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SOCIAL CONTEXT, SEXUAL PRACTICES, AND RISKS FOR HIV TRANSMISSION AMONG MEN WHO HAVE SEX WITH MEN: THE SOUTH BEACH HEALTH SURVEY

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In a population-based sample of 193 men who had sex with men in South Beach, Miami-Dade County, Florida, two indicators of social context—choice of sexual relationships and perceived HIV-infection status—were used to analyze residents who engaged in certain sexual practices with their partners. The vast majority (88.6%) of respondents reported engagement in anal sex during the previous 12 months; 20.2% reported unprotected anal intercourse (UAI) with ejaculation with any partner and 12.4% reported UAI with ejaculation with one or more casual partners. Findings supported the hypothesis that primary partner relationships and perceived HIV status are important variables

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for understanding engagement in UAI with ejaculation. Men who engaged in such behaviors with casual partners were more likely to have negative attitudes towards condoms, report difficulty communicating desires for safer sex, disagree with the belief that AIDS is fatal, and be intoxicated during anal intercourse. Men who reported engaging in anal intercourse, but who never shared unprotected ejaculations, were most likely to be unknowingly infected with HIV, suggesting that many men may become infected while following what they believe to be “safer sex practices.” In designing effective interventions, public health authorities need to take into account socially embedded risk-negotiating practices.

Introduction

More than two decades into the AIDS epidemic, studies continue to reveal high rates of unprotected anal intercourse (UAI) among men who have sex with men (MSM) (Stall et al., 2000; Valleroy et al., 2000; Catania et al., 2001). In view of the considerable knowledge that most MSM possess regarding the sexual practices most likely to transmit HIV (Davies et al., 1992; Gold et al., 1994; Hospers & Kok, 1995), finding valid explanations for risky sex has been difficult. To answer questions about the continuing—and perhaps increasing (Dodds et al., 2000; Hogg et al., 2001; Katz et al., 2002)—challenge of sexual risk-taking by MSM, several public health researchers and social scientists (Connell et al., 1990; Douglas & Clavez, 1990; Prieur, 1990; Vincke et al., 1993; Middelthon & Aggleton, 2001) have reiterated the importance of understanding sexual behaviors as inherently social; sexual engagements are guided by the desires and constraints of (usually) two people within a particular set of social relationships, or contexts.

Context is a crucial aspect of defining “risk” for the sexual transmission of HIV. Sexual intercourse is not inherently risky for HIV infection, because “riskiness” depends upon the infectiousness of the partners, prophylactic precautions employed, and the specific behaviors in which the partners engage (Darrow, 1976). Unprotected anal intercourse involving ejaculation with an infected partner presents the highest probability of infection to an uninfected partner (Levy, 1993; Cáceres & van Griensven, 1994; Vernazza et

al., 1994). Oral-genital sex apparently presents some, albeit much lower, possibility of transmission (Page-Shafer et al., 1997), while sexual activities of any sort between uninfected partners present no risk at all.

Given these epidemiologic considerations, as well as the invisibility of early-stage HIV infection, it seems likely that MSM make some assessment of risk at the time of each sexual encounter (Bajos, 1997). Indeed, data from several studies indicate that men negotiate the relative safety of particular sexual activities within the contexts in which they occur (Kippax & Race, 2003). The type of relationship that exists between sexual partners is a key contextual factor (Hart et al., 1992). HIV-infection status is another (Davies et al., 1992).

Recent reports have provided evidence to support the idea that MSM have attempted to adopt a range of risk-reduction strategies, including “negotiated safety” (Kippax et al., 1993), “strategic positioning” (Van de Ven et al., 2002), and “withdrawal” before ejaculation (Richters et al., 2000). Negotiated safety has been defined as, “a strategy where sexual partners in an HIV-seronegative concordant regular relationship agree to dispense with condoms for anal intercourse within their relationship while, at the same time, negotiating an agreement about sex outside the regular relationship” (Kippax et al., 1997: 191-192). Strategic positioning refers to a pattern of risk management whereby HIV-negative MSM tend to engage in insertive UAI while HIV-positive MSM tend to engage in receptive UAI; in one study this pattern was found to occur independently of individual sexual preferences (Van de Ven et al., 2002). A third strategy employed by some MSM involves intervals of penetrative anal intercourse without a condom, but withdrawal or, perhaps, use of a condom immediately before ejaculation into the anus of the receptive partner (Richters et al., 2003).

While some social scientists have interpreted these contextual risk-reduction strategies to be significant ways for MSM to achieve sexual satisfaction as they reduce their risks for HIV transmission, others have expressed their reservations (Ekstrand et al., 1993; Osmond et al., 1994). Those on both sides of the issue recognize that it may be difficult for some men to reveal their HIV-infection

status to potential sex partners for a variety of reasons, including not knowing for certain whether they are infectious at the time of a sexual encounter, and that honesty and trust are essential components of sexual negotiations that may be compromised. Some investigators have found that HIV-positive men are less likely than uninfected men to be concerned about their own health and less likely to feel responsible for risks of transmission to their partners (Gold et al., 1994). Furthermore, one study from San Francisco (Hays et al., 1997) found no differences between infected and uninfected men as to either reports of sexual behaviors or predictors of risky activities. Nevertheless, "perceived" HIV-infection status—whether accurate or not—most likely is related to assessments of HIV risk made by most MSM during the current stage of the HIV epidemic (Strathdee et al., 1998; Ekstrand et al., 1999; Crawford et al., 2001).

In this report, we examine the relationships between two contextual variables, interpersonal relationships and perceptions of HIV-infection status, and the sexual practices of MSM living in a popular resort community in the southeastern United States. Our data were collected in 1996, an important period in the HIV epidemic because AIDS patients were being introduced to highly active antiretroviral therapy (HAART) and beginning to feel more optimistic about their futures (Dukers et al., 2001; Elford et al., 2002; Katz et al., 2002). The specific aims of our study were to assess the sexual practices of MSM with their primary (regular) and other (casual) partners and to determine how extenuating circumstances (such as alcohol and drug use, difficulties in communicating with partners, and negative attitudes toward condom use) might interfere with the successful implementation of sexual strategies designed to limit the risks of HIV transmission.

Our emphasis on understanding the characteristics of men who undertook various behavioral risk levels, within particular contexts, was twofold. First, we sought to identify the characteristics of men who were least adept at sexual risk negotiations. It seemed important to make the distinction between MSM in our community who could manage their risks and those who could not without diminishing the importance of modifying public health messages to cor-

rect popular misconceptions of risk, such as the relative safety of oral sex or anal “withdrawal.” Second, we hoped that our analyses would lead to the identification of key points for prevention interventions, particularly among those men who engaged in the riskiest sexual practices.

Methods

A cross-sectional study with simple random samples of residential addresses, household units, and eligible MSM was conducted from January 20 through December 19, 1996 in a four census-tract area of Miami Beach, Florida. Commonly known as “South Beach,” the area was—and continues to be—a popular vacation resort for homosexual and bisexual men, other U.S. vacationers, and international tourists (Darrow et al., in press). At the time of our survey, residents of South Beach had extremely high rates of AIDS and HIV infection (MDCHD, 1995). In the absence of effective interventions, the seriousness of the HIV/AIDS problem in South Beach has continued to worsen (Kurtz, 2005; MDCHD, 2005). South Beach was operationally defined for our survey as census tracts 42, 43, 44, and 45 of Miami-Dade County, Florida.

Sample

A multistage sampling scheme was developed to select a probability sample of MSM living in South Beach. All residential sites listed for the area by the Miami-Dade County Property Appraisal Department (1995) as of January 1, 1995, were recorded; then, 20% of the addresses were selected for visitation using a random procedure. Graduate students from Florida International University (FIU) visited each address, determined the number of household units, and, if four or fewer, attempted to contact a resident in each unit. If the building address contained five or more units, students selected and attempted to contact 20% of listed units using a systematic random procedure. Finally, students screened residents contacted at each selected unit to determine if anyone living there was eligible.

To avoid over-representing couples and under-representing roommates who were not sex partners, MSM living in the same household were selected at random. If more than one MSM living in a household was eligible, potential participants were chosen by asking for the day of each resident's birth. Eligible residents contacted on an odd-numbered calendar day were considered for participation if their birthday was on an odd-numbered day. Those contacted on an even-numbered calendar day were invited to participate only if their birthday fell on an even-numbered day.

Unmarried men 18 years of age and older who reported ever having had sex with a man and having been a resident of South Beach for at least 30 days constituted the population of interest. "Ever having had sex with a man" meant that the eligible participant or his male partner ejaculated while engaging in close, interpersonal sexual activities at some time during the participant's lifetime. If any unmarried male, at least 18 years of age and a resident of South Beach for at least 30 days, admitted to homosexual contact by our operational definition, that man was considered eligible for participation in our survey.

After an eligible participant was identified, procedures were described and informed consent was sought. Consent forms, questionnaires, and other study materials were only available in English because a pilot study of gay bar and club patrons conducted one year earlier indicated very few MSM in South Beach could not speak and read English. Participation in our survey was completely voluntary and anonymous. No incentives were offered. Follow-up was impossible. Research procedures for the protection of human subjects were reviewed and approved by FIU's Institutional Review Board before implementation.

Data Collection

MSM who gave voluntary, informed consent were interviewed for sociodemographic characteristics and current health status, alcohol and recreational drug use, attitudes towards safer sex and HIV-infection, and experiences with HIV testing. Patterns of participation in social activities, such as attending gay bars and night-

clubs, were also included in the 25-item standardized interview guide. Graduate students who were trained in didactic and role-playing sessions and were supervised by more experienced graduate students, staff, and faculty members conducted personal interviews. Interviews were conducted in private at the participant's place of residence in South Beach.

Participants were also asked to complete and return a 25-item self-administered questionnaire regarding their sexual practices during the previous 12 months with both primary and other partners, current HIV-infection status, and risk-related beliefs and practices. For men with primary partners, responses were solicited regarding the length of the relationship and the HIV-infection status of the primary partner. A primary partner relationship was restricted to those of more than three months duration, the minimum time frame for HIV tests to determine HIV status prior to initiating the primary sexual relationship. Another question asked about how both the respondent and his partner dealt with sex outside the relationship. Open-ended questions asked respondents to give their reasons for engaging in UAI during the past year.

Participants were asked to collect a specimen of oral mucosal transudate with an oral fluids collection device (Emmons et al., 1995). Specimens were stored in vials and shipped to a certified Department of Health Laboratory in Jacksonville, Florida, for HIV-1 antibody testing. Testing for HIV-1 antibody in oral fluids by modified ELISA, confirmed by Western blot, has been shown to have a high degree of sensitivity, specificity, and predictive value (Gallo et al., 1997).

Analysis and Interpretation

Data from the interview guide, self-administered questionnaire, and laboratory report were linked by an identification number, merged into a database, and analyzed with the assistance of standard statistical and text analysis computer software. Tables were created to examine independent, intervening, and dependent variables of interest. Pearson Chi-square and t-tests for statistical significance and associated levels of probability (*p*) were used to assess

differences between groups of men categorized by certain sexual risk practices.

Except where noted in the tables, information regarding continuous variables, such as age and income, was collected and reported at the ratio level of analysis. Nominal variables, including race/ethnicity, primary partner relationships, HIV infection status, and commitments to safe sex, were derived from simple "yes/no" or categorical responses on the questionnaires. Sexual behaviors were measured by having the respondent indicate whether, and with how many partners, he had engaged in certain activities during the preceding 12 months.

Attitudes toward safe sex and HIV risk were measured using Likert-type scales; the most common construction was a four-item scale: 1=agree strongly, 4=disagree strongly. Alternative constructions are noted in the tables. Although responses to these questions were analyzed using t-tests with similar results to those reported here, tables report findings and associated levels of probability using Pearson Chi-square tests; for this purpose, and to avoid necessary assumptions about continuous variable distributions, scales were reduced to dichotomies, e.g., agree or disagree.

An entry criterion of $p < 0.05$ from Chi-square analysis was used to select variables for logistic regression analyses. Non-significant predictors from these multivariate models were subsequently eliminated to conserve statistical power. Odds ratios and 95% confidence intervals (CI) are reported for final logistic regression models only.

Based upon self-reports of sexual behaviors, we assigned each participant to a risk category demarcated by the limits of his sexual practice during the 12 months preceding the study. Four major categories were created: (a) *No Sex*: those men who abstained from all oral and anal sexual contacts with men in the past 12 months (no information was collected regarding non-penetrative sexual behaviors); (b) *Oral Only*: those men who engaged only in non-penetrative and receptive and/or insertive orogenital sex with male sex partners during the preceding 12 months; (c) *Lower Risk Anal Sex*: those men who engaged in receptive and/or insertive anogenital sex, but never gave or received unprotected rectal ejaculations with

their male sex partners; (d) *High Risk Anal Sex*: those who knowingly gave or received unprotected rectal ejaculations of semen. We also examined in greater detail the characteristics of those men who reported ejaculating with, or receiving rectal ejaculations from, one or more casual partners.

Results

Of 205 men enrolled, 193 were included in our analyses. Of the 12 men excluded, four did not respond to any of the relevant sexual behavior questions, and eight gave inconsistent responses to them. These men did not significantly differ from the overall sample in terms of age, income, ethnicity, primary partner relationship, or HIV-infection status. Two non-respondents self-identified as heterosexual; their sexual experiences with other men may have pre-dated the survey. Of the other ten, all self-identified as “gay;” none reported sexual contact with women in the past year. These two characteristics applied to about 90% of the total sample.

Most (90.2%) of the remaining 193 men described themselves as white (Caucasian) or Hispanic (Table 1). Although differences in ethnicity were not noted across behavioral risk groups, white men tended to be older (mean=33.6 vs. 30.9, $p<0.003$) and report higher annual incomes (mean=\$ 48,800 vs. \$ 29,900, $p< 0.001$) than other men. Only nine respondents (4.6%) reported never having been tested for antibody to HIV. All were negative according to the tests we performed. None engaged in “high risk” anal intercourse during the preceding 12 months. No age or ethnicity differences between never-tested and tested men were observed ($p>0.05$).

No Sex and Orogenital Only

Only 22 (11.4%) of the men reported having either “no sexual partner” or “only oral sex” (Figure 1). Twenty (90.9%) of the 22 men described their sexual identity as “gay;” two as “bisexual.” Men who abstained or restricted themselves to manual or orogenital sex were less likely than other men to be in a relationship with a primary partner ($p<0.01$; Chi-square). No other demographic dif-

Table 1

Characteristics of 193 Survey Participants by Their Sexual Practices in the Past Year

Characteristic	No Sex		Oral Sex Only		Anal No Ejac.		Anal with Ejac.		Total		p ^a
	n	%	n	%	n	%	n	%	n	%	
Age (Mdn Years)	32.8		32.4		30.0		30.5		30.2		n.s.
(Mean +/- s.d)	35.6 +/- 8.7		35.3 +/- 9.2		32.0 +/- 6.3		31.9 +/- 5.9		32.4 +/- 6.6		
Income (Mdn \$)	38,500		31,000		34,000		30,000		33,000		n.s.
(Mean +/- s.d)	35.3 +/- 24.6		36.1 +/- 20.3		42.1 +/- 37.3		35.1 +/- 19.0		40.0 +/- 33.0		
Race/Ethnicity	n	%	n	%	n	%	n	%	n	%	p ^b
White	3	42.9	11	73.3	69	52.3	21	53.8	104	53.9	
African-American	0	-	1	6.7	8	6.1	3	7.7	12	6.2	
Hispanic	3	42.9	3	20.0	49	37.1	15	38.5	70	36.3	
Other	1	14.3	0	-	6	4.7	0	-	7	3.6	
Primary Partner	0	-	2	13.3	49	37.1	25	64.1	76	39.4	
Monogamous > 12 mo	-	-	0	0.0	9	18.4	5	20.1	14	18.4	^c
HIV-positive	2	28.6	1	6.7	33	25.0	11	28.2	47	24.4	n.s.
Aware HIV-positive	2	100.0	1	100.0	22	66.7	11	100.0	36	76.6	^d

^a ANOVA, $p < 0.05$ (not significant)

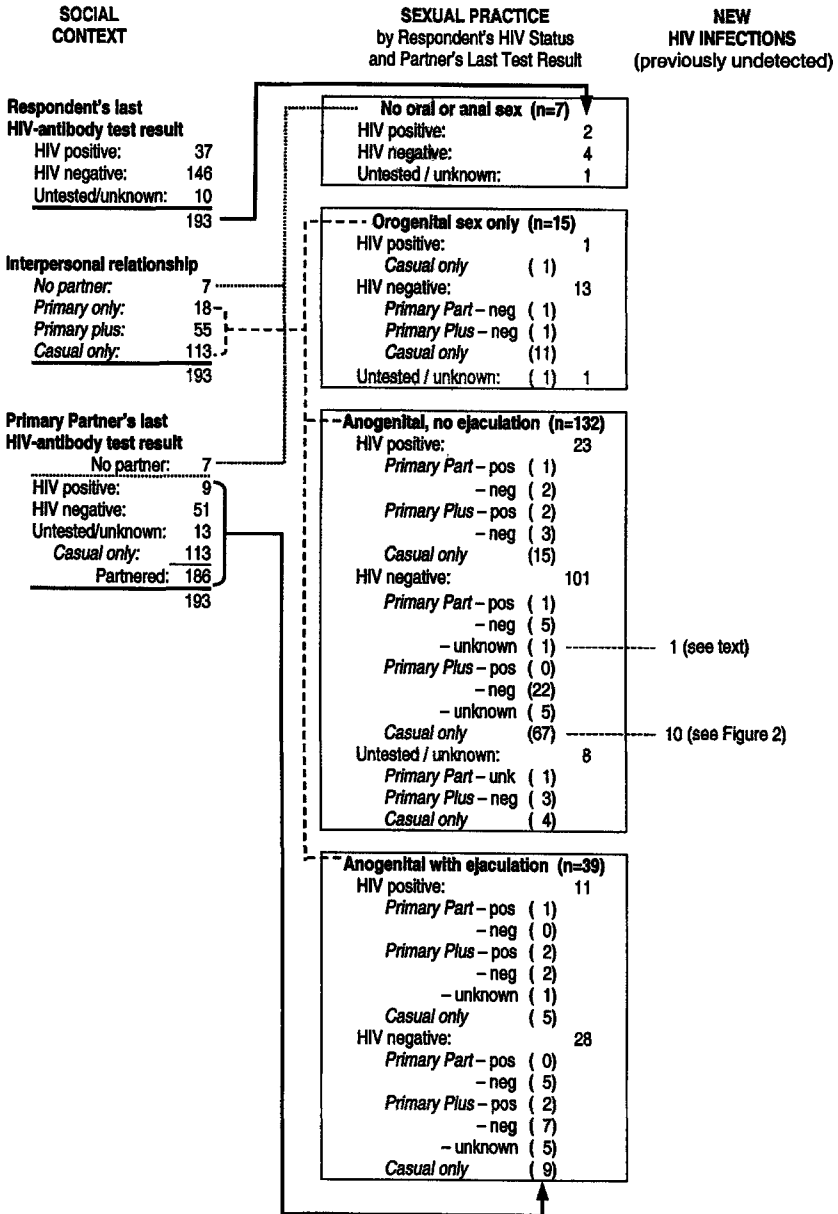
^b Pearson's Chi-Square, $p < 0.05$ (not significant)

^c Anal intercourse without ejaculation * Anal intercourse with ejaculation, Pearson's, $p = 0.002$

^d Anal intercourse without ejaculation * Anal intercourse with ejaculation, Fisher's, $p = 0.07$

Figure 1

Social Context, Sexual Practice, and Recently Acquired HIV Infections



ferences between these men and those in the other risk-behavior groups were found.

Anal Intercourse and HIV Infection

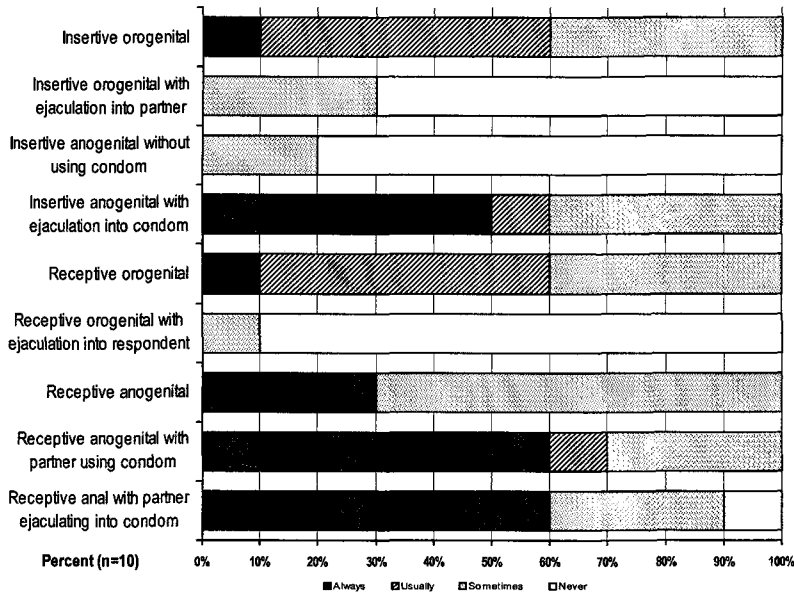
The remainder of this report focuses on 171 (88.6%) of the 193 MSM living in South Beach who reported having anogenital sex at least once in the preceding 12 months, grouped according to whether, and with whom, they had unprotected rectal ejaculations. The group who self-reported having no unprotected insertive or receptive rectal ejaculations during the past 12 months ("lower risk") was *least* likely to know their HIV-infection status. Eleven men reported their HIV status as negative, when, according to the specimens we collected, they were infected. All reported having been tested for antibody to HIV previously, and claimed never to have given nor received unprotected rectal ejaculations of semen during the 12 months preceding our study. No difference was observed between these men and others in length of time since their last HIV-antibody test.

One of the 11 was in a relationship of eight months with a primary partner who had been tested for antibody to HIV, but did not reveal the result. He had no other partners during this period, but wasn't sure about his regular partner. Both engaged in insertive and receptive anal intercourse without condoms, but avoided ejaculation into the mouth or rectum. The remaining ten men who unexpectedly tested positive engaged in a variety of sexual activities with a median of 12 casual partners (range, 2 - 50) in the past year (Figure 2).

The 11 men who had most likely acquired an HIV infection since their last HIV-antibody test had several characteristics that distinguished them from those who tested negative. In a logistic regression model, both agreement with "sex doesn't feel as good when using a condom" (odds ratio = 5.8; 95% CI = 1.2 - 29.0) and a self-report of four or more anogenital partners in the past year (odds ratio = 5.1; 95% CI = 1.1 - 25.6) were the best predictors of a previously undetected HIV infection.

Figure 2

Sexual Practices with Casual Partners, Reported by Ten Men Who Thought They Were HIV-Antibody Negative, but Tested Positive by OraSure



Mutually Monogamous Couples

Fourteen respondents reported that they were involved in mutually monogamous relationships. Thirteen of them reported accurately their own HIV-infection status and also reported the status of their partners. Of the 13 couples, nine were mutually HIV-negative, one was mutually HIV-positive, and three were discordant. One monogamous respondent indicated that neither he nor his partner of six years had ever been tested for antibody to HIV; this respondent tested negative on the specimen he provided to us. Neither he nor the others involved in HIV-discordant relationships reported sharing unprotected rectal ejaculations with their partners. Aside from the nature of their relationships with their partners, these men did not significantly differ from the overall sample on measures of age, income, HIV-infection status, or ethnicity. The remaining analyses discussed below exclude these 14 men.

Unprotected Anal Intercourse with Ejaculation

Men with primary partners were more likely to have engaged in “high risk” anal intercourse ($p < 0.001$, Chi-square). Although MSM who had engaged in anal intercourse expressed ambivalence as to whether “sex doesn’t feel as good with a condom” and tended to disagree with “it is difficult to keep an erection when using a condom,” those who practiced high-risk anal intercourse were more likely to agree that “using a condom takes the fun out of sex” (Table 2). No statistical difference between behavioral groups was found on responses to whether “many of your friends have unsafe sex,” but there were a high number of “don’t know” responses to this question. Men who engaged in high-risk anal sex were, however, significantly more likely than men practicing only “lower risk” anal sex to report difficulties in telling their sex partners that they wanted to have safe sex.

Sexual Practices and Risk Perceptions

Statistically significant differences were found regarding men’s self-assessments of their risks for HIV infection (Table 2). Men who engaged in “high risk” anal sex were much less likely than men who engaged only in “lower risk” anal sex to believe that “AIDS is a fatal disease, there is no cure.” HIV-negative men who engaged in high-risk anal sex were, however, more likely to believe that they had an average or higher than average risk for HIV infection.

No differences were found on measures of the respondents’ perceived chance of getting AIDS, the inevitability or likelihood of HIV infection, or the number of HIV-positive men known to them. Although no difference was detected between “lower-risk” and “high-risk” men as to whether they had made a commitment to someone else to have only safe sex, there was a very strong connection between making such a commitment to oneself and practicing only lower-risk anal sex.

Men who had engaged in the riskiest behaviors—UAI with ejaculation with casual partners—were much more likely to have diffi-

Table 2
Attitudes of 157 Non-monogamous Men Engaging in Anal Sex
[n (%) in agreement]

	Anal sex, no ejac.	Anal sex, w/ ejac.		No ejac. w/ casual	Ejac. w/ casual	
	n=123	n=34	p ^a	n=133	N=24	p ^a
Condoms						
Take the fun out of sex	39 (31.7)	18 (52.9)	0.023	44 (33.1)	13 (54.2)	0.048
Sex doesn't feel as good	60 (48.8)	19 (55.9)	n.s.	67 (50.4)	12 (50.0)	n.s.
Difficult to keep erection	21 (17.1)	9 (26.5)	n.s.	23 (17.3)	7 (29.2)	n.s.
Peer Norm						
My friends have unsafe sex ^b	56 (54.4)	20 (71.4)	n.s.	60 (55.0)	16 (72.7)	n.s.
Self Efficacy						
Hard to tell partner: safe sex	13 (10.6)	8 (23.5)	0.049	13 (9.8)	8 (33.3)	0.002
HIV-Risk Assessments						
AIDS is fatal; is no cure	101 (82.1)	18 (54.5)	0.001	108 (81.2)	11 (47.8)	0.001
Below avg. risk for HIV ^c	67 (56.8)	10 (31.3)	0.010	70 (55.1)	7 (30.4)	0.029
Made Commitment to Safe Sex						
To self ^d	107 (91.5)	23 (76.7)	0.024	114 (90.5)	16 (76.2)	n.s.
To others ^d	71 (59.7)	16 (55.2)	n.s.	76 (59.4)	11 (55.0)	n.s.

^a Pearson's Chi-square, $p < 0.05$ (not significant).

^b 26 men responded, "Don't know;" 24 of the 26 practiced anal intercourse without ejaculation.

^c HIV-negative men only (those who reported that their HIV-antibody status was negative).

^d Nine missing cases.

culty in telling their sex partners they wanted to have safe sex. They were also much less likely to believe that AIDS is a fatal disease. They were more likely than other men who had anal sex to agree that condoms take the fun out of sex and less likely to believe that AIDS is fatal (Table 2).

Social Context and Sexual Experiences

Strategies of negotiated safety among men who restricted sharing intra-rectal ejaculations with their primary partners were supported by their responses to open-ended questions, which asked

participants to explain why they had engaged in UAI with their primary and/or casual partners. Nine of 14 men (64.3%) who shared rectal ejaculations only with their primary partners and who also answered these questions (93.3% response rate) cited monogamy and/or common infection status as their reason for doing so. Other responses included intimacy and condom breakage.

On the other hand, men who engaged in UAI with casual partners and who answered these questions ($n=18$, 74% response rate) tended to justify these behaviors with quite diverse expressions of sexual desire, such as "he wanted it" or "I like it" ($n=7$), "already infected with HIV" ($n=2$), or "it won't happen to me" ($n=5$). Only two of these "riskiest" men said that they knew the HIV-infection status of their partners. Other responses included condom breakage, being high on alcohol or drugs, and previous risky behavior with the same partner.

Risk Management and Substance Use

No difference in the number of HIV tests ever taken was observed between risk groups. Frequency of attendance at bars and clubs and cruising for sex partners in public places also showed no differences between risk groups, and there were no differences observed between the groups as to the number of sex partners, either over the lifetime or during the preceding 12 months. The one behavior that did show highly significant differences between the groups was the frequency of being high on alcohol or drugs while having anal sex.

Over half (51.6%) of the men who engaged in high-risk anal sex reported that they were "high about half the time" or more when they engaged in anal sex, compared to less than one-fourth (24.4%) of lower risk men ($p<.003$). This finding was also statistically significant when the riskiest group was compared with others who had engaged in less risky anal sex. In logistic regression analyses, the three variables that best predicted UAI with ejaculation with casual partners were: anal sex while high (odds ratio = 3.0; 95% CI = 1.1 - 8.6), disbelief in the fatality of AIDS (odds ratio = 0.3; 95% CI = 0.1 - 0.9), and "it's hard to tell my partner I want safe sex" (odds ratio = 5.3; 95% CI = 1.5 - 18.0).

Discussion

Although the sampling methods used in our study represent a substantial improvement over traditional sampling strategies for populations of MSM, there are several limitations to the interpretation of results presented here. First, our detailed analyses of risk behaviors produced quite small sub-groupings for comparisons and thereby somewhat weakened statistical power. Nevertheless, we maintained the use of a conservative probability level ($p < 0.05$) for reporting statistical significance. Second, our analyses did not distinguish between receptive and insertive roles in anal intercourse, in part because of the additional loss of power. It is possible that more nuanced sexual negotiations, such as “strategic positioning,” may have been detected in a larger sample using these distinctions. Finally, the anonymity of respondents built into our study design prevented us from conducting follow-up interviews with men who were unaware of their HIV infection. We were unable to inform participants of their HIV-antibody results, and we were unable to collect additional data to further contextualize our observations.

Nevertheless, we believe our study provides valuable results for comparison to other studies of MSM and to guide public health policy. In general terms, we found no important associations between the demographic characteristics of MSM in South Beach and their risky sexual practices. Our sample included fewer men with primary partners (39.4%) than the 54.2% found by Osmond et al., (1994), but was similar to that (36%) reported by Dawson et al. (1994). Considerably fewer MSM in South Beach (18.4%) were monogamous, compared to reports of 25.9% from Osmond et al. (1994) and 63.6% from Dawson et al., (1994). While the entertainment scene of Miami Beach may well attract more single and open-coupled men, we have confidence in our findings because we placed strict limits on the definition of monogamy—exclusive relationships of more than 12 months, including detailed verification using reported sexual activities with casual partners.

Few in our sample (11.4%) abstained from anal sex entirely during the preceding 12 months, a lower percentage than that observed elsewhere (Hart et al., 1999). In Project SIGMA, Hunt et al. (1991)

and Davies et al. (1992) reported 12-month anal-abstinence rates of over 30% for men with a similar average age. Given South Beach's reputation for a "fast-lane" sexual atmosphere (Albin, 1995), this observation was not surprising.

Taking account of those men who restricted the sharing of unprotected rectal ejaculations to their primary partners enabled us to focus more closely on those whose behaviors more clearly indicated higher risk for HIV infection. Men who engaged in the riskiest sexual practices were more likely than others to agree that condoms reduced their enjoyment of sex, as has been reported by others (de Wit et al., 1993; Gold et al., 1994). Such men were, however, a clear minority in our sample, and did not differ in age from other men (Vincke et al., 1997). Many MSM who engaged in anal intercourse seemed to have integrated the use of condoms into their sexual practices in such a way that their use detracted little from the experience. For some, however, using condoms with casual partners reduced their enjoyment of anogenital sex to the point they were willing to risk HIV infection (Richters et al., 2000).

Consistent with the findings of several others (Adib et al., 1991; Hays et al., 1997), men who engaged in UAI with intra-rectal ejaculation were more likely to report difficulty in telling their partners that they wanted to have safer sex. This problem may stem from perceived power differences between partners, desires for affection, or wanting not to ruin the passion of the moment (Van de Ven et al., 2002). For those who are intimidated by safe-sex negotiations, a clear sense of risk for HIV must be accompanied by strong community norms supporting condom use, and/or the restriction of anal intercourse to primary partners.

Although many studies have attempted to determine associations between alcohol and/or drug use and risky sexual practices, results have been inconsistent (Hospers & Kok, 1995). Such discrepancies may stem from the use of different measures of both alcohol/drug use and risk behaviors (Catania et al., 1990). The strong association we found was between UAI including intra-rectal ejaculation and intoxication during anal intercourse. We did not collect data on which, or how much, intoxicating substances were used

(Stall et al., 2001); our findings were based on reported self-perceptions of being “high.”

Strong associations were found between UAI with intra-rectal ejaculation and two measurements of HIV-risk assessment: high self-assessment of risk compared to other South Beach men and rejection of the belief that “AIDS is a fatal disease; there is no cure.” The first item indicates that men engaging in risky behaviors correctly perceived their higher risk. Almost half (46.7%) of the “riskiest” HIV-negative men said, however, they were at less than average risk for HIV infection, confirming findings of Hospers and Kok (1995) that higher-risk men underestimate the risks of their sexual behaviors. Regarding the perceived fatality of AIDS, less than half (47.8%) of the riskiest men agreed that AIDS meant death. Excluding HIV-infected men who may have had particularly optimistic perceptions of their own mortality, less than two-thirds (64.3%) of the riskiest HIV-negative men agreed that AIDS is fatal, compared with over 88% of other men. MSM who engaged in the riskiest behaviors in South Beach underestimated both their risks of infection and the chances that HIV disease would kill them.

We are quite concerned about our finding that men who wrongly believed they were uninfected reported no intra-rectal ejaculations with their partners during the past year. We investigated whether these men had never, or not recently, been tested for HIV antibody. We discovered that neither testing frequency nor “recency” differed between risk groups, although with a mean of five tests per respondent it was obvious that most men who had any anal sex were quite concerned about HIV infection. This finding is consistent with our earlier report that counseling and testing by itself does not appear to make a difference in the sexual practices of MSM (Darrow et al., 1998).

We see no reason to hypothesize that underreporting sexual risk behavior would be highly correlated with underreporting infection in an anonymous survey. An interpretation of much more concern is that these men were completely honest in their responses. They may have been practicing anal intercourse with either withdrawal or condom use before ejaculation and assuming that this practice was relatively safe (Richters, 2003). This concern is buttressed by

our finding that these men preferred receptive anal intercourse, had more anal sex partners, and were more likely to agree that “sex doesn’t feel as good when using a condom.”

Conclusions

Intervention specialists and public health officials should distinguish between two very different kinds of HIV-prevention strategies: (1) providing accurate information about behavioral risks and (2) supporting long-term behavior change and maintenance programs. The primary focus of this report, and most other behavioral research, is to develop theories about why some populations fail to undertake active management of clearly communicated and substantiated HIV-infection risks. The findings of this study point to disbelief about the fatality of AIDS, inability to negotiate safer sex, frustration with condoms, and being intoxicated during anal intercourse as key issues to be addressed in risk-reduction efforts for MSM.

While we believe our analysis has identified correlates of the riskiest behaviors in a population-based sample of MSM, our research was not designed to probe the sources of these factors. Beliefs in the fatality of HIV disease may depend not only upon men’s perceptions of near-term prospects for a cure, but also upon what they would like to believe as a result of their behaviors (Van Campenhoudt, 1999). Communication skills and intoxication may be connected to other issues (Bolton et al., 1992), such as poor self-esteem (O’Leary et al., 2005) and desires for affection (Stokes & Peterson, 1998). Large-scale improvements in the social acceptance of homosexuality and the viability of gay relationships—in gay as well as mainstream culture—are keys to increasing senses of self-respect and self-worth in this population (Kraft et al., 2000). A quite different matter, which requires the careful attention of epidemiologists and public health policymakers before new interventions can be successfully introduced, is the modification of messages about the degree of safety of particular sexual practices. In the absence of detailed information about the risks of anal “withdrawal” and intra-oral ejaculation compared to intra-rectal ejaculation, for

example, MSM are on their own to evaluate these relative risks. The sexual practices of men in our study who wrongly believed they were uninfected with HIV raises important questions about how effectively MSM are making decisions of great consequence to themselves and their communities.

The absence of evidence-based educational messages regarding sexual risks of exposure to HIV and other sexually transmitted diseases are to some extent reflective of the unwillingness of the U.S. Public Health Service to promote and support harm-reduction models of prevention (Parsons et al., 2005). Abstinence-only interventions that ignore socially embedded risk-negotiating processes are bound to fail. Intervention specialists in pursuit of effective theories of "risk" behavior should employ definitions of sexual risk that are both epidemiologically sound and relevant to the decision-making strategies of vulnerable populations.

Author's Note

Steve Kurtz received his doctorate in sociology from Florida International University (FIU) in 1999 and is employed as a research scientist with the University of Delaware. He presented an earlier version of this manuscript at the 93rd Annual Meeting of the American Sociological Association (Abstract 98S37136). Robert Webster is currently enrolled in The Harris Graduate School of Public Policy Studies at the University of Chicago, and Abraham Buckley is completing his medical studies in southern California. Bill Darrow continues to teach, mentor graduate students, and conduct research on the social and behavioral aspects of AIDS and other sexually transmissible diseases.

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