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## HIV Sexual Risk Behavior among Puerto Rican Women

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### Abstract

We examined the association of primary or nonprimary sexual partner relationship status on sexual risk behaviors, including condom use, among Latina women who are at self-disclosed increased heterosexual risk for human immunodeficiency virus (HIV) infection. Data were collected via structured interviews of 187 Puerto Rican women, aged 18–35, who attended a health clinic in the Bronx, New York. Approximately 13% of participants reported sexual activities with both primary and nonprimary sexual partners during the 6 months prior to the interview. Primary or nonprimary sexual partner status was associated with significant differences in frequency of condom use during anal sex and oral–penile sex, with more frequent condom use reported during these sexual activities with non-primary sexual partners. Thus, potential contextual differences associated with primary or nonprimary relationship status may represent important factors to consider when designing interventions to facilitate HIV-protective behaviors among populations of urban women identified at increased heterosexual risk for HIV infection.

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In this study we provided detailed descriptive information regarding heterosexual risk behaviors that have been associated with HIV infection among Puerto Rican women who lived in the northeastern United States. We determined if sexual activities with either primary or nonprimary sexual partners differed with regard to risk for HIV infection, and we discussed the implications of these findings.

### Background

While the total number of annual cases of acquired immune deficiency syndrome (AIDS) has declined over recent years, women continue to account for a steady increase in the proportion of adults infected with human immunodeficiency virus (HIV; Centers for Disease Control and Prevention [CDC], 1999). AIDS represents the leading cause of death in women of reproductive age, and HIV infection occurs disproportionately in women of color of childbearing age (CDC, 1999). Latina women represented 20% of AIDS cases reported among women through June 1999, and the most common exposure category for Latina women with AIDS was heterosexual contact (63%; CDC, 1999). Among Latinas, the highest rates of reported HIV infection occur among Puerto Rican women who reside in the northeastern

United States (CDC, 1999). While the greater efficiency of male-to-female viral transmission may partially explain the increased vulnerability to risk for heterosexual HIV infection for women in general (Anderson & May, 1988; Friedland & Klein, 1987), Latina women seem less at risk due to their own behavior but more at risk due to the HIV risk behavior of their male partners, who are more likely to report intravenous drug use (IDU) and having sex with men and/or multiple partners (Carballo-Diequez & Dolezal, 1996; Choi, Catania, & Dolcini, 1994; Diaz et al., 1994; Dolcini, Coates, Catania, Kegeles, & Hauck, 1995; Marin, Gomez, & Hearst, 1993; Marin, Tschann, Gomez, & Kegeles, 1993; Sabogal, Faigeeles, & Catania, 1993).

### **Condom Use**

Condom use represents an effectual means of preventing HIV transmission (Conant, Hardy, Sernatinger, Spicer, & Levy, 1986; Francis & Chin, 1987; Gielen, Faden, O'Campo, Kass, & Anderson, 1994). However, Latina women, including Puerto Rican women, report low or inconsistent rates of condom use (Grella, Annon, & Anglin, 1995; Dixon, Antoni, Peters, & Saul, 2001; Harrison et al., 1991, <sup>1996</sup>; Marin, Gomez et al., 1993; Marin, Tschann et al., 1993; Moore, Harrison, Kay, Deren, & Doll, 1995). In two separate studies, approximately 63%–64% of Puerto Rican women reported never using condoms during vaginal sex with sexual partners (Dixon et al., 2001; Moore et al., 1995). However, while general recognition exists about the greater risk of heterosexual infection of HIV among Latina women, relatively sparse information is available regarding specific heterosexual risk behaviors among Puerto Rican women who could be targeted for prevention efforts (Carmona-Vargas, Romero, & Loeb, 1999; Deren et al., 1996; Dixon et al., 2001; Newcomb et al., 1998; Romero & Arguillas, 1993).

### **Partner Status and Risk Behavior**

Partner status (e.g., primary or nonprimary sexual partner) has been related to consistency of condom use, with higher percentages of adults, including Latinos, reporting more frequent condom use during sex with nonprimary versus primary sexual partners (Dolcini et al., 1995; Marin, Gomez et al., 1993; Marin, Tschann et al., 1993; McCoy & Inciardi, 1993). However, these findings have not been extended to Latino subpopulations at increased risk for HIV infection, such as Puerto Rican women. Moreover, although rates of anal sex have been reported at approximately 10%–18% among adolescent populations (Catania et al., 1989; Jemmott, Jemmott, & Fong, 1992; MacDonald et al., 1990), at approximately 8% for adult heterosexuals (Gielen et al., 1994; Kalichman, Hunter, & Kelly, 1992; Kline & Strickler, 1993), and at 24% for Puerto Rican women (Dixon et al., 2001), detailed information regarding frequency of higher and lower risk sexual behaviors with both primary and nonprimary sexual relationships have not been reported for Puerto Rican women (Flack et al., 1995; Yee et al., 1995).

Thus, more comprehensive information is needed regarding sexual risk behavior among Puerto Rican women who reside in the northeastern United States, as this population has been identified as at increased risk for HIV infection via heterosexual contact. Additionally, more thorough information is needed regarding sexual activities with primary versus nonprimary sexual partners, as this factor may represent distinct relationship contexts associated with varying levels of HIV risk. This information could strengthen the effectiveness of prevention and intervention strategies within populations of women identified as at increased heterosexual risk for HIV infection.

### **Objectives and Study Hypotheses**

In the present study we provided detailed descriptive information regarding heterosexual risk behaviors that have been associated with HIV infection, with the primary aim of more

effectively elucidating components of sexuality that may remain critical in determining HIV risk among a population of Puerto Rican women who resided in the northeastern United States. Our specific aim was to report the frequency of condom use during vaginal, anal, and oral sexual activities with primary and nonprimary sexual partners. In this regard, we conjectured that a relatively small percentage of women would report sexual activities with nonprimary sexual partners, when considered within the context of prior research. Moreover, we surmised that study participants would report relatively high percentages of higher risk sexual behaviors, including unprotected vaginal and anal intercourse, with primary and/or nonprimary partners. Finally, for those women who indicated sexual activities with both primary and nonprimary partners, we formally hypothesized varying levels of condom use associated with primary versus nonprimary relationship status.

## Methods

### Procedure

This study represented a component of a larger investigation funded through a cooperative agreement with the Centers for Disease Control and Prevention (CDC, Atlanta, Georgia), which investigated HIV risk factors related to sexual decision making among Puerto Rican women who resided in the Bronx, New York, from 1994 to 1995. Potential participants were recruited from the waiting room of a primary health care community center located in the Bronx, New York. This public sector facility was chosen due to the comparability with other health care facilities in New York City regarding the provision of services such as annual gynecological exams, pediatric care, treatment for general health concerns, and collection of WIC certificates. The study interviewer determined the eligibility of the potential study participant, briefed the woman about the study intent and details, and then asked the woman to participate. Prior experience within similar settings revealed that disproportionate numbers of potential participants refused to participate in research studies that required written consent (Harrison et al., 1991). Therefore, verbal, rather than signed, consent to participate was used so that there would be no record of participants' names. The face-to-face interview required approximately 45 to 90 minutes to complete. Interviewers were Puerto Rican women who lived in the Bronx and who were fluent in Spanish. Participants were provided with a choice to conduct the interview in Spanish or English. All except one participant elected to conduct the interview in English. The translation procedures for the study instruments have been described in detail elsewhere (Moore et al., 1995). All study participants received \$30.00 cash upon completion of the semistructured interview. No further contact with respondents occurred following participation in the study. These procedures were approved by the Internal Review Board (IRB) of the Montefiore Hospital of the Albert Einstein College of Medicine of Yeshiva University.

### Participants

Interviewers approached 258 women to participate in a study investigating sexual behavior in young women. Only those women who were Puerto Rican, between the ages of 18 and 35, reported being in a heterosexual relationship for at least 1 year and having vaginal sex with that partner during the 6 months prior to the screening process were recruited. These women could not be pregnant or more than 6 months postpartum, and they were required to have no lifetime history of injecting drug use. This last criterion was used to help focus the investigation on heterosexual risk factors for HIV infection. Twenty-three refused to undergo the screening procedure for the study. Forty-five women failed to meet eligibility for the study, and 8 were unable to complete screens, leaving 187 participants.

## Measures

**Developing Interview Measures**—The CDC developed the structured interview measurements used for this research project and used focus groups conducted with Puerto Rican women to determine the appropriateness of the initial research questions (Moore et al., 1995). Study interviewers, who represented part of the local Hispanic community, participated in the finalization of survey items for the current study.

### Sexual Activities and Condom Use

**Primary Partners:** First, participants rated their frequency of vaginal, anal, oral–penile, and oral–vaginal sex with their husbands or boyfriends during the 6 months prior to the interview along a 6-point Likert scale ranging from 0 (never/none) to 5 (more than once a day, almost every day). Next, participants rated their frequency of condom use during vaginal, anal, and oral–penile intercourse, and latex barrier use during oral–vaginal sex during the same 6-month time period along the following 5-point scale: 0 (never), 1 (less than half the time), 2 (about half the time), 3 (more than half the time), and 4 (always).

**Nonprimary Partners:** Participants were asked, “Have you had sex with someone other than your husband or boyfriend during the past 6 months?” If participants responded affirmatively, they rated their frequency of vaginal sex with nonprimary partners in a manner consistent with the *primary partner* questions. However, dichotomous variables were used to assess anal, oral–penile, and oral–vaginal sex: 0 (no), and 1 (yes). The frequency of condom use during vaginal, anal, and oral–penile intercourse, and latex barrier use during oral–vaginal sex with nonprimary partners was rated in a manner consistent with the *primary partner* condom use questions.

**Background and Control Variables**—Background variables included age, educational level, religious affiliation, living arrangements (live with husband or boyfriend, reside with children), and marital status. In addition, in order to assess perceived risk for HIV infection, participants were asked to rate their chance of getting HIV from their husband or boyfriend on a 4-point Likert scale ranging from 0 (no chance) to 3 (good chance). Finally, because this investigation focused on condom use as a self-protective behavior, we considered that participants who were currently trying to get pregnant would represent a potential serious confound. Therefore, we asked participants if they had been trying to get pregnant.

## Results

### Sample Characteristics

One hundred eighty-seven participants completed face-to-face structured interviews. This sample has been described in detail elsewhere (Dixon et al., 2001). To summarize, all of the women were of Puerto Rican ethnicity, 83.8% reported their religion as Catholic, 32.1% stated that they were married and 51.9% indicated that they were living with their husband or boyfriend. The mean age of participants was 27.03 ( $SD = 5.04$ ). The majority of these women (66.9%) indicated at least a high school education. Thirty-nine percent reported that they were employed outside of the home. Approximately two-thirds of the women reported at least some chance that they would get HIV from their husbands or boyfriends. The majority of women (91.4%) reported that they were not trying to get pregnant.

### Sexual Activities With Primary and Nonprimary Sexual Partners

Our primary aim was to provide detailed descriptive information regarding heterosexual risk behaviors that have been associated with HIV infection in order to more effectively determine aspects of sexuality that may represent critical components of HIV risk among a specific population of Puerto Rican women. In this regard, we provided descriptive statistics regarding

sexual activities with primary and nonprimary sexual partners, respectively, in Table 1. Regarding primary partners, most participants (88.7%) reported at least weekly vaginal intercourse with their primary partner during the past 6 months. While 24.1% of women disclosed anal intercourse with their primary partner, the majority indicated a frequency of less than 4 times per month. In contrast, more than two-thirds of women reported at least weekly oral–penile intercourse or oral–vaginal sex with their primary partners during the 6 months prior to their participation in the study. Regarding nonprimary partners, approximately 13% of the participants reported some type of sexual activity with someone other than a husband or boyfriend during the past 6 months ( $N = 24$ ). Similar to sexual activities with a primary sexual partner, vaginal, oral–penile, and oral–vaginal sex were reported more frequently than anal sex with nonprimary partners. Of the women with nonprimary sexual partners, approximately one-fourth indicated anal intercourse during the past 6 months.

### Condom Use With Primary and Nonprimary Sexual Partners

A specific aim of this study was to report the frequency of condom use during vaginal, anal, and oral sexual activities with primary and non-primary sexual partners. As such, descriptive statistics regarding condom use with primary and nonprimary sexual partners appears in Table 2. Regarding primary partners, two-fifths of participants reported that they never used condoms during vaginal intercourse with their primary partner during the past 6 months. Of the proportion of women reporting anal intercourse (24.7%) with their primary partner, nearly half indicated that they never used condoms. An overwhelming majority reported never using condoms or latex barriers during oral–penile intercourse or oral–vaginal sex, respectively. Regarding nonprimary partners, two-thirds of the women reporting vaginal and anal intercourse with nonprimary partners stated that they always used condoms with these partners during these respective sexual activities during past 6 months. More than half of the women who reported oral–penile intercourse indicated that they never used condoms. Finally, the overwhelming majority of participants who disclosed oral–vaginal sex indicated that they never used a latex barrier during this sexual activity with nonprimary partners.

### Contextual Differences in Sexual Activities and Condom Use

We formally hypothesized that women who indicated sexual activities with both primary and nonprimary partners would report different levels of condom use according to primary versus nonprimary relationship status. As such, chi-squared analyses were conducted to determine if partner status (e.g., either primary or nonprimary) was related to differences in frequency of condom use across sexual activities (Table 2). In fact, primary or nonprimary partner status was associated with significant differences in frequency of condom use during anal ( $\chi^2 = 40.29$  (1,10),  $p < .001$ .) and oral–penile intercourse ( $\chi^2 = 49.47$  (1,20),  $p < .001$ .) However, partner status did not relate to condom use during vaginal intercourse ( $\chi^2 = 17.02$  (1,12),  $p = .149$ , *n.s.*), or to latex barrier use during oral–vaginal sex ( $\chi^2 = 17.02$  (1,12),  $p = .315$ , *n.s.*).

### Discussion

In this study, we provided detailed descriptive information regarding sexual activities that have been associated with increased risk for HIV infection and/or transmission for a population of women who have been identified at increased heterosexual risk for HIV infection. While not tested formally, the finding that nearly 13% of participants reported sexual activities with nonprimary partners seemed somewhat higher than previous research with Latina women, of whom approximately 5% reported 2 or more concurrent sexual partners (Marin, Gomez et al., 1993; Marin, Tschann et al., 1993). Moreover, the findings that approximately one-fourth of women reported anal intercourse with either primary or nonprimary partners, or both, and that a majority of these women reported unprotected vaginal and anal intercourse with their respective sexual partners appeared striking. Taken together, these findings are important in

that they may partially explain the oft-noted increased risk for HIV infection via heterosexual contact among some populations of Latina women (Anderson, 1995; CDC, 1999; Dolcini et al., 1995; Flack et al., 1995; Galavotti et al., 1995; Gwinn et al., 1991; Johnson et al., 1995; Marin, Gomez et al., 1993; Marin, Tschann et al., 1993; McCoy & Inciardi, 1993; Moore et al., 1995; Neal, Fleming, Green, & Ward, 1997; Potter & Anderson, 1993; Wilson, Jaccard, Levinson, Minkoff, & Endias, 1996).

The finding that primary versus nonprimary relationship status was associated with varying levels of condom use during anal and oral–penile sexual intercourse for those women who indicated sexual activities with both primary and nonprimary partners supported our formally stipulated hypothesis, and remained consistent with other research in this area (Dolcini et al., 1995; Marin, Tschann et al., 1993; Wilson et al., 1996). This finding may reflect the establishment of distinct contexts for either primary or nonprimary relationships. These contextual differences may form the basis for the noted increased or decreased self-protective behaviors within these respective types of sexual relationships. For example, lapses in condom use with primary partners may represent affectively laden perceptions and other relationship characteristics, which may relate to an overall greater emotional investment within these primary sexual relationships (Kelly & Kalichman, 1995). As a result, a woman may hesitate to suggest condom use within a presumed intimate relationship if she fears risking the implication of either a lack of trust in her male partner or sexual infidelity on her own part (Kelly & Kalichman, 1995). Interestingly, the Puerto Rican women in this study were less likely to use condoms with their primary sexual partners, despite their perception that the behavior of their partners had increased their risk for HIV infection. Thus, despite the ostensible fact that their partners had increased their own risk for HIV infection, these women hesitated to engage in self-protective sexual behaviors, such as condom use. As a result, clinical intervention approaches for women within primary sexual relationships with apparent increased risk for HIV infection may need to incorporate attempts to diminish connotations of safer sex with disease prevention, as well as to reframe attributions of condom use as demonstrations of feelings of affection, loyalty, concern, and consideration for intimate sexual partners (Kelly & Kalichman, 1995).

In contrast, the apparently somewhat more cautious behavior with non-primary sexual partners may reflect a greater awareness of the increased risk for HIV infection inherent to nonmonogamous sexual activities. As such, more traditional risk-reduction approaches may remain appropriate for intervention strategies that address sexual activities with nonprimary sexual partners. Importantly, although we have found that a substantive majority of this population of Puerto Rican women reported diminished self-protective sexual behavior despite the perception of HIV risk posed by their primary sexual partners (Dixon et al., 2001), the current study was not designed to assess the perception of HIV risk within the context of nonprimary sexual relationships.

A few additional caveats are in order. First, the cross-sectional data available from this study limit the validity of inferences about potential causal directions between the independent and dependent variables. Second, while we detailed important information regarding sexual activities that have been associated with HIV risk, this study was not designed to formally test comparisons with prior research findings regarding other populations of women, including Latina women. Moreover, we did not determine complete sexual histories from the respondents, including the number of *lifetime* primary and nonprimary sexual partners, lifetime experience with condoms, age of initiation into sexual activities, lifetime overall sexual experience, and serial monogamous and/or concurrent multiple sexual partners. Also, we derived results from a population of Latina women of Puerto Rican ethnicity residing in an urban center of the northeastern United States who indicated sexual activity during the past year, who denied any history of injecting drug use, and the majority of whom were not trying

to get pregnant. Therefore, these findings should not be generalized to other Puerto Rican women in the New York metropolitan area, given that this was a small and nonrepresentative sample. Moreover, one cannot generalize these findings to Latinas of non-Puerto Rican ethnicity, non-Latina populations, HIV-infected individuals, and other populations, such as elderly persons, homosexuals, drug-involved individuals, or individuals who reside in rural or suburban areas outside of the northeastern United States, to name a few examples. Finally, the sexual risk behavior in this study may have been influenced by factors not assessed, such as male partner characteristics, e.g., his willingness (or lack thereof) to use condoms during sexual activities.

Nonetheless, the results from the current investigation include direct applications for empirically targeted interventions to promote specific AIDS-preventive behaviors in populations at increased risk for HIV infection. Most notably, we revealed that primary versus nonprimary sexual relationships appeared to create contextual differences related to the frequency of specific higher risk sexual activities, such as unprotected anal and vaginal sex, both of which account for the overwhelming majority of heterosexual HIV transmission. Future researchers should use larger sample sizes and longitudinal designs to replicate and therefore extend the findings of this investigation with other populations vulnerable to HIV infection from sexual partners. Moreover, future research should be used to empirically evaluate potential factors associated with contextual differences created by either primary or nonprimary sexual relationships, such as observations that the ability of Latinas to protect their sexual health remains challenged by traditional Latina gender role proscriptions that not only emphasize the importance of sustaining relationships while sacrificing personal needs (Wyatt, 1992, 1994), but also condone female submissiveness and subservience to partners regarding sexual decision making (Amaro, 1988, 1995; Gomez, Hernandez, & Faigeles, 1999). Such gender role proscriptions may remain more salient within the context of primary versus nonprimary sexual relationships. Knowledge gleaned from research into these and other potentially mitigating relationship factors is needed to develop appropriate prevention and intervention strategies with populations at increased risk for HIV infection.

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**Table 1**  
**Sexual activities with primary and nonprimary partners (past 6 months)**

Variable	Primary partners	Nonprimary partners
	N = 187 % (N)	N = 24 % (N)
Vaginal sex	100 (187)	100 (24)
Less than 4×/month	10.8 (20)	41.7 (10)
About 1×/week	29.0 (54)	33.3 (8)
2 to 6×/week	34.4 (64)	8.3 (2)
About 1×/day	11.3 (21)	8.3 (2)
More than 1×/day, almost every day	14.0 (26)	8.3 (2)
Anal sex	24.1 (45)	25.0 (6)
Less than 4×/month	73.3 (33)	—
About 1×/week	8.9 (4)	—
2 to 6×/week	4.4 (2)	—
About 1×/day	8.9 (4)	—
More than 1×/day, almost every day	4.4 (2)	—
Oral–penile sex	70.2 (134)	70.8 (17)
Less than 4×/month	26.1 (35)	—
About 1×/week	31.3 (42)	—
2 to 6×/week	24.6 (33)	—
About 1×/day	14.2 (19)	—
More than 1×/day, almost every day	3.7 (5)	—
Oral–vaginal sex	60.7 (128)	70.8 (17)
Less than 4×/month	28.1 (36)	—
About 1×/week	34.4 (44)	—
2 to 6×/week	22.7 (29)	—
About 1×/day	12.5 (16)	—
More than 1×/day, almost every day	3.1 (4)	—

**Table 2**  
**Condom use with primary partners and nonprimary partners (past 6 months)**

Variable	Primary partners N = 187 % (N)	Nonprimary partners N = 24 % (N)	P*
Vaginal sex	(N = 186)	(N = 24)	.149
Never	40.9 (76)	16.7 (4)	—
Less than 1/2 the time	9.7 (18)	16.7 (4)	—
About 1/2 the time	7.5 (14)	0 (0)	—
More than 1/2 the time	6.5 (12)	0 (0)	—
Always	35.5 (66)	66.7 (16)	—
Anal sex	(N = 45)	(N = 6)	.001
Never	48.8 (22)	0 (0)	—
Less than 1/2 the time	11.1 (5)	33.3 (2)	—
About 1/2 the time	4.4 (2)	0 (0)	—
More than 1/2 the time	4.4 (2)	0 (0)	—
Always	31.1 (14)	66.7 (4)	—
Oral-penile sex	(N = 134)	(N = 17)	.001
Never	82.1 (111)	52.9 (9)	—
Less than 1/2 the time	4.8 (6)	17.7 (3)	—
About 1/2 the time	1.5 (2)	11.8 (2)	—
More than 1/2 the time	2.2 (3)	5.9 (1)	—
Always	9.7 (13)	11.8 (2)	—
Oral-vaginal sex (Latex barrier)	(N = 128)	(N = 17)	.315
Never	93.7 (122)	76.5 (13)	—
Less than 1/2 the time	2.3 (3)	11.8 (2)	—
About 1/2 the time	0 (0)	5.9 (1)	—
More than 1/2 the time	0 (0)	5.9 (1)	—
Always	3.9 (5)	0 (0)	—

\* Significance reported for chi-squared test.