

Barebacking Among Gay and Bisexual Men in New York City: Explanations for the Emergence of Intentional Unsafe Behavior

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This study was undertaken to assess the frequency with which gay and bisexual men in New York City engage in intentional unprotected anal sex, or “barebacking,” and to examine explanations about the emergence of barebacking. A total of 518 men completed a brief intercept survey. Of the 448 men who were familiar with the term “barebacking,” 204 (45.5%) reported bareback sex in the past 3 months prior to assessment. HIV seropositive men were significantly more likely than HIV seronegative men to report this behavior and reported significantly more sexual partners with which they had engaged in intentional unprotected anal intercourse. Participants reported significantly more acts of seroconcordant bareback sex (intentional unprotected anal intercourse with a partner of the same HIV status) than those of serodiscordant bareback sex. Men who reported barebacking also reported significantly more benefits associated with this behavior. The Internet and the availability of sexually oriented chat rooms, HIV treatment advances, emotional fatigue regarding HIV, and the increased popularity of “club” drugs were commonly cited as reasons for the barebacking phenomenon.

KEY WORDS: barebacking; HIV; gay/bisexual men; unprotected anal intercourse.

Epidemiological trends since the mid-1990s have suggested an alarming increase in unprotected sexual behaviors among men who have sex with men (MSM) in HIV epicenters with large gay communities (Chen et al., 2002; Wolitski, Valdeserri, Denning, & Levine, 2001). These data document the gradual increase in HIV infections in this population (Kellogg, McFarland, & Katz, 1999; Van de Ven, Prestage, Crawford, Grulich, & Kippax, 2000), especially among young gay and bisexual men (Koblin

et al., 2000; Valleroy et al., 2000). These HIV prevalence rates have nearly doubled to approximately 8–10%. Further, dramatic increases in the incidence of other sexually transmitted diseases (STDs) have been identified, such as a doubling of the number of gonorrhea cases from 1990 to 1999 and recent outbreaks of syphilis among gay men after several years of declining cases (Centers for Disease Control and Prevention, 1999, 2002; Fox et al., 2001; Wolitski et al., 2001). Recent studies of MSM in San Francisco found that the number of syphilis cases increased from 6 cases in 1998 to 115 cases in 2001, and that cases of rectal gonorrhea among MSM increased from 162 in 1999 to 237 in 2002 (Chen et al., 2002; Katz et al., 2002).

Specifically, the practice of unprotected anal intercourse, the riskiest of HIV-transmission-related behaviors (Vittinghoff et al., 1999), has gained momentum in the last several years, in part because of relapse from safer sex on the part of gay and bisexual men, but also to the increasingly popular behavioral phenomenon of intentional unsafe anal sex, referred to as “barebacking” (Gauthier & Forsyth, 1999; Goodroad, Kirksey, & Butensky, 2000; Halkitis, 2000; Halkitis & Parsons, in press; Halkitis,

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Wilton, Parsons, & Hoff, in press; Mansergh et al., 2002; Suarez & Miller, 2001). Yet, the phenomenon of barebacking is complex, especially within the context of the seroconcordant relationship. As such, we recognize that intentional unsafe anal acts may yield minimal or no risk for HIV seronegative (HIV⁻) men in monogamous relationships as well as HIV seropositive (HIV⁺) men in monogamous relationships, given the uncertainty of superinfection. Further, we posit that relationship dynamics are complex and decisions about sexual behaviors are sometimes made without communication or with misunderstandings about the agreements within the relationship (Halkitis et al., in press).

For HIV⁻ gay and bisexual men, initial infection with HIV is the most immediate consequence of barebacking and is further exacerbated by the potential for initial infection with medication resistant/untreatable HIV mutant variants (Boden et al., 1999; Hecht et al., 1998; Hicks et al., 2001; Little et al., 1999; Routy et al., 2000; Wainberg & Friedland, 1998). For HIV⁺ men, barebacking may place them at risk for “superinfection” (Blackard, Cohen, & Mayer, 2002; Halkitis et al., in press; Jost et al., 2002), rapid loss of CD4 cells, especially through continual ejaculate exposure (Wiley et al., 2000), and risk for contracting other STDs that may lead to opportunistic infections such as Kaposi’s sarcoma (O’Brien et al., 1999; Rezza et al., 1999), co-infection with hepatitis C (Flichman, Cello, Castano, Campos, & Sookoian, 1999; Mendes-Correa, Baronne, & Guastini, 2001), and immune system deterioration (Bonnell, Weatherburn, & Hickson, 2000; Gibson, Pendo, & Wohlfeiler, 1999).

Traditionally, unsafe anal sexual acts among gay and bisexual men were often attributed to relapse, or the inability to consistently apply safer sex behaviors; however, unsafe sex practices cannot be explained solely by the notion of relapse. Although unsafe sex due to relapse continues (Williams, Elwood, & Bowen, 2000), such “unintentional” unsafe behavior must be differentiated from the increasingly popular unsafe anal practices, which are “intentional” and/or premeditated (Gauthier & Forsyth, 1999). The latter has become colloquially known in the mainstream and academic press as “barebacking.” Data based on an investigation in San Francisco suggest that 37% of gay men reported this behavior in 1998, representing a 13% increase over a 4-year period (Howard, 1998).

As data regarding the actual popularity of barebacking have been limited, we sought to assess the frequency of self-reported barebacking behavior among gay and bisexual men, as well as to consider potential reasons that these men relate to the emergence of barebacking in their community.

METHOD

Participants

A total of 518 men consented to participation and completed the survey. Refusal rates varied according to the particular venue utilized for recruitment, with rates ranging from 8.5% (for a large Gay/Lesbian Expo) to 40.0% (for street-based recruitment) of those approached. The majority of participants, 448 men (86.5%), reported familiarity with the term “barebacking” as it relates to the sexual behavior of gay men. The remaining 70 men (13.5%) in the sample were eliminated from subsequent analyses; however, men who were not familiar with the term did not differ from those who were with regard to key sociodemographic factors (age, sexual orientation, race/ethnicity, HIV status, etc.) nor did they differ according to venue of recruitment.

Of the final sample of 448 men, the majority (93.7%) reported being gay; the remainder identified as bisexual. In terms of race/ethnicity, 70.3% identified as White, 6.5% as African American, 11.6% as Latino, 8.7% indicated another race/ethnicity or mixed race, and 3.1% failed to report a race/ethnicity. The average age of the sample was 38.21 years ($SD = 9.94$, range = 18–82), and with regard to HIV status, 19.4% ($n = 87$) reported being HIV⁺, 80.6% ($n = 361$) reported being HIV⁻, and no participants reported an “unknown” HIV status.

Procedure

A cross-sectional brief street-intercept survey method (Miller, Wilder, Stillman, & Becker, 1997) was used to sample gay and bisexual men in New York City (NYC) to assess barebacking behaviors and beliefs. We actively approached men in numerous venues and asked them to complete a questionnaire and gathered data from those who were willing to complete the survey. This method of obtaining data has been used in numerous studies of HIV (Carey, Braaten, Jaworski, Durant, & Forsyth, 1999; Chen, Kodagoda, Lawrence, & Kerndt, 2002; Rotheram-Borus et al., 2001). Participants were recruited at a large gay dance club, on the street in two gay neighborhoods of Manhattan, and at a large gay/lesbian expo being held at a convention center in NYC. Gay and bisexual men from all five boroughs of NYC were represented in the sample, assessed via zip codes reported by participants. There were no significant differences in key variables (i.e., whether or not participant reported barebacking, number of barebacking partners, etc.) by venue of recruitment or by zip code or borough.

Participants provided tacit consent for participation and were provided an incentive of a movie theater voucher. After the data were collected, we matched on age and zip code to minimize the likelihood of double data participation in the study. No matches were found. This study was approved by the institutional review board of the first author.

Measures

The survey was a single-page, two-sided questionnaire that required an average of 8 min to complete. In addition to sociodemographics, the survey contained the following measures.

Barebacking Behavior

Participants were first asked to respond to the following question: I am familiar with the term ‘barebacking’ as it is used by gay men to describe their sexual behavior. No further definition of “barebacking” was provided to participants by the research team as we were interested in their individual perceptions of the phenomenon; however, “barebacking” was clearly identified by the survey as a term related to the sexual practices of gay men. Our previous work has shown that barebacking is typically understood by gay men in NYC to refer to intentional, unprotected anal intercourse (Halkitis, 2000; Halkitis & Parsons, in press). If they reported familiarity with the term, participants were then asked to report the number of men with whom they had engaged in bareback sex in the 3 months prior to assessment. In addition, men were asked to indicate the number of these partners stratified by the partner’s HIV serostatus. We also included one set of questions about attendance at bareback parties (e.g., “Have you attended a bareback party in the last three months that you first learned about online?”).

Benefits of Barebacking

On the basis of previous research on reasons for unsafe sex, as well as qualitative work specific to barebacking (Halkitis, 2000), we developed a 14-item, 5-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*) assessing perceived benefits of barebacking. Exploratory factor analyses revealed that 9 of the 14 items loaded on one factor, accounting for 44.9% of the variance (eigenvalue = 6.29). The remaining five items failed to load consistently and were treated as stand-alone items.

Table I. Item Analysis of *Benefits of Barebacking Scale*

	<i>M</i>	<i>SD</i>	Factor loading
Barebacking increases intimacy between men	2.93	1.29	.76
Barebacking makes sex more romantic	2.62	1.27	.82
Barebacking is sexier than sex with condoms	3.12	1.93	.73
Barebacking is more “butch” and manly	2.45	1.16	.78
Barebacking affirms love between men	2.14	1.18	.74
Barebacking is “hotter” than sex with condoms	2.58	1.33	.77
There are psychological benefits to barebacking	2.43	1.22	.79
Barebacking affirms masculinity	2.10	1.12	.78
There are emotional benefits to barebacking	2.35	1.25	.81

Note. Absolute range, 1–5.

The nine-item *Benefits of Barebacking Scale* yielded an internal consistency of $\alpha = .90$. Items and their factor loadings are shown in Table I. Items were summed to create the composite *Benefits of Barebacking* score used in later analyses.

Barebacking and the Internet

Our previous work has shown a link between the barebacking phenomenon and use of the Internet (Halkitis & Parsons, in press). Thus, we developed nine items to assess the relationship between barebacking and Internet use. These items are shown in Table II.

Table II. Barebacking and the Internet

	Level of agreement
Easy to find bareback sex partners on the Internet	66.6%
Internet makes it easy to find other men who bareback	73.4%
Internet has become a popular way for men to find other barebackers	66.9%
Because Internet is anonymous, gay men are more likely to use it to look for other barebackers	70.0%
Barebackers can find others like them to communicate with on Internet	75.7%
Barebacking is popular because of the Internet	30.7%
Barebackers likely to succeed in finding other barebackers on Internet	68.0%
Barebackers more likely to seek partners on Internet than in bars/clubs	41.0%
Barebackers more likely to seek partners on Internet than in sex clubs	31.2%

Note. Level of agreement indicates the percentage of participants who either agreed or strongly agreed with the item.

RESULTS

Frequency of Barebacking

Of the 448 men familiar with the term *barebacking*, 45.5% ($n = 204$) reported engaging in bareback sex with at least one sexual partner in the previous 3 months, whereas 54.5% ($n = 244$) indicated they had not barebacked. Barebackers did not differ from nonbarebackers with regard to sexual orientation and race/ethnicity. Barebacking was related to serostatus, with HIV+ men more likely to report bareback sex than HIV- men (OR, 2.2; 95% CI, 1.3–3.5; $p = .002$). Specifically, 60.9% of HIV+ men ($n = 53$) reported this behavior, compared to 41.8% of HIV- men ($n = 151$). Compared to HIV- men, HIV+ men reported a greater number of bareback sex partners, $F(1, 446) = 34.9$, $p < .001$.

To better examine barebacking behavior, the sample was reduced to the 204 men reporting barebacking behavior in the past 3 months. Table III shows the mean number of bareback sex partners as a function of participant's serostatus and partner's serostatus. A 2 (participant's serostatus: HIV+ vs. HIV-) \times 3 (partner's serostatus: HIV+, HIV-, unknown) analysis of variance revealed a significant interaction effect, $F(1, 235) = 13.62$, $p < .001$. HIV+ men reported significantly more bareback partners of HIV+ status than bareback partners of HIV- or unknown status, $F(1, 58) = 3.90$, $p = .04$. HIV- men reported significantly fewer bareback partners of HIV+ status than bareback partners of HIV- or unknown status, $F(2, 256) = 12.51$, $p < .001$. In each of the analyses, degrees of freedom were reported for the Greenhouse-Geiser adjustment to account for the violation of circularity of the data.

Further, 28.9% ($n = 59$) of the 204 men who reported barebacking indicated that they attended a bareback sex party (a party in which it is understood that unprotected anal sex will occur) that they learned about on the Internet during the period of evaluation. HIV+ barebackers were significantly more likely than HIV- barebackers to report having attended such a party (OR, 4.2; 95% CI, 2.2–8.3; $p < .001$).

Table III. Mean Number of Bareback Sex Partners by Serostatus Among Those Reporting Barebacking

	HIV+ participants ($n = 53$)			HIV- participants ($n = 151$)		
	<i>M</i>	<i>SD</i>	Range	<i>M</i>	<i>SD</i>	Range
HIV+ partners	11.45	31.77	0–200	0.36	0.90	0–7
HIV- partners	2.52	7.05	0–40	1.50	2.68	0–30
Unknown status partners	3.47	7.11	0–40	1.30	2.37	0–20

Perceived Benefits of Barebacking

Differences in the summed *Benefits of Barebacking* scale were examined. Men who reported bareback behavior in the previous 3 months also perceived significantly greater benefits associated with barebacking ($M = 22.49$, $SD = 7.68$) than men who did not report barebacking ($M = 17.25$, $SD = 7.16$), $F(1, 445) = 7.31$, $p < .001$. There were no differences on this scale with regard to age, race/ethnicity, and HIV serostatus.

The remaining five items from the original *Benefits of Barebacking* measure were examined separately and included here as potential explanations for why the barebacking phenomenon has emerged. When asked about perceptions of the emergence of barebacking within the gay community in NYC, 48.9% believed that barebacking had emerged as a result of “boring” safer sex campaigns; 47.9% agreed that barebacking was a result of advances in HIV treatments; 45.6% attributed barebacking to fatigue about the AIDS epidemic; and 40.3% concurred that barebacking was a sexual and cultural phenomenon. Finally, 70.2% of the participants acknowledged that gay men are more likely to be using “club drugs” (i.e., methamphetamine, methylenedioxymethamphetamine; Ecstasy/MDMA; or γ -hydroxybutyrate [GHB] if they are having bareback sex. These perceptions did not differ by serostatus or race/ethnicity.

The Role of the Internet

With regard to the Internet, participants, regardless of barebacking behavior, believed that use of the Internet facilitated the barebacking phenomenon among gay and bisexual men (see Table II). These beliefs did not differ by serostatus or race/ethnicity.

DISCUSSION

The vast majority of men surveyed in this study reported familiarity with the term “barebacking.” Nearly half the men familiar with the term in this ethnically diverse sample reported engaging in bareback anal sex in the past 3 months. HIV+ men were twice as likely as HIV- men to report this behavior. Participants tended to report seroconcordant bareback sex, although some reported serodiscordant bareback sex. Although unprotected anal sex with a partner of the same HIV status does not represent a threat in terms of HIV transmission, it does raise concerns with regard to other negative health complications. For all men, the recent rise in the incidence

of other STDs is one potential negative outcome of bareback sex. Further, for HIV+ men, even seroconcordant bareback sex may result in infection with a more virulent strain of HIV.

Our work suggests that gay and bisexual men perceived numerous psychological and emotional benefits associated with barebacking, including but not limited to feelings of connectedness, intimacy, and masculinity. The notion of psychological benefits associated with the barebacking phenomenon has been considered in the popular gay press (Gendin, 1997), in qualitative interviews of HIV+ gay men who spoke frankly about exchanging semen with their partners as a form of connection and affirmation of life (Halkitis, 2001), among those who have theorized about barebacking (Goodroad et al., 2000), and in one other empirical investigation of barebacking where 40% of HIV+ men and 39% of HIV- men indicated that "feeling emotionally closer" to their partners was the reason that they barebacked (Mansergh et al., 2002).

In addition, our data support the notion that the emergence of barebacking is further supported by sociological elements, such as the prevailing use of "club drugs," emotional fatigue with HIV, and the lack of effective HIV prevention campaigns. These ideas are supported by gay and bisexual men, regardless of whether or not they bareback, suggesting that these are developing views of gay and bisexual men in general, and are not dependent on one's actual experiences with intentional unsafe anal sex. These ideas have been supported elsewhere (Ostrow et al., 2002) and suggest that these elements may work in combination with improved treatments to exacerbate the barebacking phenomenon (Suarez & Miller, 2001). Specifically, beliefs regarding HIV transmission and the relative risk associated with unprotected anal intercourse have been shaped in part by treatment advances and the ensuing optimism surrounding the HIV epidemic (Dilley, Woods, & McFarland, 1997; Miller et al., 2000; Vanable, Ostrow, McKirnan, Taywaditep, & Hope, 2000). It has been suggested that these advances have led to a false impression that the epidemic is over (Stall, Hays, Waldo, Ekstrand, & McFarland, 2000). Optimistic beliefs about HIV may thus drive the attitudes that gay and bisexual men possess regarding unprotected anal intercourse, and in particular, barebacking. As a result, any decrease in HIV transmission that may have been associated with highly active antiretroviral therapy has been counteracted by increased unsafe sexual practices (Katz et al., 2002).

Finally, the role of the Internet cannot be overlooked with regard to the barebacking phenomenon. As shown in our data, regardless of their actual barebacking behavior, many gay and bisexual men believe that the phenomenon is facilitated by the Internet. These communications take a

variety of forms including e-mail (electronic mail), WWW (world wide web), FTP (file transfer programs), listservs (special interest group mailing lists), and IRCs (Internet relay chat rooms) (DeGuzman & Ross, 1999). Our previous work has demonstrated that, among HIV+ men, barebacking is evidenced among 84% of those who seek out sexual partners in this medium (Halkitis & Parsons, in press). Although our data suggest that the Internet has an impact on barebacking behaviors and facilitates the identification of barebacking sexual partners, the participants also reported that the barebacking phenomenon is not due solely to the Internet nor has the Internet totally replaced bars, dance club, bathhouses, or sex clubs, where men can meet potential bareback sexual partners. Mansergh et al. (2002) found that among those who have barebacked in the previous 2 years, 17% of men cited the Internet as a source for meeting partners. Avery, Hellman, and Sudderth (2001) have also documented that HIV sexual risk behaviors were more prevalent among those who reported meeting their sexual partners online.

The results of present study should be viewed in light of the fact that the data are both self-reported and cross-sectional. As a result, causal implications should not be inferred. Self-reported data are subject to response bias and it is possible that some of the participants in our sample underreported bareback sex behaviors, particularly those with serodiscordant partners, due to perceived social stigma issues.

The sample was a convenience sample of gay and bisexual men in NYC who were recruited from gay venues and neighborhoods. Thus, participants were integrated, at least to some degree, into the various gay and bisexual communities of NYC. Although the sample was diverse in terms of race/ethnicity, age, HIV status, and zip code of residence, it is likely that men who are not so integrated into the gay community have different experiences with and perceptions of barebacking. The sample consisted of gay and bisexual men who consented to participate in a research project, and were familiar with the term *barebacking*, and may not be representative of the larger population of gay and bisexual men. Further, although the refusal rate was somewhat low, it is impossible to know how men who refused to complete the survey might differ from our participants in terms of barebacking behaviors and perceptions.

Because the researchers did not provide a detailed definition of "barebacking" to respondents, it is possible that different interpretations were used by the men reporting familiarity with the term. For example, some men may not perceive intentional unprotected anal sex between two partners who are both presumed to be HIV negative as barebacking. Others may have perceived only

unprotected sex with nonprimary partners to be characteristic of barebacking. It should be noted, however, that the survey specifically associated the term “barebacking” with sexual behavior among gay men, thus minimizing gross misinterpretation. Mansergh et al. (2002) defined *barebacking* as “intentional anal sex without a condom with someone other than a primary partner.” In their study, 70% of the men, compared to 86% of men in our sample, reported familiarity with the term. Finally, our survey did not assess relationship status, and as a result, we cannot comment on the extent to which these barebacking behaviors occurred within the contexts of monogamous seroconcordant couples. Thus, our data may suggest a higher level of HIV and STD transmission risks than actually present among our participants.

We need to understand the phenomenon of bareback sex from both a sociological and psychological perspective. This idea is supported by the fact that many participants in our investigation believed that the emergence of bareback sex has resulted from a variety of psychosocial realities, including optimism regarding HIV due to treatment advances as well as AIDS-related fatigue. The use of club drugs within gay culture, and specifically mainstream gay venues such as bars and dance clubs, appears to exacerbate this situation, perhaps by resulting in sexual disinhibition within the contexts that gay and bisexual men socialize. And the use of Internet, and sexually oriented gay chatrooms specifically, in the contexts of gay men’s lives, is an important element that needs further investigation.

Furthermore, future assessments of barebacking behavior need to more clearly delineate the meanings that gay and bisexual men ascribe to barebacking as we seek to develop a contextual understanding of this phenomenon, and to determine the psychological, behavioral, and sociological antecedents that may drive some men to bareback. These understandings should be focused on differentiating intentional from relapse-related unsafe sex, the impact of partner type on this decision making, as well as the interactive role of HIV status with these other constructs.

In terms of clinical implications, medical and mental health professionals should take an active role with patients to assess the relative safety of their patients’ sexual encounters and to disseminate information regarding the impact of bareback sex on one’s health. On the basis of the sexual behavior reported here and documented increases in HIV seroconversion rates in MSM within the past few years, it is proposed that intentional unprotected anal sex is increasing among gay and bisexual men. As such, the potential exists for such behavior to become normative and more accepted in this population. This could lead

to a second wave of the HIV epidemic (Wolitski et al., 2001).

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REFERENCES

- Avery, A. M., Hellman, R. E., & Sudderth, L. K. (2001). HIV and sexually transmitted infection risk behaviors among men seeking sex with men on-line. *American Journal of Public Health, 91*, 988–991.
- Blackard, J. T., Cohen, D. E., & Mayer, K. H. (2002). Human immunodeficiency virus superinfection and recombination: Current state of knowledge and potential clinical consequences. *Clinical Infectious Diseases, 34*, 1108–1114.
- Boden, D., Hurley, A., Zhang, C. Y., Jones, E., Tsay, J., Farthing, C., et al. (1999). HIV-1 drug resistance in newly infected individuals. *JAMA, 282*, 135–141.
- Bonnell, C., Weatherburn, P., & Hickson, F. (2000). Sexually transmitted infection as a risk factor for homosexual HIV transmission: A systematic review of epidemiological studies. *International Journal of STD and AIDS, 11*, 697–700.
- Carey, M. P., Braaten, L. S., Jaworski, B. C., Durant, L. E., & Forsyth, A. D. (1999). HIV and AIDS relative to other health, social, and relationship concerns among low-income women: A brief report. *Journal of Women’s Health and Gender Based Medicine, 8*, 657–661.
- Centers for Disease Control and Prevention. (1999). Increases in unsafe sex and rectal gonorrhea among men who have sex with men—San Francisco, California, 1994–1997. *Morbidity and Mortality Report, 48*, 45–58.
- Centers for Disease Control and Prevention. (2002). Unrecognized HIV infection, risk behaviors, and perceptions of risk among young black men who have sex with men: Six U.S. cities, 1994–1998. *Morbidity and Mortality Weekly Report, 51*, 733–736.
- Chen, S. Y., Gibson, S., Katz, M. H., Klausner, J. D., Dilley, J. W., Schwarcz, S. K., et al. (2002). Continuing increases in sexual risk behavior and sexually transmitted diseases among men who have sex with men: San Francisco, California, 1999–2001. *American Journal of Public Health, 92*, 1387–1388.
- Chen, J. L., Kodagoda, D., Lawrence, A. M., & Kerndt, P. R. (2002). Rapid public health interventions in response to an outbreak of syphilis in Los Angeles. *Sexually Transmitted Diseases, 29*, 285–287.
- DeGuzman, M. A., & Ross, M. W. (1999). Assessing the implications of AIDS-related counseling and education on the Internet. *Patient Education and Counseling, 36*, 209–228.
- Dilley, J. W., Woods, W. J., & McFarland, W. (1997). Are advances in treatment changing views about high-risk sex? *New England Journal of Medicine, 337*, 501–502.
- Flichman, D., Cello, J., Castano, G., Campos, R., & Sookoian, S. (1999). In vivo regulation of HIV replication after hepatitis superinfection. *Medicina, 59*, 364–366.
- Fox, K. K., del Rio, C., Holmes, K. K., Hook, E. W., Judson, F. N., Knapp, J. S., et al. (2001). Gonorrhea in the HIV era: A reversal in

- trends among men who have sex with men. *American Journal of Public Health*, 91, 959–964.
- Gauthier, D. K., & Forsyth, C. J. (1999). Bareback sex, bug chasers, and the gift of death. *Deviant Behavior*, 20, 85–100.
- Gendin, S. (1997, June). Riding bareback: Skin-on-skin sex been there, done that, want more. *POZ*, 24, 64–65.
- Gibson, P., Pendo, M., & Wohlfeiler, D. (1999). Risk, HIV, and STD prevention. *Focus: A Guide to AIDS Research and Counseling*, 14, 1–5.
- Goodroad, B. K., Kirksey, K. M., & Butensky, E. (2000). Bareback sex and gay men: An HIV prevention failure. *Journal of the Association of Nurses in AIDS Care*, 11, 29–36.
- Halkitis, P. N. (2000). Redefining masculinity in the age of AIDS: Seropositive gay men and the “buff agenda.” In P. Nardi (Ed.), *Gay masculinities* (pp. 130–151). Newbury Park, CA: Sage.
- Halkitis, P. N. (2001). An exploration of perceptions of masculinity among gay men living with HIV. *Journal of Men's Studies*, 9, 413–429.
- Halkitis, P. N., & Parsons, J. T. (2003). Intentional unsafe sex (barebacking) among gay men who seek sexual partners on the Internet. *AIDS Care*, 15(3), 367–378.
- Halkitis, P. N., Wilton, L., Parsons, J. T., & Hoff, C. C. (in press). Correlates of sexual risk-taking behavior among HIV seropositive gay men in concordant primary partner relationships. *Psychology, Health, and Medicine*.
- Hecht, F. M., Grant, R., Petropoulos, C., Dillon, B., Chesney, M. A., Tian, H., et al. (1998). Sexual transmission of HIV-1 variant resistant to multiple reverse-transcriptase and protease inhibitors. *New England Journal of Medicine*, 339, 307–343.
- Hicks, C., Eron, J., Lennox, C., Pilcher, C., Meneses, P., Giner, J., et al. (2001). *Resistance to antiretroviral agents in aq cohort of patients with acute HIV infection acquired in non-urban areas in the Southeastern USA*. Paper presented at the 8th Conference on Retroviruses and Opportunistic Infections, Chicago.
- Howard, D. (1998). Barebacking now reported by 37% of gay men in recent ACT UP golden gate survey. *Bay Area Reporter*, 1, 7.
- Jost, S., Bernard, M. C., Kaiser, L., Yerly, S., Hirschel, B., Samri, A., et al. (2002). A patient with HIV-1 superinfection. *New England Journal of Medicine*, 347, 731–736.
- Katz, M. H., Schwarcz, S. K., Kellogg, T. A., Klausner, J. D., Dilley, J. W., Gibson, S., et al. (2002). Impact of highly active antiretroviral treatment on HIV seroconversion among men who have sex with men: San Francisco. *American Journal of Public Health*, 92, 388–394.
- Kellogg, T., McFarland, W., & Katz, M. (1999). Recent increase in HIV seroconversions among repeat anonymous testers in San Francisco. *AIDS*, 13, 2303–2304.
- Koblin, B. A., Torian, L. V., Gulin, V., Ren, L., MacKellar, D. A., & Valleroy, L. A. (2000). High prevalence of HIV infection among young men who have sex with men in New York City. *AIDS*, 14, 1793–1800.
- Little, S. J., Daar, E. S., D'Aquila, R. T., Keiser, P. H., Connick, E., Whitcomb, J. M., et al. (1999). Reduced HIV drug susceptibility among patients with primary HIV infection. *JAMA*, 282, 1142–1149.
- Mansergh, G., Marks, G., Colfax, G., Guzman, R., Rader, M., & Buchbinder, S. (2002). Barebacking in a diverse sample of men who have sex with men. *AIDS*, 16, 653–659.
- Mendes-Correa, M. C., Baronne, A. A., & Guastini, C. (2001). Hepatitis C virus seroprevalence and risk factors among patients with HIV infection. *Review of the Institute of Medicine San Paulo*, 43, 15–19.
- Miller, M., Meyer, L., Boufassa, F., Persoz, A., Sarr, A., Robain, M., et al. (2000). Sexual behavior changes and protease inhibitor therapy. *AIDS*, 14, 33–39.
- Miller, K. W., Wilder, L. B., Stillman, F. A., & Becker, D. M. (1997). The feasibility of a street-intercept survey method in an African-American community. *American Journal of Public Health*, 87, 655–658.
- O'Brien, T. R., Kedes, D., Ganem, D., Macrae, D., Rosenberg, P., Molden, J., et al. (1999). Evidence of concurrent epidemics of human herpes virus 8 and human immunodeficiency virus type 1 in US homosexual men: Rates, risk factors, and relationship to Kaposi's sarcoma. *Journal of Infectious Diseases*, 180, 1010–1017.
- Ostrow, D. E., Fox, K. J., Chimerl, J. S., Silvestre, A., Visscher, B. R., Vanable, P. A., et al. (2002). Attitudes towards highly active antiretroviral therapy are associated with sexual risk taking among HIV-infected and uninfected homosexual men. *AIDS*, 16, 775–780.
- Rezza, G., Andreoni, M., Dorrucchi, M., Pezzotti, P., Monini, P., Zerboni, R., et al. (1999). Human herpesvirus 8 seropositivity and risk of Kaposi's sarcoma and other acquired immunodeficiency syndrome related diseases. *Journal of the National Cancer Institute*, 91, 1468–1474.
- Rotheram-Borus, M. J., Lee, M., Zhou, S., O'Hara, P., Birnbaum, J. M., Swendeman, D., et al. (2001). Variation in health and risk behavior among youth living with HIV. *AIDS Education and Prevention*, 13, 42–54.
- Routy, J. P., Brenner, B., Salomon, H., Quan, Y., Campos, A. F., Rouleau, D., et al. (2000). *Transmission of dual and triple-class drug-resistant viral variants in primary/early HIV-1 infection (PHI) in Montreal*. Paper presented at the 7th Conference on Retroviruses and Opportunistic Infections, San Francisco.
- Stall, R., Hays R. B., Waldo, C. R., Ekstrand, M., & McFarland, W. (2000). The gay '90s: A review of research in the 1990s on sexual behavior and HIV risk among men who have sex with men. *AIDS*, 14, S1–S14.
- Suarez, T., & Miller, J. (2001). Negotiating risks in context: A perspective on unprotected anal intercourse and barebacking among men who have sex with men—Where do we go from here? *Archives of Sexual Behavior*, 30, 287–300.
- Valleroy, L. A., MacKellar, D. A., Karon, J. M., Rosen, D. H., McFarland, W., Shehan, D. A., et al. (2000). HIV prevalence and associated risks in young men who have sex with men. *JAMA*, 284, 198–204.
- Vanable, P. A., Ostrow, D. G., McKirnan, D. J., Taywaditep, K. J., & Hope, B. A. (2000). Impact of combination therapies on HIV risk perceptions and sexual risk taking among HIV-positive and HIV-negative gay and bisexual men. *Health Psychology*, 19, 134–145.
- Van de Ven, P., Prestage, G., Crawford, J., Grulich, A., & Kippax, S. (2000). Sexual risk behavior increases is associated with HIV optimism among HIV negative and HIV positive gay men in Sydney over the four year period to February 2000. *AIDS*, 14, 2951–2953.
- Vittinghoff, E., Douglas, J., Judson, F., McKirnan, D., MacQueen, K., & Buchbinder, S. P. (1999). Per-contact risk of human immunodeficiency virus transmission between male sexual partners. *American Journal of Epidemiology*, 150, 1–6.
- Wainberg, M. A., & Friedland, G. (1998). Public health implications of antiretroviral therapy and HIV drug resistance. *JAMA*, 279, 1977–1980.
- Wiley, D. J., Visscher, B. R., Grosser, S., Hoover, D. R., Day, R., Gange, S., et al. (2000). Evidence that anoreceptive intercourse with ejaculate exposure is associated with rapid CD4 loss. *AIDS*, 14, 707–715.
- Williams, M. L., Elwood, W. N., & Bowen, A. M. (2000). Escape from risk: A qualitative exploration of relapse to unprotected anal sex among men who have sex with men. *Journal of Psychology and Human Sexuality*, 11(4), 25–49.
- Wolitski, R. J., Valdiserri, R. O., Denning, P. H., & Levine, W. C. (2001). Are we headed for a resurgence in the HIV epidemic among men who have sex with men? *American Journal of Public Health*, 91, 883–888.