

Men Who Have Sex With Men and Recruit Bareback Sex Partners on the Internet: Implications for STI and HIV Prevention and Client Education

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Men who have sex with men (MSM) frequently use Internet-based Web sites to recruit sex partners. Although many MSM users of such sites advocate for safe sex practices in their personal profiles, some users actively recruit sexual partners who wish to participate in anal sexual intercourse without the use of condoms, also known as "bareback" sex. Participating in this sexual practice places both sexual partners at higher risk of HIV transmission. In addition, data indicate this behavior is associated with

other high-risk activities such as drug use and communication of other sexually transmitted infections. This article summarizes the literature assessing this phenomenon on the Internet. Specific recommendations are provided for clinicians, health educators, and researchers.

Keywords: AIDS; anal sex; bareback sex; condoms; HIV prevention; Internet; men who have sex with men; sexually transmitted infections

Introduction

Unsafe sexual practices among men who have sex with men (MSM) are of great public health concern in the United States. Clinicians and public health advocates strive to decrease behaviors that can promote the transmission of HIV and other sexually transmitted infections (STIs) among this population. The Internet is an emerging tool being used among MSM to meet partners for unsafe anal intercourse. This article summarizes the literature assessing this phenomenon on the Internet and provides specific recommendations for clinicians, health educators, and researchers.

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The Emergence of Barebacking as a Cultural Phenomenon

There has been a recent increase in social science inquiries examining the emergence of condomless sex by MSM (Shernoff, 2006). The term "bareback" carries different constructs in different samples of MSM (Halkitis, 2007; Halkitis, Wilton, & Drescher, 2005). However, the general concept of condomless sex is of great public health concern as the majority of new diagnoses of HIV infection are among MSM (Centers for Disease Control and Prevention, 2005). In fact, studies comparing unsafe sexual intercourse among homosexual versus heterosexual samples suggest gay men use the Internet to meet sexual partners at much higher rates. Bolding, Davis, Hart, Sherr, and Elford (2006) found that only 5% of heterosexual women and 10% of heterosexual men used the Internet to find sexual partners, whereas 43% of the gay men in their sample had.

There are many hypothesized etiologies for the emergence of barebacking. Researchers have suggested some of this activity results from accident or temporal relapse, whereas during other sexual

encounters, MSM deliberately decide to participate in bareback sex (Carballo-Diequez & Bauermeister, 2004). Wolitski (2005) proposed six etiologic forces increasing the incidence of bareback sex among MSM, including improvements in HIV treatment, more complex sexual decision making, the Internet, substance use, safer sex fatigue, and changes in HIV prevention programs. The influence of advances in HIV treatment in the increase of bareback sex was proposed by Carballo-Diequez and Bauermeister (2004). This rationalization concerns false perceptions among MSM that HIV is no longer a terminal illness and is instead chronically manageable with pharmaceutical intervention. As HIV treatment methods dramatically improved over time, preventive strategies remained stagnant and may, in fact, have actually declined as MSM began the return to condomless sex (Carballo-Diequez & Bauermeister, 2004; Halkitis et al., 2005).

Drug use, particularly the increased use of crystal methamphetamine by MSM, has been linked to a rise in the practice of bareback sex (Halkitis et al., 2005; Shernoff, 2006). Environmental stressors such as racism, homophobia, and socioeconomic disadvantage may contribute to this risky sexual behavior (Shernoff, 2006). A 2001 report authored by the World Health Organization (WHO) suggested socioeconomic disadvantage might increase unsafe sex practices by promoting compensated sexual interactions between partners; this same report also critically examined the correlation between racism and HIV rates and transmission. Specific racial correlates listed included disparities in prevention, screening, and treatment modalities between dominant and nondominant ethnic groups; marginalization of higher risk ethnic groups; and increased stigmatization of HIV-infected individuals by certain ethnic groups (WHO, 2001).

HIV-positive (HIV+) serostatus might also be a predictor for bareback sex. Halkitis (2007) reported that a large number (41.2%) of self-identified barebackers in his sample were HIV positive. Another proposed risk factor for bareback sex among MSM is internalized homophobia. Shernoff (2006) asserted internalized homophobia contributes to barebacking by "creating an unconscious sense that a gay man is unimportant and undervalued, thus increasing his sense that he is expendable, and so too are the men with whom he has sex and from whom he seeks love and validation" (p. 106).

Although comprehensive data to assess the precise number of MSM who practice bareback sex are difficult to obtain, data do exist that indicate an increased

incidence of unprotected anal intercourse (Dawson, Ross, Henry, & Freeman, 2005). Carballo-Diequez (2001) asserted that recent reports in major cities across the United States of increased incidence of STIs (including increased diagnoses of HIV infections) such as chlamydia, syphilis, gonorrhea, and hepatitis support an increased incidence of unprotected anal intercourse. HIV diagnoses are increasing among MSM for the first time in nearly two decades (Wolitski, 2005). Analysis of 2006-2007 STD infection rates among MSM in San Francisco indicated increases in the number of clients diagnosed with HIV, syphilis, and male rectal chlamydia (San Francisco Department of Public Health, 2007). All of these data provide compelling evidence that increasing numbers of MSM are not consistently maintaining safer sex practices (Wolitski, 2005).

The emergence of increasing bareback sex among MSM could indicate a cultural shift among this community's overall attitudes and thought regarding the risk of becoming infected or communicating HIV to others as well as the physical, mental, and social consequences of being HIV positive (Wolitski, 2005). Wolitski (2005) hypothesized the increase in this behavior may be a symptom of new powerful anti-retroviral drug cocktail therapies and changes in prevention programs and changes within the gay community itself. Finally, the labeling of an individual as a "barebacker" may actually perpetuate the practice of bareback sex through the creation of role models and identities that celebrate the benefits of unprotected anal sex while altering societal norms about protected and unprotected sexual practices and establishing social and sexual networks of MSM who prefer bareback anal sex (Wolitski, 2005). Emerging data indicate the Internet is introducing a multitude of interacting variables that are also playing a significant role (Davis, Hart, Bolding, Sherr, & Elford, 2006; Engler, Frigault, Leobon, & Levy, 2005; Halkitis et al., 2005; Liao, Millett, & Marks, 2006; Shernoff, 2006; Wolitski, 2005).

Risks of Using the Internet to Recruit Bareback Sexual Partners

Actual sexual risk behaviors related to transmission of HIV or STIs do not physically occur online. Chat rooms, sex sites, and other virtual environments frequently serve as points of entry to actual locations where sexual activities can occur (Carballo-Diequez et al., 2006). An increasing number of MSM are finding sexual partners through the Internet (Davis et al.,

2006; Halkitis, 2001; Liau et al., 2006). Current estimates indicate that MSM are 7 times more likely to have sex with Internet partners than non-MSM (Bull, McFarlane, & Rietmeijer, 2001). Perhaps of even greater significance, MSM who use the Internet to look for sexual partners are more likely than those who do not to engage in unprotected sex (Benotsch, Kalichman, & Cage, 2002; Hospers, Harterink, van den Hoek, & Veenstra, 2002; Liau et al., 2006). Hospers et al. (2002) reported that 30% of the MSM in their sample who engaged in sex with men they met on the Internet reported inconsistent safe sexual behaviors. Several researchers have assessed the risk factors associated with the use of the Internet by MSM to meet sexual partners.

Some sites are designed to introduce HIV+ men to HIV- men for purposes of sexual activity (Tewksbury, 2003); there is little evidence that suggests a link between a preference for bareback sex in an individual's personal profile and the active quest for HIV infection (Tewksbury, 2003). Intentional transmission of HIV among MSM who use the Internet to meet sexual partners is unlikely or uncommon; statistical data indicate high prevalence rates of HIV-infected males having unprotected anal sex with other men after meeting on the Internet. One study identified that 43% of the sexual partners of HIV-infected MSM who used the Internet to meet were of unknown serostatus (Halkitis & Parsons, 2003). The HIV-infected men had no knowledge of the HIV status of the partner they met on the Internet and whom they subsequently engaged in unprotected anal intercourse.

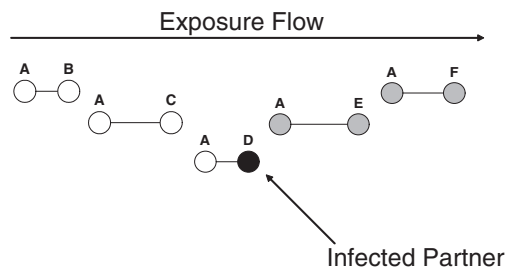
Perhaps of great concern is the ability of the Internet to allow efficient and anonymous (Engler et al., 2005; Wohlfeiler & Potterat, 2005) linkage of partners who share multiple risk factors that promote bareback sex. For example, data suggest the use of illicit drugs such as methamphetamine during sexual activity can lead to high-risk and compulsive sexual activities and bareback sexual encounters (Bolding, Hart, Sherr, & Elford, 2004, 2006; Fernandez et al., 2007; Mansergh et al., 2006; Mitchell, Morris, Kent, Stansell, & Klausner, 2006; Semple, Zians, Grant, & Patterson, 2006; Volkow et al., 2007; Wohlfeiler & Potterat, 2005). Whereas browsers who do not use illicit substances or do not wish to participate in sexual activities with men who do (Wohlfeiler & Potterat, 2005) can select a partner who reports no illicit drug use in his profile, the opposite is also feasible; men who use illicit drugs can use Internet-based sex sites to find men who also use illicit drugs. Thus, the risk factor of illicit drug use is amplified because both

sexual partners have found compatibility based on each man's illicit drug use.

Drug use by both partners exponentially increases risk for both. Data also support that in some instances, high-risk individuals and low-risk individuals are sexually mixing (Wohlfeiler & Potterat, 2005, p. S49). Specifically, the differences in prevalence rates of STIs and preference of sexual partners among various ethnicities can increase transmission of STIs from high-risk individuals to low-risk individuals (Laumann & Youm, 1999). This is highlighted by data that indicate high-risk Blacks (for example, those who are HIV+) are more likely to choose partners from high-, moderate-, and low-risk profiles (Laumann & Youm, 1999). In contrast, Whites are more likely to select partners whose risk is more concordant (i.e., high-risk with high-risk, low-risk with low-risk) (Laumann & Youm, 1999).

Low-risk partner to low-risk partner sexual activity carries the least chance of STI transmission; high-risk partner to high-risk partner sexual activity is not necessarily safer (Halkitis & Parsons, 2003). A study conducted by Halkitis and Parsons (2003) reported bareback sex occurring among HIV+ MSM who met on the Internet. The sexual behavior of these men may be predicated by the false impression that unprotected anal intercourse among two HIV+ men is not a risky behavior. However, disease progression can be greatly accelerated when each HIV+ individual is exposed to a partner's virus—viral load can increase from introduction of more HIV-infected body fluids, and, more important, this exposure can promote the development of drug-resistant mosaic strains (Ramos et al., 1999).

Application of the exposure flow model and concurrency model (Figures 1 and 2) by Wohlfeiler and Potterat (2005) can explain transmission of STIs among infected and noninfected MSM who use the Internet to meet sexual partners. Concurrency implies having a network of multiple sex partners and going back and forth between them—repetitive exposures among those in the network significantly increase the probability of transmission to all partners in the network (Wohlfeiler & Potterat, 2005). For example, if non-STI-infected man A meets non- or even STI-infected man B over the Internet and consequently has protected intercourse and is unexposed to STIs with man B, subsequent Internet sex partners C and D, who also do not have an STI, are not at risk for acquiring an STI from man A. If man A then has unprotected anal sex with and acquires an STI infection from man E and concurrently continues sexual



After A is exposed to infected partner D, three are potentially infected.

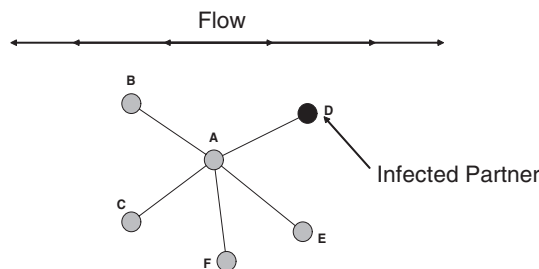
Figure 1. Exposure flow model. Source: Wohlfeiler and Potterat (2005).

practices with men B, C, and D, each of these men are now at a significantly increased risk for acquiring STIs.

While the construction of sexual networks is occurring and is more easily facilitated by the use of the Internet (Benotsch et al., 2002; Wohlfeiler & Potterat, 2005), perhaps the anonymity (Engler et al., 2005) of the Internet can result in false representation of high-risk men in their personal profiles. HIV-infected MSM do not consistently disclose their HIV serostatus in their online profiles (Dawson et al., 2005; Ross, Rosser, Coleman, & Mazin, 2006; Tewksbury, 2003). Ross et al. (2006) identified 20% of HIV+ men in their sample misrepresented their serostatus. And whereas Tewksbury (2003) reported almost 71% of MSM reported a negative HIV serostatus in their online profile, more than 10% either didn't report their serostatus or reported it as unknown. This, combined with the more than 19% who reported their HIV serostatus as positive, indicates the number of potentially HIV+ partners to be close to 30%.

The ambiguity of a potential partner's HIV serostatus can compound the risk of exposure to HIV, as recent data suggest there may be an emerging perception among MSM who use the Internet to meet sexual partners that having no preference for the HIV status of their partner is socially and legally safer than stating a preference in their profile (Dawson et al., 2005). When Dawson et al. (2005) considered those men who did not provide their HIV serostatus in their profiles to be positive and considered those who cited no preference for the serostatus of their partners as serodiscordant, the level of potential risk rose to 23%.

All of these findings indicate a great need for preventive-focused interventions and client education.



Given the same time period: After A is exposed to infected partner D, five are potentially infected. Concurrency facilitates more transmission than serial monogamy.

Figure 2. Concurrency model. Source: Wohlfeiler and Potterat (2005).

Strategies for prevention concentrate on the use of the Internet in promoting safer sexual practices among MSM using this medium to meet potential sexual partners. The discussion of client education emphasizes the role of the provider in ensuring that preventive behaviors appropriate to Internet-based sexual activities are discussed during each client encounter.

Discussion

Creating Virtual Environments That Promote Prevention

Because virtual environments serve as the point of entry for many MSM looking for sexual partners, perhaps designing interventions targeting these settings is an optimal approach to preventing the spread of HIV and STIs. In response to a 2002 outbreak of syphilis among MSM using the Internet to find sex partners (Klausner, Wolf, Fischer-Ponce, Zolt, & Katz, 2000), the San Francisco Department of Public Health (SFDPH) in collaboration with the Internet Sexuality Information Service (ISIS) devised a strategy to increase awareness and the use of prevention methods among MSM in these virtual environments (Klausner, Levine, & Kent, 2004).

After identifying the three most used Internet sites, experts focused online prevention methods on individual outreach, banner advertisements, site-specific page warnings, chats, the creation of an educational site, message board forums, and online syphilis testing (Klausner et al., 2004). Individual outreach methods were designed to inform users of disease symptoms and transmission methods of syphilis, HIV, and other STIs and distribute voucher coupons

for syphilis testing in a public health clinic (Klausner et al., 2004). This was accomplished by staff targeting chat rooms and personal profiles using one-on-one discussions via instant message and e-mail.

Next, unique animated banner advertisements were placed on the identified sites. Catchphrases and provocative images in the banners were designed to encourage users to click on the banner, which would forward them to an informational site regarding the outbreak, how to prevent the transmission of syphilis, testing locations, and other information related to prevention, screening, and treatment (Klausner et al., 2004). Similarly, site-specific page warnings about the risk of multiple sex partners and transmission of syphilis were used as banners on one of the identified sites. These warning boxes were embedded with links to a sexual health education bulletin board where users could read more information or post their own questions that SFDPH or ISIS staff would later answer.

Chats were also utilized. Physicians appointed by SFDPH facilitated real-time, 1-hr auditorium-style chats with users. Users were able to ask questions and receive answers in real time (immediately after asking). Another strategy was the creation of a question/answer educational site about STIs. Questions posted by anonymous users were answered by a nurse practitioner or physician, who also posted their own suggestions and comments about STI prevention, screening, and treatment (Klausner et al., 2004) on the site. These interventions were similar to the use of message board forums actually integrated on the three identified sites to answer member-generated questions. Finally, a unique online interactive testing method was implemented. Users were directed to a site that allowed requesting of an anonymous test for syphilis. After requesting a unique identification number (UIN), users were sent a physician-ordered laboratory requisition slip and directed to a local private laboratory for specimen collection. The private laboratories would then report results to SFDPH, who posted the results of tests using clients' UIN on a Web site (Klausner et al., 2004).

Postevaluation was completed by the organizations with some data indicating effectiveness of the interventions; however, one conclusion derived from the study was the emphasis that these programs were very new and in need of continuous assessment of their overall effectiveness. One method not discussed by the researchers that could yield rich data analyses may be the use of cost-benefit analysis, which could

highlight positive outcomes of the programs by examining effectiveness beyond simple prevalence rates. For example, some benefits not directly measurable could be the psychological impacts these interventions have on the target population, encouragement of the discussion of the transmission of HIV and STIs among individuals in online sexual social networks, and possible awareness building regarding the need to abstain from bareback sex among HIV+ men using the Internet to find sexual partners.

These strategies were designed to stop the syphilis outbreak; their application to prevent the spread of HIV and other STIs among MSM who use the Internet to meet sexual partners could also be effective. The individual outreach methods used by SFDPH/ISIS may be too costly to implement on a larger scale; other identified interventions may be cost effective and easier to implement on a larger scale. Although users might not necessarily click on banner advertisements or warning boxes for more information, their mere appearance and use of ominous images and text warnings might reinforce the consequences of poor and impulsive decision making. Banner advertisements can cost between \$1,000 and \$10,000 per month depending on the popularity of the site (Klausner et al., 2004).

The high costs of these banner advertisements might present funding issues for public health agencies wishing to use such methods to promote prevention. Perhaps combining resources among multiple agencies could be one mechanism to cover costs. Also, although there is no evidence to suggest the management of the sites themselves are resistant to such banners and warning boxes; it is possible that sights and images that concentrate on disease could be perceived as a potential cause of erosion of paying membership. Thus, lack of interest and/or resistance from site managers might be a future obstacle to the use of these methods.

Message board forums and the use of educational sites could also be effective means of prevention. Allowing experts such as physicians and nurse practitioners to post comments about wellness and prevention and answer user questions regarding barebacking, and the prevention, transmission, screening, and treatment of STIs and HIV, could facilitate easier dispersion of information and empower MSM who use the Internet to meet sexual partners to make safer decisions regarding their sexual activities. Finally, although online HIV and STI testing presents a myriad of challenges to public health, increasing access to screening

services through innovative approaches such as this could lead to earlier detection of disease and, thus, earlier treatment and opportunity for education about prevention.

Implications for Education and Research

This article has identified several critical areas where education of the client and clinician are essential. In addition, as sexual practices among MSM continue to evolve and change, research must remain current and keep pace with such perpetual changes to ensure public health strategies are effective. Although public health strategies aimed at educating clients on a national and even global scale are very important, perhaps of most significance is that clinicians must be culturally sensitive to the unique needs of their clients and ensure health promotion and prevention concepts are integrated into every client encounter. Wolitski (2005) suggested several etiologic forces increasing the incidence of bareback sex among MSM.

Client apathy. First, improvements in HIV treatment may be contributing to apathy & unsafe behaviors (Carballo-Diequez & Bauermeister, 2004; Halkitis et al., 2005; Wolitski, 2005). Clients need to be taught that although expansion and improvements of HIV treatment and management have yielded lower morbidity and mortality rates for individuals with HIV, the disease still carries a lifelong chronicity. In addition, clients should be informed of the many adverse effects of antiretroviral therapies and the impact these can have on daily life. HIV+ clients need to be educated on the possibility of virus mutation resulting from exposure to various partners' different HIV strands and the potential this can have on rendering their current regimen ineffective.

Client History. Next, it is essential that practitioners question their clients about the use of the Internet to meet sexual partners. Research indicates that MSM who meet sexual partners on the Internet are less likely to use consistent safer sex practices (Benotsch et al., 2002; Hospers et al., 2002; Liao et al., 2006). Thus, clinicians should attempt to educate clients about the importance of consistent condom use among sex partners, regardless of where these partners initially meet. It may be effective to

educate these clients about data that indicate both a degree of deception and unwillingness to disclose HIV status among MSM who use the Internet to meet sexual partners (Dawson et al., 2005; Ross et al., 2006; Tewksbury, 2003).

Client substance abuse. Finally, issues surrounding substance use should be addressed. Clinicians should focus beyond just the physiological, psychological, and sociological aspects of substance use. Research suggests the use of illicit drugs during sexual activity can lead to high-risk and compulsive sexual activities and bareback sexual encounters (Bolding, Hart, et al., 2006; Fernandez et al., 2007; Mansergh et al., 2006; Mitchell et al., 2006; Semple et al., 2006; Volkow et al., 2007; Wohlfeiler & Potterat, 2005). Clinicians should discuss the ways in which illicit substances can alter the client's ability to critically reason and how particular substances, such as crystal methamphetamine, can increase the potential for risky sexual interactions. In a nonjudgmental fashion, clients should be educated on ways to alter their use of illicit substances or at least limit their use during sexual activity.

Future Research

Two other factors postulated as contributors to the rise in bareback sex among MSM were safer sex fatigue and changes in HIV prevention programs (Wolitski, 2005). Future scholarly inquiry must critically examine these areas and suggest ways to counter the rise in unsafe sexual behaviors through smart and effective public health interventions. Studies should examine perceptions of MSM regarding promotion strategies designed to promote safer sex. An authoritative approach by health professionals might not be effective as changes in the prevalence and treatment of HIV and other STIs have yielded fatigue among those for whom safer sex messages are intended. Instead, MSM should be actively involved in creating prevention strategies, and research should concentrate on determining other causes of safer sex fatigue.

In addition, researchers must assess current HIV prevention programs and determine which interventions are evidence based and yield greater client outcomes. Data analyzed by Klausner et al. (2004) suggested a small number of MSM who use the Internet to meet sexual partners utilize Internet-based

prevention techniques. These innovative approaches are just one example of emerging prevention strategies that might become powerful public health initiatives. The design of strong methodological critical inquiries to assess these changing HIV prevention programs could lead to better evidence-based prevention methods and overall lower rates of transmission of HIV and other STIs.

Summary and Conclusion

Men who have sex with men are frequently using Internet-based Web sites to recruit sex partners (Davis et al., 2006; Halkitis, 2001; Liau et al., 2006). Many MSM users of such sites advocate for safe sex practices in their personal profiles. However, evidence suggests that many are also participating in bareback sex. This article has critically explored the literature assessing the prevalence of this phenomenon on the Internet. Specific recommendations were also provided for clinicians, health educators, and researchers.

As new technologies foster easier access to sexual partners and quicker attainment of sexual gratification, public health prevention strategies must keep pace with these changes. Clinicians are in a unique position to promote safer sexual practices among MSM who use the Internet to meet sexual partners. Through proper education, clients can have myths dispelled and can in turn disperse knowledge and information to other MSM. Innovative approaches, such as integrating prevention methods into virtual environments that serve as points of entry for MSM, can lead to better decision making and lower the potential for bareback sex among MSM using the Internet to meet sexual partners. Finally, researchers can be the driving force for public health interventions aimed at lowering the number of MSM participating in this risky behavior. The correlations between education, research, and clinical practice highlight the significant contribution each of these areas provides in advocating for vulnerable populations such as MSM. As these three areas interact with one another, their importance is emphasized in every aspect of prevention of HIV and STI transmission.

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