Incidence and Correlates of Unwanted Sex in Relationships of Middle and Late Adolescent Women

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Objectives: To determine the 3-month incidence of unwanted sex and to examine relationship factors and health-risk behaviors associated with incident unwanted sex.

Design: Data collected from face-to-face interviews every 3 months in a longitudinal study with a minimum of 2 interviews and maximum of 10 across 27 months.

Setting: Primary health care clinics for teens in an urban setting.

Participants: Adolescent women aged 14 through 17 years.

Main Outcome Measures: At each 3-month visit, cervical and vaginal specimens were obtained for the evaluation of Chlamydia trachomatis, Neisseria gonorrhoeae, and Trichomonas vaginalis infection; for each partner, relationship characteristics and sexual behaviors were assessed, as well as the occurrence of unwanted sex. A logistic model was used to account for within-subject variability to model the probability of unwanted sex as a function of predictor variables.

Results: A total of 279 participants with a mean age of 15.9 years were enrolled, and most were African American (88.5% [247/279]). Unwanted sex was reported by 40.9% (n=114) of participants and in 15.5% (292/1880) of partner-visits. The most prevalent type of unwanted sex was due to fear that the partner would get angry if denied sex (37.6%, or 105 participants). Factors associated with unwanted sex included having a baby with the partner, lower relationship quality, lack of sexual control, less condom use, and partner marijuana use.

Conclusions: Unwanted sex occurs often within the sexual relationships of teens. These unwanted sexual experiences result in risk for sexually transmitted infections and pregnancies. Sexual health counseling to reduce risk should focus on both the patient’s and the partner’s behaviors.

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Unwanted sex is a common element of many young women's sexual experiences, often within the context of established romantic and sexual relationships. Unwanted sex refers to increasing degrees of incentive, pressure, or threat used by one partner to obtain sex that is unwanted by the other partner.

Unwanted sex, especially in more extreme forms of sexual coercion or rape, is associated with harm to mental and physical health. Depression, anxiety disorders, and posttraumatic stress disorder are all more common among women with a history of sexual coercion. Sexual coercion also is linked to younger age at sexual initiation, more lifetime sexual partners, unplanned pregnancy, and sexually transmitted infections (STIs), including human immunodeficiency virus. Unwanted sex occurs in a wide range of partnerships, from those in which the partner is barely known (eg, on a first date) to those in which the young woman has been sexually involved for months or years.

In addition to relationship characteristics, other factors may increase the health risks of unwanted sex. For example, condom use may be difficult to negotiate in circumstances associated with unwanted sex. Substance use also may increase the risk of unwanted sex; approximately half of unwanted sexual events involve alcohol. Risk of unwanted sex may be increased when a partner is drinking but the young woman is not. Marijuana use is associated with unwanted sex, but in few studies is overall marijuana use distinguished from use within the context of a specific relationship.

Research related to unwanted sex among adolescent women has at least 3 limitations. First, most research addresses only relatively extreme exper-
ences of unwanted sex involving high levels of threat, coercion, or violence.\textsuperscript{1,2,6,13} In these studies, more subtle and more subjective forms of unwanted sex that may be common in ongoing sexual relationships are not evaluated.\textsuperscript{14} Nonetheless, these apparently less traumatic forms of unwanted sex still may be associated with adverse outcomes. Second, much of the research about unwanted sex is not relationship specific.\textsuperscript{15} Unwanted sex occurs in the context of changes within relationships as well as change from one relationship to another. Romantic ideals and still-developing gender-role expectations about sexual relationships may influence the occurrence of unwanted sex as relationships change.\textsuperscript{16} Third, much of the research addresses the prevalence rather than the incidence of unwanted sex. Prevalence measures are appropriate for less common forms of unwanted sex and sexual violence (eg, date rape) but are less relevant for assessing more subtle forms that may occur in many relationships, as well as when relatively short-term relationship and behavioral correlates are investigated.\textsuperscript{17} Thus, the purposes of this study were 4-fold: (1) to determine the 3-month incidence of unwanted sex among adolescent women; (2) to evaluate relationship factors associated with incident unwanted sex; (3) to examine health-risk behaviors such as condom nonuse, alcohol use, and marijuana use in association with incident unwanted sex; and (4) to investigate associations of unwanted sex with incident STIs.

**STUDY DESIGN AND PROCEDURES**

Data were collected as part of a longitudinal study of risk and protective factors associated with STIs among young women in middle and late adolescence. Data were obtained from face-to-face interviews performed at enrollment and quarterly clinic visits and from STI testing of clinical specimens obtained at each visit. Each participant provided at least 2 and as many as 10 interviews across 27 months. Interviews required between 25 and 40 minutes, and participants received $20 for each interview as compensation for time and effort. At each visit, cervical and vaginal specimens were obtained for diagnosis of Neisseria gonorrhoeae, Chlamydia trachomatis, and Trichomonas vaginalis infections. Diagnostic testing was performed using polymerase chain reaction for each organism. Informed consent was obtained from each participant, and written permission was obtained from a parent or legal guardian. This research was approved by the institutional review board of Indiana University/Purdue University at Indianapolis-Clarian. As part of the protocol for ensuring participant safety, disclosed cases of neglect, abuse, or sexual violence were referred to clinic staff and social workers for evaluation.

**PARTICIPANTS**

Participants were adolescent women receiving health care in 1 of 3 primary health care clinics in Indianapolis. These clinics serve primarily lower- and middle-income residents from areas with high rates of teen pregnancy and sexually transmitted diseases. Clinic patients were eligible if they were aged 14 through 17 years at enrollment, spoke English, and were not pregnant at the time of enrollment. However, participants who became pregnant continued in the study.

**MEASURES**

Measures were chosen to represent demographic, relationship, and behavioral characteristics thought to be associated with unwanted sex. Self-reported race was recorded as non-black or black because of the substantial racial homogeneity of the sample. Age was calculated as the age on the day of the interview.

Relationship characteristics were assessed for each partner (as many as 3 partners) within the past 3 months. Because unwanted sex may occur in relationships in which coitus has not occurred previously, participants identified partners on the basis of noncoital sexual behaviors (oral-genital contact, genital touching, sexual kissing) if vaginal or anal sexual contact had not occurred. For each identified partner, the following items assessed relationship characteristics and sexual behaviors. Duration of relationship reflected the time (in months) since the first sexual contact (if any) with a specific partner. Participants were asked if they had a baby with the specific partner (no/yes). Relationship-specific substance use was assessed by means of 4 items reflecting frequency of alcohol and marijuana use (by participant herself or by a specific partner) before sex. Response options were “never,” “some,” and “a lot.” Coital frequency was measured as the number of sex acts reported with a specific partner. Retrospective reports of partner-specific coital frequency show good correlation to prospective diary records, except at high coital frequencies.\textsuperscript{18} Condom nonuse was calculated as the proportion of sex acts with a specific partner not protected by condoms.

Other relationship-specific measures included sexual lack of control and relationship quality. Sexual lack of control (2 items: $\alpha=.72$) addressed the degree to which the participant felt unable to manage sexual situations with a specific partner at a specific visit. Items were “Sometimes things just get out of control with him” and “It’s easy for him to take advantage of me.” Four response options were “strongly disagree,” “disagree,” “agree,” and “strongly agree.” Higher scores indicated less perceived sexual control with a specific partner at a specific visit. Relationship quality (5 items: $\alpha=.92$) reflects affiliation and comfort with a partner. An example item is: “We enjoy spending time together.” Response options were “strongly disagree,” “disagree,” “agree,” and “strongly agree.” Score ranges were from 5 to 20, with higher scores indicating higher relationship quality. Prior research results show that relationship quality is an important correlate of STI-related behaviors such as condom use.\textsuperscript{19}

Sexually transmitted infection was measured by the absence or presence of any of 3 STIs (N gonorrhoeae, C trachomatis, or T vaginalis) at any given visit.

The outcome measure was derived from 4 items related to partner-specific, visit-specific unwanted sex. These items were designed to assess the occurrence of unwanted sex in the previous 3 months. Formative research with this sample shows that sex is used to refer to penile-vaginal intercourse (Dr Fortenberry, oral communication, March 2005). Therefore, the term unwanted sex refers to unwanted penile-vaginal intercourse rather than other forms of sexual contact. Specific items included: “Would he break up with you unless you would have sex?”; “Does he ever make you have any kind of sex when you don’t want to?”; “Would he get mad if you didn’t have sex?”, and, “Does he give you money or gifts for any kind of sex?” Response options for each item were “definitely no,” “maybe,” and “definitely yes.” These items were chosen to assess subtle power and relational imbalances that may be more common in sexual decision making than overt threats and use of force.\textsuperscript{20} For the purposes of this research, unwanted sex by a specific partner at a specific 3-month visit was considered present if there was any positive response (“maybe” or “definitely yes”) to any
of the 4 items. The outcome measure was therefore dichotomous (no/yes) partner- and visit-specific unwanted sex.

### STATISTICAL ANALYSES

A logistic model with a random intercept to account for within-subject variability was used to model the probability of unwanted sex as a function of predictor variables. In this analysis, the random intercept reflected the subject-specific propensity of giving a “yes” response in an outcome variable. The model was fitted using the procedure PROC NLMIXED from the statistical software package SAS version 8.2 (SAS Institute Inc, Cary, NC); the initial values used in the model-fitting procedure were obtained from PROC GENMOD. For model selection, we first screened all independent variables through a series of bivariate logistic models with a random intercept. Independent variables with bivariate P<.30 were included in a full multivariable model so the effect of each variable could be reassessed after adjustment for the effects of other potentially important covariates. A final model was obtained through backward elimination of variables with P>.05.

### RESULTS

A total of 279 participants were enrolled, with a mean age at enrollment of 15.9 years. Most participants (88.5% [n=247]) reported race as African American, while 0.7% (n=2) reported Hispanic/Latino ethnicity, and 10.8% (n=30) reported race as white. The mean number of interviews for each participant was 5.4, and the mean number of partners identified at each visit was 1.3. Thus, participants identified 1502 partners for a total of 1883 partner-visits. Missing data on unwanted sex reduced the final sample to 1880 partner-visits.

Unwanted sex was reported at least once (ie, prevalence) by 40.9% (114/279) of the participants and in 15.5% (292/1880) of partner-visits (ie, incidence) (Table 1). The most prevalent type of unwanted sex (37.6% [105/279] of participants) was due to fear that the partner would get angry if denied sex. About 10% of participants reported being forced to have sex (Table 1).

Demographic, relationship, and behavioral characteristics of the partner-visits without and with unwanted sex are shown in Table 2. These bivariate associations, unadjusted for multiple within-subject observations, suggest that recent unwanted sex with a given partner is more likely in relationships of longer duration, if the woman has a baby with a partner, when less sexual control is perceived with the partner, when coital frequency and condom nonuse are higher, and when marijuana or alcohol are used by either partner (Table 3).

Demographic, relationship, and behavioral characteristics of the partner-visits associated with unwanted sex are shown in Table 3. These analyses are adjusted for multiple within-subject observations (column 2, univariate), for other predictors (column 3, full model), and including only significant correlates of unwanted sex (column 4, final model). After backward elimination of nonsignificant predictors, factors associated in the final model with unwanted sex during the past 3 months included having a baby with a specific partner (odds ratio [OR], 4.4; 95% confidence interval [CI], 2.48-7.90), lesser relationship quality (OR, 0.92; 95% CI, 0.88-0.97), lack of sexual control with a partner (OR, 1.80; 95% CI, 1.52-2.13), higher proportion of coital events without condom use (OR, 2.30; 95% CI, 1.49-3.55), and partner marijuana use before sex (OR, 1.80; 95% CI, 1.25-2.59). Variables not associated with unwanted sex were race, age, duration of relationship, STI, participant’s marijuana use before sex, participant’s alcohol use before sex, and partner’s alcohol use before sex.

### COMMENT

Unwanted sex is a common aspect of sexual relationships of adolescent women, even when reported across a relatively short 3-month interval. Moreover, the data show that relationship factors (such as relationship quality, relationship duration, and having a baby with a partner) and behavioral factors (such as condom nonuse and marijuana use) are characteristics of relationships in which incident unwanted sex is more likely to occur. The data cannot be used to assess causal associations of unwanted sex; rather, they point to the complex interpersonal and behavioral contexts that may link unwanted

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**Table 1. Prevalence and Incidence of Unwanted Sex According to Type of Unwanted Sex**

<table>
<thead>
<tr>
<th>Type of Unwanted Sex</th>
<th>Prevalence*</th>
<th>Incidence†</th>
</tr>
</thead>
<tbody>
<tr>
<td>Partner angry if denied sex</td>
<td>105 (37.6)</td>
<td>251 (13.4)</td>
</tr>
<tr>
<td>Sex that was not wanted</td>
<td>26 (9.3)</td>
<td>51 (2.7)</td>
</tr>
<tr>
<td>Fear of relationship termination</td>
<td>27 (9.7)</td>
<td>53 (2.8)</td>
</tr>
<tr>
<td>Exchange of money/gifts</td>
<td>13 (4.7)</td>
<td>27 (1.4)</td>
</tr>
<tr>
<td>Any</td>
<td>114 (40.9)</td>
<td>292 (15.5)</td>
</tr>
</tbody>
</table>

*Prevalence refers to any report of unwanted sex (N = 279 participants).
†Incidence refers to any report of unwanted sex with a specific partner during the previous 3 months (N = 1880 partner-visits).

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**Table 2. Unwanted Sex During the Past 3 Months According to Demographic, Relationship, and Behavioral Correlates**

<table>
<thead>
<tr>
<th>Demographic, Relationship, or Behavioral Correlate</th>
<th>No (n = 1588)</th>
<th>Yes (n = 292)</th>
</tr>
</thead>
<tbody>
<tr>
<td>African American</td>
<td>1432 (90.2)</td>
<td>244 (83.6)</td>
</tr>
<tr>
<td>Age, y</td>
<td>16.8 ± 1.3</td>
<td>17.0 ± 1.3</td>
</tr>
<tr>
<td>Relationship duration, y</td>
<td>0.9 ± 1.2</td>
<td>1.4 ± 1.7</td>
</tr>
<tr>
<td>Baby with partner</td>
<td>110 (6.9)</td>
<td>55 (18.8)</td>
</tr>
<tr>
<td>Relationship quality</td>
<td>15.9 ± 5.5</td>
<td>15.0 ± 4.1</td>
</tr>
<tr>
<td>Sexual lack of control</td>
<td>2.8 ± 1.0</td>
<td>3.6 ± 1.5</td>
</tr>
<tr>
<td>Coital frequency</td>
<td>8.1 ± 16.4</td>
<td>13.6 ± 213</td>
</tr>
<tr>
<td>Condom nonuse, %</td>
<td>5.6 ± 15.7</td>
<td>10.7 ± 19.2</td>
</tr>
<tr>
<td>Coital events without condom, %</td>
<td>38 ± 40</td>
<td>54 ±40</td>
</tr>
<tr>
<td>Sexually transmitted infections</td>
<td>321 (20.2)</td>
<td>71 (24.3)</td>
</tr>
<tr>
<td>Marijuana use before sex</td>
<td>313 (19.7)</td>
<td>95 (32.5)</td>
</tr>
<tr>
<td>Partner’s marijuana use</td>
<td>548 (34.5)</td>
<td>162 (55.5)</td>
</tr>
<tr>
<td>Alcohol use before sex</td>
<td>182 (11.5)</td>
<td>68 (23.3)</td>
</tr>
<tr>
<td>Partner’s alcohol use</td>
<td>464 (29.2)</td>
<td>143 (49.0)</td>
</tr>
</tbody>
</table>

*Data are given as number (percentage) or mean ± SD.
sex to other health risks. Clinically, these data suggest a reasonably high yield of screening for occurrence of unwanted sex at almost any routine health care visit, even if these visits occur at relatively frequent intervals (eg, at quarterly visits for contraceptives).

The data also point to the importance of attention to relationship issues as part of understanding risks associated with unwanted sex. Results of some studies suggest that young women perceive unwanted sex as part of normal heterosexual relationships. If sexual negotiation (including sexual refusal) is a skill learned during adolescence, then some degree of trial-and-error learning might be expected as experience, both positive and negative, accumulates. However, association of unwanted sex with lower perceived relationship quality, as well as condom nonuse, suggests the possibility of more serious consequences. Although the unwanted sex addressed in our study resembles the unwanted but consensual sex defined as sexual compliance, more extreme forms of sexual coercion and violence also may be characteristic of some sexually compliant relationships.

The distinction of types of unwanted sex is important because our data do not directly address sex associated with violence, physical intimidation, or force. However, about 10% of the participants in our study responded affirmatively to an item ("Does he ever make you have any kind of sex when you don't want to?") that is similar to an item in the 2003 Youth Risk Behavior Surveillance Study. In that study, approximately 11.9% of high school students indicated forced sexual intercourse had occurred. However, in our study, this type of sex in the past 3 months was addressed, whereas the Youth Risk Behavior Survey was used to assess lifetime prevalence. Other research documents an even higher prevalence of unwanted sex (as high as 44%), although using a variety of definitions of unwanted sex and diverse samples from which the data were drawn.

Unwanted sex associated with relationship factors appears to be a relatively common phenomenon. Fear of relationship termination is often a component of the psychological pressure associated with unwanted sex. This type of unwanted sex usually is discussed in the context of verbal coercion in which sexual activity may occur in efforts to enhance the relationship, please a partner, or avoid conflict. A study of junior and senior high school students indicated that one third of unwanted sexual experiences were often efforts to please the partner. Other influences on sexual decision making also may be relevant to adolescents. Sex for money or gifts was described by 4.7% of the participants in our study and occurred in 1.4% of partner-visits. From one perspective, this measure cannot be used to assess unwanted sex directly because the participant's evaluation of the sex as wanted or unwanted was not assessed. However, inclusion of this measure is justified because of substantial research interest in social and economic power differentials in adolescent sexual relationships. To our knowledge, only 1 study of youth in South America studied sex for money in a teen population, and researchers found it was not associated with sexual coercion at the initiation of sexual activity.

Our findings are consistent with other research findings linking various health-risk behaviors with unwanted sex. Condom nonuse was associated independently with unwanted sex, which is consistent with other research linking sexual coercion and sexual violence to risk of STIs. According to a survey of junior and high school students, 25% of unwanted sexual experiences occur around use of alcohol and other drugs.

Data from the National Longitudinal Study of Adolescent Health indicate the use of alcohol and other drugs was twice as likely to be reported at last sex for those teens who had ever experienced forced sex compared with those who had not. Alcohol and marijuana use were common within sexual relationships of teens in this study. Our finding that a partner's marijuana use rather than the young woman's use was associated with unwanted sex emphasizes the importance of focusing on both the individual and the partner's behaviors when counseling on avoidance of risk.

To reduce the number of unwanted sexual encounters between young people, one must clarify the meaning of pressure, and one must teach young people to be more effective communicators. There is limited understanding of the negotiation strategies that facilitate or diminish sexually coercive behaviors. In episodes of sexual activity with the partners under the influence of substances, the lines between consensual and nonconsensual activity easily might be blurred.

Table 3. Demographic, Relationship, and Behavioral Correlates Associated With Unwanted Sex in the Past 3 Months

<table>
<thead>
<tr>
<th>Demographic, Relationship, or Behavioral Correlate</th>
<th>Univariate* (OR, 95% CI)</th>
<th>Full Model (OR, 95% CI)</th>
<th>Final Model (OR, 95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>African American, %</td>
<td>0.38 (0.17-0.84)</td>
<td>0.47 (0.25-0.90)</td>
<td>...</td>
</tr>
<tr>
<td>Age, y</td>
<td>1.09 (0.93-1.27)</td>
<td>0.84 (0.70-1.01)</td>
<td>...</td>
</tr>
<tr>
<td>Relationship duration, y</td>
<td>1.37 (1.21-1.55)</td>
<td>1.18 (1.01-1.37)</td>
<td>...</td>
</tr>
<tr>
<td>Baby with partner, %</td>
<td>4.79 (2.77-8.26)</td>
<td>3.61 (1.93-6.77)</td>
<td>4.42 (2.48-7.90)</td>
</tr>
<tr>
<td>Relationship quality§</td>
<td>0.92 (0.88-0.96)</td>
<td>0.92 (0.88-0.98)</td>
<td>0.92 (0.88-0.97)</td>
</tr>
<tr>
<td>Sexual lack of control</td>
<td>2.01 (1.72-2.35)</td>
<td>1.76 (1.48-2.09)</td>
<td>1.80 (1.52-2.13)</td>
</tr>
<tr>
<td>Condom nonuse, %</td>
<td>2.84 (1.89-4.24)</td>
<td>2.19 (1.39-3.46)</td>
<td>2.30 (1.49-3.55)</td>
</tr>
<tr>
<td>Sexually transmitted infections, %</td>
<td>1.39 (0.96-2.03)</td>
<td>1.44 (0.95-2.20)</td>
<td>...</td>
</tr>
<tr>
<td>Marijuana use before sex</td>
<td>1.86 (1.25-2.78)</td>
<td>1.16 (0.70-1.91)</td>
<td>...</td>
</tr>
<tr>
<td>Partner's marijuana use</td>
<td>2.29 (1.65-3.18)</td>
<td>1.62 (1.08-3.42)</td>
<td>1.80 (1.26-2.59)</td>
</tr>
<tr>
<td>Alcohol use before sex</td>
<td>1.75 (1.13-2.71)</td>
<td>1.13 (0.66-1.93)</td>
<td>...</td>
</tr>
<tr>
<td>Partner's alcohol use</td>
<td>1.93 (1.38-2.68)</td>
<td>1.67 (0.70-1.63)</td>
<td>...</td>
</tr>
</tbody>
</table>

Abbreviations: CI, confidence interval; OR, odds ratio.
*Adjusted for multiple observations within each subject by random subject effect.
†Variables with P<.30 in bivariate analyses are included in the full model.
‡Variables with P<.05 in the full model are included in the final model.
§Scale with possible total of 5 to 20 when 4 items are summed.

The distinction of types of unwanted sex is important because our data do not directly address sex associated with violence, physical intimidation, or force. However, about 10% of the participants in our study responded affirmatively to an item ("Does he ever make you have any kind of sex when you don't want to?") that is similar to an item in the 2003 Youth Risk Behavior Surveillance Study. In that study, approximately 11.9% of high school students indicated forced sexual intercourse had occurred. However, in our study, this type of sex in the past 3 months was addressed, whereas the Youth Risk Behavior Survey was used to assess lifetime prevalence. Other research documents an even higher prevalence of unwanted sex (as high as 44%), although using a variety of definitions of unwanted sex and diverse samples from which the data were drawn.

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To our knowledge, only 1 study of youth in South America studied sex for money in a teen population, and researchers found it was not associated with sexual coercion at the initiation of sexual activity.
to be viewed in the context of the communication and perception of consent. Women may not clearly say no in response to unwanted sexual activity but may try to communicate their unwillingness in nonverbal and nonassertive ways. Alternatively, substance use by the partner may result in his being less sensitive to the young woman’s unwillingness.\textsuperscript{18,27,32}

Limitations of our study include the use of a clinic-based sample of relatively homogeneous racial and socioeconomic composition. The history of sexual coercion is based on self-report; self-reports of unwanted sex appear to be reasonably valid and reliable but may vary as individuals reevaluate experiences across time.\textsuperscript{33} We also measured the occurrence of unwanted sex in generic terms, without specifically addressing the types of unwanted sexual contact. Thus, incidence rates of unwanted sex may be somewhat lower than would have been identified if specific unwanted sexual acts were assessed.

In summary, the experience of unwanted sex is common among adolescent women and is related to engaging in sexual behaviors that put them at risk of STIs and pregnancies.

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