used, and so forth. Separate composite variables examined adolescents' reports of any positive consequence, any negative consequence, and overall experience of consequences (ie, only positive, both positive and negative, only negative, or no reported consequences) (Table 1).

Plan of Analyses

Logistic regression analyses tested whether reports of consequences (dependent variables) differed according to gender, type of sex (ie, oral sex only, vaginal sex only, or both oral and vaginal sex), and the interaction between gender and type of sex (independent variables). Pairwise simple contrasts were used to examine differences between sexual experience categories. The statistical software we used (SPSS; SPSS, Chicago, IL) allowed inclusion of categorical predictors with >2 groups. Analyses examined reports of overall consequences (ie, only positive versus mixed or negative consequences), any positive or negative consequences, and the specific consequences listed in Table 1. Effects of gender and type of sex are reported from logistic regression models in which the 2 variables were entered simultaneously. Potential interaction effects were tested separately.

RESULTS

Characteristics of Early Sexual Activity

Table 2 shows that one half of sexually experienced adolescents had initiated sexual activity by the autumn of ninth grade (wave 1 of data collection). Approximately even numbers of adolescents initiated sexual activity during the spring of ninth grade, autumn of tenth grade, and spring of tenth grade. Approximately one

TABLE 1 **Proportions of Adolescents Who Reported Consequences of Sexual Behavior at the First Time Point They Reported Being Sexually Experienced**

	No. of Adolescents in Each Sexual Activity Group Who Completed Each Item and Proportion Reporting Each Consequence					
	Oral Sex Only		Vaginal Sex Only		Both	
	No.	%	No.	%	No.	%
Overall experience of consequences (time 1 to time 4)	116		43		114	
Experienced only positive consequences		34.5		30.2		35.1
Experienced both positive and negative consequences		26.7		55.8		60.5
Experienced only negative consequences		4.3		2.3		1.8
Experienced neither positive nor negative consequences		34.5		11.6		2.6
Any positive consequence (time 1 to time 4)	116	61.3	43	86.0	114	95.7
Experienced pleasure (time 1 to time 4)	115	55.1	43	76.7	112	96.5
Became popular (time 1 to time 4)	116	7.6	43	11.6	111	25.9
Relationship got better (time 1 to time 4)	116	31.1	43	44.2	112	75.2
Felt good about self (time 2 to time 3)	84	65.1	29	65.5	83	83.3
Any negative consequence (time 1 to time 4)	116	31.1	43	58.1	114	61.7
Got in trouble with parents (time 1 to time 4)	116	4.2	43	18.6	110	21.6
Had a bad reputation (time 1 to time 4)	116	12.6	43	7.0	112	9.7
Relationship got worse (time 1 to time 4)	116	10.1	42	19.0	112	31.9
Felt guilty (time 1 to time 3)	99	19.8	36	41.7	98	45.5
Felt bad about self (time 2 to time 3)	83	41.2	29	34.5	84	48.2
Felt regret (time 3 to time 4)	97	37.0	30	33.3	88	52.8
Felt used because of having sex (time 3 to time 4)	97	25.0	29	37.9	86	54.0
Became pregnant or impregnated another person (time 1 to time 4)	116	0.8	43	9.3	113	14.0
Contracted STI (time 1 to time 4)	114	1.7	43	4.7	114	13.0

Time points at which various consequences were assessed are indicated in parentheses. Percentages were calculated among adolescents who reported initiation of sexual activity within the indicated time frame. Two adolescents left the consequences section of the survey blank and were omitted from analyses.

TABLE 2 **Distributions of Sexual Behavior Variables**

	Proportion, %	
	Sexually Experienced Male Adolescents ($n = 120$)	Sexually Experienced Female Adolescents ($n = 155$)
Time point for onset of sexual activity		
Time 1, autumn of ninth grade or before	50.0	48.4
Time 2, spring of ninth grade	16.7	20.0
Time 3, autumn of tenth grade	16.7	20.0
Time 4, spring of tenth grade	16.7	11.6
Type of sexual activity at time point sexual activity was first reported		
Oral sex only	31.7	51.0
Vaginal sex only	15.8	15.5
Both oral and vaginal sex	52.5	33.5

third of male adolescents and one half of female adolescents reported engaging only in oral sex at the first assessed sexually active time point.

Positive and Negative Consequences of Engaging in Sexual Behavior

The proportions of adolescents who reported various consequences of sexual behavior are presented in Table 1. Results are shown separately according to type of sex, to facilitate the interpretation of later analyses. Across all sexually experienced adolescents, the most commonly reported positive consequences were experiencing pleasure (55%–96%), feeling good about oneself (65%–83%), and having one's relationship become better (31%–75%). Negative consequences were less commonly reported by adolescents than were positive consequences. Up to one half of sexually experienced adolescents reported that they felt used, guilty, or bad about themselves as a result of sexual activity. Fourteen percent of adolescents who had engaged in both oral sex and vaginal sex and 9% of adolescents who had engaged only in vaginal sex reported becoming pregnant or impregnating another person at the first time point they indicated being sexually experienced. Thirteen percent

of adolescents who had engaged in both oral sex and vaginal sex, 5% who had engaged only in vaginal sex, and 2% who had engaged only in oral sex reported contracting a STI.

Consequences of Engaging in Sexual Behavior According to Gender and Type of Sex

Results from logistic regression analyses are presented in Table 3. Independent of the type of sex in which they had engaged, male adolescents were >2 times as likely as female adolescents to report experiencing popularity and feeling good about themselves as a consequence of sexual behavior. Male adolescents were also >3 times as likely as female adolescents to report that a pregnancy occurred as a result of their sexual activity and >4 times as likely to report that they experienced a STI. In contrast, female adolescents were almost 2 times as likely as male adolescents to report feeling bad about themselves as a result of sexual behavior and nearly 3 times as likely to report feeling used.

Independent of gender, adolescents who reported having vaginal sex (with or without also having oral sex) were more likely than adolescents who reported having only oral sex to experience any positive consequence and any negative consequence of having sex (Table 3). Adolescents who reported both types of sex were more likely to report experiencing pleasure, experiencing popularity, having their relationship become better, and feeling good about themselves, in comparison with adolescents who reported only oral sex. Adolescents who reported both types of sex were also more likely to report getting into trouble with their parents, having their relationship become worse, feeling guilty, feeling regret, and feeling used. Not surprisingly, adolescents who reported vaginal sex were more likely to report experiencing a pregnancy as a result of sexual activity. Adolescents who had both vaginal sex and oral sex were more likely to report experiencing a STI than were adolescents who had only oral sex.

Only 1 interaction between gender and type of sex emerged [exp(B) = 3.99; 95% confidence interval: 1.4–11.3; $P < .01$]. Compared with adolescents who engaged only in oral sex, adolescents who engaged in both vaginal sex and oral sex were more likely to report experiencing popularity as a result of sexual activity, but this effect was limited to male adolescents.

DISCUSSION

Previous research showed that adolescents expect engagement in oral sex to result in fewer negative physical health, social, and emotional consequences than vaginal sex.[2,8] The present study is the first to examine whether the initial consequences of sexual activity that adolescents report actually differ according to type of sex (ie, oral versus vaginal). Results generally support adolescents' expectations that oral sex is associated with fewer negative consequences than vaginal sex. In comparison with adolescents who had vaginal sex, adolescents who had only oral sex were less likely to report experiencing a pregnancy or STI, feeling guilty or used, having their relationship become worse, and getting into trouble with their parents as a result of having sex.

TABLE 3 **Consequences of Engagement in Sexual Behavior According to Gender and Type of Sex**

	Exp(B) From Logistic Regression (95% Confidence Interval)			
	Male vs Female	Vaginal Sex Only vs Oral Sex Only	Both Types vs Oral Sex Only	Both Types vs Vaginal Sex Only
Experienced only positive consequences	2.06 (1.2–3.5)[a]	0.75 (0.3–1.6)	0.88 (0.5–1.5)	1.16 (0.5–2.5)
Any positive consequence	1.64 (0.8–3.3)	3.75 (1.5–9.6)[b]	12.68 (4.8–33.7)[b]	3.38 (1.0–11.8)
Pleasure	1.82 (0.9–3.6)	2.58 (1.2–5.8)[a]	20.22 (6.9–58.8)[b]	7.83 (2.3–26.7)[c]
Popularity	2.12 (1.1–4.2)[a]	1.44 (0.4–4.6)	3.66 (1.6–8.3)[c]	2.55 (0.9–7.2)
Relationship became better	1.12 (0.7–1.9)	1.74 (0.8–3.6)	6.83 (3.8–12.4)[b]	3.93 (1.9–8.3)[b]
Felt good about self	2.47 (1.2–5.2)[a]	0.89 (0.4–2.2)	2.21 (1.1–4.7)[a]	2.50 (0.9–6.6)
Any negative consequence	0.64 (0.4–1.1)	3.29 (1.6–6.8)[a]	4.10 (2.3–7.2)[b]	1.25 (0.6–2.6)
Got in trouble with parents	1.72 (0.8–3.6)	4.81 (1.5–15.7)[c]	5.59 (2.0–15.4)[c]	1.16 (0.5–2.9)
Had a bad reputation	0.47 (0.2–1.1)	0.54 (0.1–2.0)	0.85 (0.4–2.0)	1.57 (0.4–6.0)
Relationship became worse	1.27 (0.7–2.4)	2.19 (0.8–5.9)	4.30 (2.0–9.1)[b]	1.96 (0.8–4.7)
Felt guilty	0.64 (0.4–1.1)	3.03 (1.3–7.0)[c]	3.74 (1.9–7.2)[b]	1.23 (0.6–2.7)
Felt bad about self	0.50 (0.3–0.9)[a,d]	0.79 (0.3–1.9)	1.54 (0.8–2.9)	1.96 (0.8–4.8)
Felt regret	0.84 (0.5–1.5)	0.82 (0.3–2.0)	1.93 (1.1–3.5)[a]	2.34 (1.0–5.6)
Felt used	0.36 (0.2–0.7)[c,d]	2.00 (0.8–4.9)	4.68 (2.4–9.2)[b]	2.34 (1.0–5.7)
Pregnancy	3.58 (1.2–10.3)[a]	10.49 (1.1–97.8)[a]	15.23 (2.0118.2)[c]	1.45 (0.4–4.7)
STI	4.22 (1.3–13.3)[a]	2.33 (0.3–17.4)	6.56 (1.4–29.9)[a]	2.81 (0.6–13.1)

Gender and type of sex were entered into logistic regression models simultaneously with consequences as the dependent variables. Findings remained significant when the time point for onset of sexual activity was included as a covariate.

[a] $P < .05$.

[b] $P < .001$.

[c] $P < .01$.

[d] Female adolescents were more likely to experience this consequence in comparison with male adolescents [felt bad about self: exp(B) = 1.99; 95% confidence interval: 1.1–3.7; felt used: exp(B) = 2.77; 95% confidence interval: 1.5–5.3].

From the data presented above, one might be tempted to conclude that engagement in oral sex among adolescents is of less concern than engagement in other forms of sexual activity. However, this conclusion might not be warranted. Because we focused on initial consequences of having sex in this young sample of adolescents, adolescents who engaged in only oral sex might have been less sexually experienced and had less opportunity to experience negative consequences. Engagement in oral sex was also not without negative consequences. Approximately one third of adolescents who had only oral sex reported ≥1 negative consequence of engaging in sexual behavior. Adolescents who had only oral sex were also less likely than their peers with vaginal sex experience to report experiencing pleasure, feeling good about themselves, and having their relationship become better as a result of having sex. The decision to engage in any type of sexual activity may thus result in negative social and emotional consequences or failure to experience anticipated positive consequences.

Female adolescents seem to be at particular risk for experiencing negative social and emotional consequences of having any type of sex. Among this sample of ninth-grade and tenth-grade students, female adolescents were nearly 2 times as likely as male adolescents to report feeling bad about themselves as a result of sexual behavior and nearly 3 times as likely to report feeling used. In contrast, male adolescents were twice as likely as female adolescents to report positive social and emotional consequences of having sex, including gaining popularity and feeling good about themselves. These findings are consistent with research showing that boys are encouraged to be sexually experienced, whereas girls are encouraged to restrict sexual behavior.[16–18] We found no interactions between gender and type of sex with respect to negative consequences. It thus seems that girls are more likely to experience negative social and emotional consequences of having sex, in comparison with boys, regardless of the type of sex in which they engage.

Male adolescents were more likely than female adolescents to report experiencing a pregnancy or STI as a result of having sex. These findings may be explained in part by male adolescents' greater engagement in vaginal sex, in comparison with female adolescents (68.3% vs 49%), but gender differences were present with controlling for type of sex. Other explanations are that male adolescents might have had sex on more occasions than female adolescents, had sex with more-risky partners, or engaged in fewer safe-sex practices than female adolescents. Male adolescents might have reported suspicion of impregnating a partner, although they were asked to report actual consequences. Symptoms of STIs might have been more apparent among male adolescents and easier to diagnose. It is also possible that male adolescents were more willing to admit experiencing a negative physical health consequence than were female adolescents.

Limitations of the present study include the assessment of adolescents from one region of California, which may not be generalizable to other regions of the country. Adolescents who might have become sexually experienced over the course of the study but failed to complete follow-up surveys were necessarily omitted from the present analyses. This likely led to overestimation of the percentage of adolescents who became sexually experienced by the autumn of ninth grade. Analyses of data for adolescents who completed all 4 surveys suggested that ≥40% of adolescents who were sexually experienced by the end of tenth grade initiated sexual activity by the autumn of ninth grade (data not shown). Therefore, studies of sexual behavior should sample adolescents at earlier ages. We have no reason to suspect that the consequences of sexual activity differed for adolescents who did not complete our surveys. We do not know whether consequences were viewed as positive or negative by adolescents. An additional limitation is that we relied on adolescents' self-reports. However, adolescents were assured of confidentiality. Strengths include the sample's diversity with respect to ethnicity and socioeconomic status. To our knowledge, this is the first study to examine systematically the social and emotional consequences that adolescents reported as a result of engaging in sexual behavior and to examine whether consequences differed according to gender and type of sexual activity.

Three important implications can be gleaned from study results. The first implication is that sexual education and health promotion interventions should focus on oral sex as well as vaginal sex. Our data are consistent with national statistics showing that large numbers of young adolescents are engaging in sexual activity. In our sample, 44% of adolescents had engaged in oral sex and/or vaginal sex by the spring of tenth grade. This statistic is consistent with data on 15-year-old adolescents from the 2002 National Survey of Family Growth (NSFG).[1] Of the sexually experienced adolescents in our study, one third of boys and one half of girls reported engaging only in oral sex at the first time point they indicated being sexually experienced. In comparison with statistics from the 2002 NSFG, fewer boys (6% of our total sample, compared with 13% from the NSFG) and more girls (13% of our total sample, compared with 8% from the NSFG) engaged only in oral sex; in addition, fewer boys (13% vs 25%) and girls (12% vs 26%) in our study engaged in vaginal sex, in comparison with national statistics.[1] One explanation for this pattern of findings is that some adolescents, particularly girls, may engage in oral sex as an alternative to vaginal sex.[7]

A significant minority of our sample subjects reported experiencing a pregnancy or contracting a STI. Rates of reported pregnancies among all surveyed adolescents (*n*

= 618) were slightly less than the 4% rate for adolescents in grades 9 to 12 nationwide who reported becoming pregnant or getting someone else pregnant in 2003[19]; this difference is understandable, given the younger age of our sample. Two percent of the adolescents in our study who reported engaging only in oral sex also reported contracting a STI. Our overall pattern of results illustrates the critical need for sex education and health promotion programs to provide medically accurate and complete information about sexuality and contraceptives to adolescents,[20] including information about oral sex.

The second implication of our study is that interventions should focus on the social and emotional consequences that adolescents experience, as well as the physical health consequences. Greater proportions of adolescents in our study reported negative social and emotional consequences of having sex, compared with negative physical consequences. Our findings support the recommendation by Cooper et al[12] that sexual risk-taking should be considered from a dynamic relationship perspective, rather than solely from a traditional disease-model perspective. Prevention programs rarely discuss adolescents' social and emotional concerns regarding sex, with the notable exception of comprehensive sex education programs that teach adolescents communication and negotiation skills (eg, how to ask a partner to wear a condom).[21] Discussion about potential negative consequences, such as experiencing guilt or feeling used by one's partner, may lead some adolescents to delay the onset of sexual behavior until they feel more sure of the strength of their relationship with a partner and more comfortable with the idea of becoming sexually active. Identification of common negative social and emotional consequences of having sex may also be useful in screening for adolescents at risk of experiencing more-serious adverse outcomes after having sex. For example, Monroe et al[22] found that romantic breakups were the most common trigger of a first episode of major depressive disorder in an adolescent sample.

The third implication of our study is that sexual education and health promotion interventions should focus on the positive consequences that adolescents may experience as a result of sexual activity. A greater proportion of adolescents in our study reported positive consequences of having sex than reported negative consequences. For example, three fourths of the adolescents who had engaged in both oral sex and vaginal sex reported that their relationship with a partner had gotten better as a result of having sex. Positive outcomes of having sex may serve to reinforce sexual behavior. It is normative for romantic relationships to be a central part of adolescents' lives.[23] Attempts to convince adolescents to delay the onset of sexual activity may have the greatest chance of success if health professionals and other adults acknowledge the positive consequences adolescents may experience as a result of sexual activity and then suggest other ways that benefits (eg, feelings of intimacy) may be achieved.

CONCLUSIONS

Results of the present study support the conceptualization of adolescent sexual behavior, including engagement in oral sex, as medical and public health issues. Parents and health professionals should talk with adolescents about how they can cope with and reduce the likelihood of experiencing negative physical, social, and emotional consequences of having sex, so that decisions to engage in sex are made thoughtfully and are more likely to lead to positive physical and mental health outcomes. Health professionals and other adults should also talk with adolescents about how decisions to engage in any type of sexual activity may have important consequences.

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VACCINATIONS

"[For] the first time in at least a decade, the vaccination rate for black children in the United States has caught up to that of youngsters in other racial groups, the government said. The Centers for Disease Control and Prevention reported that a survey found no statistically significant difference in 2005 among blacks, whites, Asians and Hispanics in vaccination rates for children ages 19 months to 35 months. In each racial group, 76 percent to 79 percent of children received the entire recommended series of shots against whooping cough, diphtheria, tetanus, polio, measles, mumps, rubella, chickenpox, hepatitis B and *Haemophilus influenza* type B."

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Noted by JFL, MD