

Family Planning Perspectives
Volume 30, Number 2, March/April 1998

Partner-Specific Sexual Behaviors Among Persons with Both Main and Other Partners

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Context: If men and women engage in different sexual behavior with main partners than with other types of partners, then programs aimed at preventing the spread of sexually transmitted diseases (STDs) may need to address individuals' differential risk with each partner type.

Methods: Relationship characteristics, partner risk behaviors and sexual behaviors are examined among 123 male and 106 female STD clinic patients who had both main and other partners. Individual-level comparisons are made for two types of partner pairs: main vs. other frequent (side) partners and main vs. casual partners.

Results: Among men and women with both main and side partners, the proportion who had known only their main partner for at least a year (48% of men and 41% of women) was significantly higher than the proportion who had known only their side partner for that long (2% and 9%, respectively); no other variable differed significantly by partner type. Among those with main and casual partners, both men and women were more likely to use alcohol or drugs before or during sex with main partners only (15%) than with casual partners only (1-3%). Women with main and casual partners were more likely to have oral sex only with main partners than only with casual partners (37% vs. 3%), and were more likely to use condoms only with casual partners than only with main partners (33% vs. 4%).

Conclusions: Providers need to ask individuals about their sexual behaviors with different partner types, and should tailor prevention messages to an individual's risks and reproductive intentions with each partner.

More than 600,000 Americans have developed AIDS since the beginning of the epidemic, and many of them contracted HIV through sexual contact with an infected partner. The proportion of infected women who acquired the virus through sexual activity with an infected man has risen steadily, and in 1996, it exceeded the proportion infected through injection-drug use (40% vs. 35%). Among men, sexual contact with an infected male has been the most common mode of transmission throughout the epidemic, accounting for 59% of infections.¹ Given the importance of sexual contact in the spread of HIV among both men and women, it is imperative to understand the variability of sexual behaviors that put people at risk.

Having multiple sex partners may increase an individual's chances of coming into contact with a partner who is infected. However, it does not necessarily increase the risk of acquiring a sexually transmitted disease (STD), as consistent and correct use of

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condoms can lower the probability of transmission of HIV and other STDs.² In addition, the prevalence of STDs varies within the population,³ so an individual's choice of partners will also affect the probability of infection.

Definitions and labels for types of sex partners vary from study to study. Most commonly found is a dichotomy between "main" partners (also called "regular," "steady" or "primary" partners) and "other" partners (also called "casual" or "secondary" partners). Some studies make further distinctions for paying partners or customers, anonymous partners⁴ or new partners;⁵ in one study, women described men with whom they had unprotected sex, or what they described as "enjoyable sex" or "affection," as "side dishes."⁶ Given these different labels, partner type may best be understood as a marker for the dynamics operating in a relationship.

To make inferences about the sexual behavior of people with both main and other partners, the appropriate analysis is at the individual level ("within-subjects" analysis). Because individuals with more than one type of partner give responses for each type, researchers must use statistical tests that account for multiple responses from each individual.

The purpose of our study was to determine whether assumptions about differences in condom use and other sexual behaviors with main and other partners can be extrapolated, using within-subjects analysis, to the individual level. If partner type is, indeed, a marker for differences in dynamics within a sexual relationship, then such differences would indicate the necessity of providing tailored prevention programs that address an individual's differential risk with each partner type.

METHODS

Study Setting and Sample

Data for this analysis came from the Sexually Transmitted Epidemic Prevention Project, a study of STD patients in a rural North Carolina county. This county was chosen for the project because of its extremely high rates of syphilis, gonorrhea and HIV.⁷ The project included a formative research phase, a survey of patients with initial and repeat infections attending the county public health STD clinic, and ongoing qualitative data collection in the community. One objective of the project was to examine relationships with different types of partners.

All county residents visiting the clinic between August 1992 and January 1994 for a regular exam (i.e., other than to receive a test of cure, ongoing treatment, an HIV or pregnancy test only, or condoms) were eligible for the survey. Those agreeing to participate signed a consent form before the interview.

Only two men and no women reported same-sex partners; therefore, we restricted the analysis to persons with partners of the opposite sex in the past three months. We excluded respondents who reported no sex partners and, because of our interest in within-subjects analyses for those with multiple types of sex partners, those who reported only one type.

MEASURES AND ANALYSES

The project's formative research phase provided background information about

partner types and guided us in the wording of questions. We developed a 147-item structured questionnaire, which was administered by trained interviewers, and a shorter version for use when the interviewer did not have time to administer the full interview.^{*,_}

Respondents were asked if they had a main partner, "like a husband or wife, or a boyfriend or girlfriend. Someone you see a lot." Those who reported having a main partner were asked: "After [name of main partner] is there anyone you have sex with more often than others?" The interviewers added the description "a second main squeeze" as part of the definition. If the respondent said yes, this partner was categorized as a "side partner." Thus, respondents themselves decided whether a second partner was a side or casual partner. Those who had no side partner or who had three or more partners were considered to have "casual" partners. (The terms "side" and "casual" partners were not used with respondents.)

Conceptually, we viewed side partners as being somewhere between main and casual partners, in terms of both frequency of intercourse and relationship status. In reality, these categories and definitions of partner types may not be mutually exclusive. However, the possible fluidity of partner types cannot be captured in our data, since our survey was cross-sectional.

Respondents who reported main or side partners were asked about characteristics of each relationship (e.g., how long they had known their partner) and about these partners' risk behaviors (e.g., whether they had partners other than the respondent). All respondents were asked whether, in the past three months, they had engaged in vaginal, anal or oral intercourse with each partner type and how frequently they had used condoms for each type of intercourse. (The three-month period was chosen to minimize recall bias.) We coded condom use as consistent if the respondent answered "every single time" or inconsistent if any other response was given. This coding scheme was chosen because consistent condom use is effective in preventing STDs.

Respondents were asked if they used alcohol or other drugs before or during sex, and were asked about whether and what kind of birth control they used with each partner (although they were not asked about the frequency with which they used birth control). Gender was coded by the interviewer, and other demographic variables (e.g., age and variables measuring socioeconomic status) were included in the questionnaire.

We used the chi-square test for demographic differences between men and women. For the within-subjects analyses of partner type differences, we used a statistical test for dependent data; p values reported for differences by partner type are from the corrected McNemar's chi-square test. This test determines the probability that the proportion with the response of interest in one condition is greater than the proportion with the response of interest in the second condition (e.g., the probability that the proportion engaging in some behavior with their main partner but not their casual partner is greater than the proportion engaging in that behavior with their casual partner but not their main partner).

All within-subjects analyses are reported separately for women and men. We used EpiInfo 6.02 to calculate the corrected McNemar's test; all other data were analyzed using SAS 6.12.

RESULTS

Sample Characteristics

Half of the 2,888 STD patients eligible for the study were asked to participate, and virtually all of these (49% of eligible patients) completed interviews. Patients who were interviewed did not differ from those not interviewed with regard to sex or age, but were more likely to be black (86% vs. 74%). Of the patients surveyed, 47% were interviewed using the long form of the questionnaire. Those who responded to the short form did not differ from persons who completed the long form in terms of age, race, sex, number of partners or the proportion who had a main partner.

Of the 661 patients who completed the long form of the questionnaire, 35% met the inclusion criteria for this analysis; these 123 men and 106 women constituted our final sample. The sample was predominantly black (93% of men and 85% of women—Table 1). Women were significantly younger than men (median ages, 22 and 23 years, respectively—not shown) and were significantly more likely to have completed high school (69% vs. 56%). Only 19% of men and 20% of women lived with a partner at the time of the interview.

Table 1. Percentage of sexually transmitted diseases clinic patients with multiple partner types, by selected characteristics, rural North Carolina, 1992-1994

Characteristic	Women	Men
	(N=106)	(N=123)
Black	85	93
High school graduate	69*	56
Lives with partner	20	19
Has main partner	95	93
Has side partner	48	50
Has casual partner	72	80
>3 partners in past 3 months	30***	57
Main partner has other partners	76***	44

*p<.05. ***p=.001. Note: Education is adjusted for age.

No significant differences were found between men and women in the proportions reporting different partner types. Men were more likely than women to have had three or more partners in the preceding three months (57% vs. 30%), but women were more likely than men to report that their main partner had other partners (76% vs. 44%). The practice of exchanging sex for money, drugs or other items was more common with casual partners (13% of women and 7% of men) than with side partners (fewer than 5% of each).

For the within-subjects analyses, we report on 45 women and 54 men who had a main partner and a side partner, and 71 women and 90 men who had main and casual partners. No tests were conducted for differences among those with side and casual partners because of small sample size (20 women and 37 men). Included in both the main vs. side and the main vs. casual analyses are 10 women and 21 men who had all three partner types.

MAIN VS. SIDE PARTNERS

Among respondents with both main and side partners, 41% of women and 48% of men had known their main partner, but not their side partner, for at least one year; by contrast, only 9% and 2%, respectively, had known their side partner, but not their main partner, for that long (Table 2). No other relationship characteristics or any risk behaviors of the respondents' partners were significantly different according to partner type.

Table 2. Percentage distribution of STD clinic patients with main and side partners, by partner to which measures of relationship and behavior apply, according to sex

Measure	Women (N=45)				Men (N=54)				Total
	Main only	Side only	Both	Neither	Main only	Side only	Both	Neither	
Relationship characteristic									
Known >1 year	41	9**	41	9	48	2**	24	26	100
Live in same county	5	16	70	9	11	13	69	7	100
Partner's risk behavior									
Other partners	11	24	58	7	19	13	29	21	100
History of STD	20	23	6	51	17	13	2	67	100
History of injection-drug use	9	9	7	75	6	6	2	86	100
Sexual behavior									
Vaginal sex	0	2	98	0	2	0	98	0	100
Anal sex	2	2	2	93	4	4	0	92	100
Oral sex	27	11	18	44	22	9	22	46	100
Condom use†	7	18	0	75	9	9	4	77	100
Birth control use	7	9	66	18	13	6	57	24	100
Alcohol use with sex	16	2	34	48	7	4	52	37	100
Drug use with sex	11	5	16	68	6	6	21	68	100

**p<.01. †For vaginal sex only. Note: p value is for McNemar's test, which considers discordant responses only.

More than 95% of respondents engaged in vaginal sex, and fewer than 5% engaged in anal sex, with both partner types; consequently, there were no statistically significant differences by partner type for these behaviors among women and men. No significant differences in other behaviors were found when we compared main and side partners. The data suggest that more women used alcohol before or during sex with their main partner than with their side partner, but this difference was of borderline statistical significance (p=.08).

We also examined relationship characteristics and behaviors that respondents said applied to both their main and their side partners or to neither. The majority of women reported that both their main and their side partners had other partners (58%), that they did not use condoms consistently for vaginal sex with either partner type (75%) and that they used some type of birth control method with both partners (66%); common methods used were oral contraceptives and tubal ligation, which do not vary by partner type because they are not dependent on the sexual act. Similarly, the majority of men said they did not use condoms consistently with either their main or their side partner (77%), but that they used some contraceptive method with both (57%).

MAIN VS. CASUAL PARTNERS

For respondents reporting both main and casual partners, differences by partner type in the proportions engaging in vaginal and anal sex were not statistically significant (Table 3). The use of birth control also did not differ by partner type, for reasons noted previously.

Table 3. Percentage distribution of STD clinic patients with main and casual partners, by partner to which measures of behavior apply, according to sex

Sexual behavior	Women (N=71)				Men (N=90)				Total
	Main only	Casual only	Both	Neither	Main only	Casual only	Both	Neither	
Vaginal sex	1	0	99	0	2	0	98	0	100
Anal sex	7	0	0	93	0	0	1	99	100
Oral sex	37	3**	17	44	24	14	16	47	100
Condom use†	4	33**	1	61	5	14	3	78	100
Birth control use	4	13	63	20	18	11	52	18	100
Alcohol use with sex	15	3*	45	37	13	3*	51	33	100
Drug use with sex	15	1**	14	69	14	3*	14	69	100

*p<.05. **p<.01. †For vaginal sex only>Note: p values are for McNemar's test, which considers discordant responses only.

Women were significantly more likely to engage in possibly risky behaviors only with main partners than only with casual partners: Whereas 37% reported oral sex with their main but not their casual partner, only 3% engaged in this behavior with their casual but not their main partner; 15% reported using alcohol or drugs before or during sex with their main partner only, compared with 1-3% with their casual partner only. At the same time, women were less likely to use condoms, a preventive behavior, only with their main partner (4%) than only with their casual partner (33%).

Men were more likely to use alcohol or drugs before or during sex with their main but not their casual partner (13-14%) than with their casual but not their main partner (3%). The data suggest that condom use was more likely with casual partners, but the difference is only marginally statistically significant (p=.08).

DISCUSSION

The findings of our analyses of main vs. casual partners are consistent with those of previous research showing that individuals use condoms more consistently for vaginal sex with other partners than with main partners. Similar results have been reported from samples of STD clinic patients,⁸ family planning clinic clients,⁹ women at high risk for HIV infection¹⁰ and college students,¹¹ as well as from national surveys in the United States¹² and in France.¹³

In a national survey of adult heterosexuals in the United States,¹⁴ 7% of respondents with both primary and secondary partners used condoms consistently with secondary but not with primary partners; statistical tests of differences between primary and secondary partners were not reported. Black and Hispanic youth with multiple partners were found to engage in oral sex more frequently with a "main" (married or cohabiting) partner than with "well-known" (not married or cohabiting) or "casual"

partners; consistent condom use was more likely with well-known partners than with main partners.¹⁵ A study of heterosexual couples in California in which one partner was HIV-positive found that the consistency of condom use varied by type of partner.¹⁶ One explanation for partner-specific differences in condom use is that condom use may diminish over time in a relationship.¹⁷

Drug and alcohol use before or during sex are STD-related problems, for several reasons. There is a risk of HIV infection from injection-drug use, and the links between crack use, syphilis and HIV have been well documented.¹⁸ Alcohol use may be a marker for engaging in multiple risk-taking behaviors, or it may affect judgment and decision-making regarding safer sex.¹⁹ High rates of alcohol use in rural areas underscore the need to provide education to persons living in these areas about decision-making regarding safer sex when under the influence of alcohol. Educational messages about safer sex should also address the intertwined issues of substance use, sexual behavior and infection.

The general lack of significant differences between main and side partners may have a couple of explanations. One is our small sample size. Had our sample been larger, there may have been enough statistical power to detect a difference between main and side partners. A sample of 1,150 youth showed significantly more consistent condom use with "well-known partners" (who appear to be conceptually similar to our side partners) than with main partners.²⁰

Another possible explanation is that main and side partners do not differ; a side partner may best be understood as a second main partner. The extent of concordance in behaviors with main and side partners found in our analysis would support this explanation.

Our results indicate little difference between main and side partners, and some differences between main and casual partners. Although we did not analyze side vs. casual partners, these results imply a difference. Future research based on larger samples should pursue the similarity in behavior and relationship characteristics of main and side partners, and further examine side partners as a separate entity from casual partners. Simply categorizing partners as main and other may introduce some misclassification, making it hard to identify some statistical associations.

The risk of STD acquisition appears to be higher with main partners than with casual partners. To date, safer sex messages may have been more effective in communicating the risks associated with casual partners than those associated with main partners. Our findings emphasize the need to educate men and women who have several partners that they are at risk even, or perhaps especially, in their primary relationships, and that using condoms in these relationships can be in accord with feelings of love and intimacy while at the same time providing protection against STDs. Pregnancy and disease prevention should be discussed at the same time, to ensure that clients understand how to prevent both effectively or how to reduce risk of disease when planning a pregnancy. This issue is of particular concern, since 44% of men and 76% of women in this study reported that their main partner had other partners.

The differences we found between the ways men and women behave with their main and their casual partners underscore the need for specificity in asking about sexual

behaviors. Health care providers obtaining a sexual history or doing a risk assessment should ask clients whether they have multiple partners and, if so, about specific sexual and other risk behaviors related to HIV for each partner. From a disease prevention perspective, for individuals with multiple partners, it is important to disaggregate risk into behaviors that occur with each partner, as protective behaviors must occur with all partners in order to effectively prevent infection. Consequently, differential prevention messages should be delivered about the use of condoms and other contraceptives to prevent disease and pregnancy according to the individual's risks and reproductive intentions.

The use of individual-level analyses in this analysis identified some behaviors that are partner-specific and others that appear to be common with all partner types. These findings underscore the importance of conducting individual-level analyses, using appropriate statistical methods. Because persons with multiple partner types may behave differently than those with one partner type, such analyses will indicate whether group-level differences do, as we found, hold at the individual level.

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*The analyses included in this article are based on data from the long form.