# Men Seeking Sex on an Intergenerational Gay Internet Website: An Exploratory Study

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### **SYNOPSIS**

**Objective.** This study explored the characteristics and sexual behaviors reported by men who have sex with men (MSM) seeking sex on an intergenerational website. Of special interest was to determine whether and how seeking sex on the Internet contributed to risky sex behaviors.

**Methods.** This descriptive exploratory study extracted data from a stratified random sample of 1,020 profiles posted by men seeking sex on a gay intergenerational website. Frequencies and percentages were calculated for all categorical variables. Analysis of variance was used to test for differences in subgroup categories.

**Results.** The men in the sample were primarily Caucasian (92.3%) with a mean age of 50 years (range: 18–88 years). More than one-fourth of the men (28.5%) reported being married. Of the married men, 76.0% indicated they would engage in receptive anal intercourse. Only a small number of men in the total sample expressed interest in safe sex (17.5%), while 91 men (8.9%) directly stated that they wanted unsafe sex. Most men in the sample were seeking intergenerational sexual encounters, with 71.0% of younger men expressing a preference for older men.

**Conclusions.** The Internet can play a significant role in seeking same-sex encounters across generational groups. Safe sex was not a stated priority for most men in this study, and the Internet provides an effective method of seeking unsafe sex. A number of MSM seeking sex on the Internet were married and Caucasian. This finding suggests the need for greater attention to married and/or publicly identified Caucasian, heterosexual men in human immunodeficiency virus prevention efforts. Effective Internet-based prevention programs need to be implemented and researched.

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Despite 25 years of educational and prevention efforts, significant numbers of individuals in the United States become infected with the human immunodeficiency virus (HIV) each year. In fact, a recent report from the Centers for Disease Control and Prevention indicates that the number of new cases of HIV in the U.S. have been underestimated by as many as 16,000 per year using previous projection models. While the U.S. epidemic is increasing most rapidly among members of ethnic minority groups, men who have sex with men (MSM) continued to account for 53% of new HIV infections in 2006. There is growing evidence that safe sex practices, once thought to be having significant effects in reducing HIV infection among gay men, may be becoming less prevalent.<sup>2,3</sup> This upward trend in HIV infection among MSM supports the critical need to explore factors that may be contributing to increasing transmission of HIV infection among MSM and their sex partners.

Seibt et al. found that socialization into the gay community had a positive effect on safe sex practices such as condom use.4 However, a number of studies have shown that many MSM do not self-identify as gay, but rather as bisexual or straight<sup>5,6</sup> and have little contact with the organized gay community.<sup>7,8</sup> Many of these men have sex with both men and women. Carballo-Dieguez and Dolezal found that among a group of Puerto Rican MSM, men who self-identified as straight reported that as long as they are the insertive partner in same-sex contact, they do not view their behavior as homosexual.<sup>6</sup> Further, straight and bisexual men in that study reported low incidence of condom use with either women or men. With 80% of the cases of HIV in women related to heterosexual transmission, 9 MSM who have sex with women while keeping their sexual activity with men a secret can place women at high risk for acquiring HIV infection. The culture that often surrounds sex with men in secret or "on the down low" can be counter to the idea of preventing risk or taking precautions, placing male and female sex partners at increased risk for HIV infection.<sup>10</sup> While no research studies on intergenerational sexual encounters among MSM could be identified, this phenomenon may facilitate the transmission of HIV from both older men to younger men and younger men to much older men.

There is increasing recognition that the rapid advancement of technology and the popularity of the Internet have important implications for the development of social and sexual relationships. For dating and the seeking of sexual partners, the Internet has become the bar or club of past decades. Liau, Millett, and Marks, conducting a meta-analysis examination of online sex-seeking, found that 40% of MSM have

used the Internet to find sex partners.<sup>11</sup> In the United Kingdom (UK), the percentage of young men who met their first male sex partner online increased from about 3% in 1993 to 61% in 2002.12 Other studies have estimated that 25% to 50% of MSM have used the Internet to seek sex.<sup>12–14</sup> Further, a number of research studies have reported that MSM who meet sex partners on the Internet tend to have a greater number of partners, 15-18 have more casual sex partners, 19,20 are more likely to have unprotected sex, 15,21-25 are more likely to have a history of sexually transmitted infections (STIs),<sup>11</sup> and are more likely to continue to have sex with women.<sup>26</sup> Hidaka et al. acknowledge that the use of the Internet to seek sex partners is very important to MSM who cannot be open about their sexuality and sexual behaviors.<sup>27</sup> It can also be a valuable tool in reaching across age groups to meet sex partners who are either younger or older.8

Increasingly, the Internet is playing an important role in MSM seeking sex partners, with the potential for connecting large numbers of potential partners across a wide geographic area. Using the Internet, men seeking sex with other men can arrange for sexual encounters while keeping their identity secret. Acknowledging the implications of Internet-related sexual "hook-ups" for the potential transmission of HIV underscores the importance of gaining greater understanding of the characteristics, attitudes, and behaviors of MSM who seek sex over the Internet. The purpose of this study was to explore the characteristics and sex-related behaviors reported by MSM who were seeking sex on an international, intergenerational website. The study sought to determine how many of the men using the website were married, their ages, what type of sex was being sought, the level of expressed desire for safe or unsafe sex, the level of disclosure of HIV status, and the age range of the sex partner desired.

#### **METHODS**

This descriptive pilot study extracted data from profiles posted by men seeking sex with other men on an intergenerational website. The website examined has an international membership of almost 200,000 active participants. The website was chosen due to its general appeal to large numbers of MSM that did not focus on any particular high-risk subgroup or sexual fetish appeal. This examination of a more general-appeal website was consistent with the purpose of the study and the pilot nature of this exploration.

In posting a profile on the selected website, men are able to report personal characteristics such as age, race/ethnicity, height, weight, sexual orientation, and

their city and/or state of residence. They are able to identify what they are seeking sexually, including if they are primarily insertive, receptive, or versatile during anal or oral intercourse, as well as the age range of sex partners preferred. Men are able to indicate if they are looking for a sex partner, friend, date, relationship, or some combination of these choices. The website allows the posting of pictures (facial, body, and/or genital shots) and a 30- to 60-second video along with a profile. Additionally, space below each profile allows a man to write any length message he desires to share additional information with those accessing his profile. This can include further information about the individual's interest/life situation, more descriptive information about sexual encounter desired, the practice of safe sex, desire for unprotected sex, and/or HIV status. One of the few restrictions on accessing and posting on the website is the requirement to prove being at least 18 years of age. Such proof of age included a submission of a credit card or other identification before being able to activate the site. The site includes both paid members with full website privileges and nonpaid participants who have more limited use of the website.

After approval by two university Institutional Review Boards, data for this study were collected from November 2007 through February 2008. At the time of the data collection, the site reported more than 194,460 participants worldwide. However, the data for this study were drawn from a subset of 88,785 profiles of men residing in the U.S. We selected a stratified random sample of posted profiles for examination. The sample profiles were selected to ensure inclusion of men residing in all 50 states and the District of Columbia (DC). We selected 20 profiles for inclusion in the study by matching a random table of numbers with the last four digits of profile numbers for participants identified in each of the 50 states and DC. No information was collected that would identify anyone posting on the website. Selected profiles were identified by the profile number only. Data were extracted from the selected profiles using a predeveloped data collection sheet.

## Data analysis

Data were entered into an SAS® version 9.128 database and were checked for entry error. All discrepancies were resolved prior to data analysis. Frequencies and percentages were calculated for all categorical variables. Mean ages were calculated for the total sample and ages of married men, partnered men, and single men. Analysis of variance (ANOVA) was used to test for differences in the ages of the three subgroups of men. Post-hoc analyses were performed using Tukey's test to determine which marital groups differed in age.

Differences in categorical variables were tested using Chi-square or multinomial logistic regression (when a variable had more than two levels). Missing data points were dropped from the analyses, because it would be inappropriate to impute a mean or a mode for the missing data point. An alpha level of 0.05 was used as the level of statistical significance.

#### **RESULTS**

The total sample consisted of 1,020 randomly selected gay or bisexual men who had profiles on the selected pilot study website. The sample was primarily Caucasian (92.3%). Of the men who reported their partnership status, 184 (28.5%) were married, 70 (10.9%) were partnered, and 386 (59.8%) were single. Five (0.8%) men were divorced, and 375 did not report a partnership status; divorced men and missing data were dropped and not considered in Chi-square analyses. Most married men identified themselves as bisexual (97.8%) and the remainder (2.2%) as gay. The Table includes other demographic characteristics.

The mean age of the total sample was 50.0 years  $\pm$ 12.6 years. ANOVA was used to compare the mean (m) ages of married men (m =  $54.7 \pm 9.2$  years), partnered men (m =  $53.6 \pm 12.5$  years), and single men (m =  $48.5 \pm 13.7$  years). Significant differences were found among the three marital status groups ( $F_{df=3} = 11.4$ , p<0.0001). Post-hoc analysis using Tukey's test showed a significant difference between married and single men, and a significant difference between partnered and single men. Married men were on average 6.2 years older than single men, and partnered men were 5.0 years older than single men. Married and partnered men did not differ significantly in age.

In regard to the type of relationship that was being sought, married men (95.6%) expressed a primary desire for a sexual partner, as compared with single men (83.6%) or partnered men (82.6%). Married men (19.1%) were less likely than single men (69.1%) to be seeking a date, but did not differ significantly from partnered men (15.9%) on that variable. Married men (55.5%) were less likely than single men (75.6%) and partnered men (81.2%) to be seeking a friend. Married men (14.8%) and partnered men (14.5%) were less likely than single men (69.6%) to be seeking a long-term relationship. Interestingly, a number of the married men were looking for a long-term relationship (14.8%), while 95.6% of the married men expressed wanting a sex partner.

We examined the percentage of the total sample that reported being primarily versatile (both insertive and receptive in anal intercourse) in their sexual

Table. Characteristics of the total sample, single men, married men, and partnered men, and bivariate associations of partnership status with demographic characteristics, MSM Seeking Sex on an Intergenerational Website Study

Characteristic	Total (n = 1,020)		Single (n=386)		Married (n=184)		Partnered (n=70)		$\chi^{2a}$	
	N	Percent <sup>b</sup>	N	Percent <sup>b</sup>	N	Percent <sup>b</sup>	N	Percent <sup>b</sup>	df	P-value
Seeking sex partners										
No	129	12.8	63	16.4	8	14.4	12	17.4	17.1	0.0002
Yes	876	87.2	321	83.6	175	95.6	57	82.6	df = 2	
Missing	15		2		1		1			
Seeking date										
No	514	51.1	119	30.9	145	80.6	58	84.1	0.4	0.5069
Yes	492	48.9	266	69.1	35	19.4	11	15.9	df = 1	
Missing	14		1		4		1			
Seeking a friend										
No	289	28.8	94	24.4	81	44.5	13	18.8	178.4	< 0.0001
Yes	714	71.2	291	75.6	101	55.5	56	81.2	df = 1	
Missing	17		1		2		1			
Seeking a long-term relationship										
No	538	53.6	117	30.4	155	85.2	59	85.5	5.2	0.0227
Yes	465	46.4	268	69.6	27	14.8	10	14.5	df = 1	
Missing	17		1		2		1			
Sexual position										
Insertive	209	21.9	81	21.9	40	24.1	18	25.7	186.9	< 0.0001
Receptive	227	23.8	96	25.9	28	16.9	9	12.9	df = 2	
Versatile	519	54.3	193	52.2	98	59.0	43	61.4		
Missing	65		16		18		0			
Marital status										
Divorced	5	0.8	NA	NA	NA	NA	NA	NA	NA	NA
Married	184	28.5								
Partnered	70	10.9								
Single	386	59.8								
Missing	375									
Race/ethnicity										
Asian	7	0.9	6	1.7	0	0.0	0	0.0	3339.6	< 0.0001
African American	32	3.9	18	5.1	1	0.7	0	0.0	df = 5	
Latino	21	2.6	16	4.5	4	2.9	0	0.0		
Native American	1	0.1	0	0.0	0	0.0	0	0.0		
Pacific Islander	2	0.2	2	0.6	0	0.0	0	0.0		
Caucasian Missing	753 204	92.3	312 32	88.1	135 44	96.4	68	100.0		
_	204		32		44		2			
Sexual identity	000	00 /	60		470	07.0	_	2.2	0000	.0.000:
Bisexual	230	23.6	23	6.0	179	97.8	2	2.9	892.3	< 0.0001
Gay	744 46	76.4	361	94.0	4 1	2.2	68 0	97.1	df = 2	
Missing	40		2		ı		U			
Safer sex practice	470				4-	70 7	4-	70.0	00.7	.0.000:
Yes	179	66.3	62	60.8	47	79.7	17	73.9	28.7	< 0.0001
No Minaina	91	33.7	40	39.2	12	20.3	6	26.1	df = 1	
Missing	750		284		125		47			
Picture included	004	00.0	, ,	47.4	7.0	40.4	•	4.4.4	100.0	-0.0001
No	294	28.8	66	17.1	78 107	42.4	8	11.4	183.0	< 0.0001
Yes	726	71.2	320	82.9	106	57.6	62	88.6	df = 1	
Missing	0		0		0		0			

continued on p. 25

Table (continued). Characteristics of the total sample, single men, married men, and partnered men, and bivariate associations of partnership status with demographic characteristics, MSM Seeking Sex on an Intergenerational Website Study

- Characteristic	Total (n=1,020)		Single (n=386)		Married (n=184)		Partnered (n=70)		$\chi^{2a}$	
	N	Percent <sup>b</sup>	N	Percent <sup>b</sup>	N	Percent <sup>b</sup>	N	Percent <sup>b</sup>	df	P-value
Face picture included										
No	525	51.5	135	35.0	148	80.4	15	21.4	0.8	0.3627
Yes	495	48.5	251	65.0	36	19.6	55	78.6	df = 1	
Missing	0		0		0		0			
Genital picture included										
No	640	62.8	236	61.1	98	53.3	33	47.1	66.1	< 0.0001
Yes	380	37.2	150	38.9	86	46.7	37	52.9	df = 1	
Missing	0		0		0		0			
Video included										
No	969	95.1	364	94.3	182	98.9	59	84.3	827.5	< 0.0001
Yes	50	4.9	22	5.7	2	1.1	11	15.7	df = 1	
Missing	1		0		0		0			
Age preference										
Younger	250	26.5	111	30.6	103	60.9	12	18.5	164.3	< 0.0001
Older	194	20.6	85	23.4	26	15.4	12	18.5	df = 2	
Both	499	52.9	167	46.0	40	23.7	41	63.0		
Missing	77		23		15		5			
HIV status										
Negative	137	90.1	64	86.5	26	100.0	10	90.9	97.0	< 0.0001
Positive	15	9.9	10	13.5	0	0.0	1	9.1	df = 1	
Missing	868		312		158		59			

 $<sup>^{\</sup>mathrm{a}}$  Five divorced men were dropped from  $\chi^{\mathrm{2}}$  analyses.

practices. Approximately 52.2% (n=193) of single men, 59.0% (n=98) of married men, and 61.4% (n=43) of partnered men reported being versatile. Considering men who reported being primarily receptive or versatile in sexual practice, 78.1% of single men, 75.9% of married men, and 74.3% of partnered men reported being willing to be the receptive partner during anal intercourse.

Married men (60.9%) were more likely to prefer younger sex partners than either single men (30.6%) or partnered men (18.5%). Men aged 18 to 39 years were more likely to be seeking sex with older men (71.3%,  $\chi^2 = 107.8$ , p < 0.0001). While 56.0% of the older men said they were interested in older or younger men, 33.0% wanted younger men exclusively. Men aged 50 years or older were more likely to be looking for older or younger men. Married men (100.0%) were more likely to report being HIV-negative than single (86.5%) or partnered (90.9%) men, although in reality, very few men, regardless of their partnership status, talked about

HIV status at all. Men younger than age 50 were more likely (66.0% vs. 33.8%) to address safe sex than men aged 50 years or older. Ninety-one (8.9%) men in the total sample profiles reported that they were seeking unsafe sex. However, the majority of the men (n=750, 73.5%) in the total sample did not address safe sex or unsafe sex at all in their profiles.

# **DISCUSSION**

The fact that 88,785 men had posted profiles seeking sexual connections with other men on this one website underscores the importance of the Internet as a tool by which men contact or hook up with other men for sex. Our findings are consistent with previous studies that found the Internet provides a means for reaching large numbers of potential sex partners while maintaining a level of anonymity and secrecy concerning same-sex sexual behavior.<sup>11–14</sup> Using the examined website, men were able to contact men in their local area, in their

<sup>&</sup>lt;sup>b</sup>Percentage based on number of men responding on profile to the question (i.e., does not include "missing")

df = degree of freedom

HIV = human immunodeficiency virus

geographic region, nationally, and internationally in an effort to find a sex partner. In a number of the profiles examined, the men expressed a willingness to travel to have sex. The website even offered a travelers' section where men who were planning to visit a specific town or country could alert men in that area of their interest and dates of availability. The ability for MSM in our study to seek sex partners, as well as specifically identify men who had similar or compatible sexual desires or taste, often wanting no strings attached, has potential implications for HIV transmission and HIV/AIDS prevention initiatives.

Hidaka et al. have previously acknowledged the potential importance of the Internet for MSM who are not or cannot be open about their sexuality.<sup>27</sup> Using the Internet, men who do not identify as gay and/or frequent gay bars or clubs are able to access potential sex partners from the security of their homes or offices. These men may have less knowledge of HIV and safe sex practices due to having limited contact with the gay community or venues where HIV/AIDS education has been targeted.<sup>8</sup> The profiles reviewed in this study frequently underscored many men's emphasis on keeping their MSM-related sexual behaviors secret. This requirement was usually conveyed by saying "discreet meeting desired" or "I am discreet, expect the same."

An important finding in our study was that 184 (28.5%) men in the total sample openly admitted being married. In our sample, 375 men did not report their marital/partnership status, and we cannot draw conclusions about this subset of men. The actual number of married men may have been higher. The majority (68.5%) of these married men expressed a willingness to be the receptive partner in anal intercourse. Approximately one-sixth (15.2%) of these men reported that they primarily wanted to be the receptive partner during same-sex encounters. These figures indicate that a large number of the married men were engaging in high-risk behavior even if they potentially use a condom.

In recent years, there has been growing recognition of a phenomenon identified as "on the down low." While the "down low" can have a variety of definitions, it is basically when men publicly present as heterosexual and secretly engage in sex with other men.<sup>29,30</sup> Authors have consistently discussed the "down low" in the context of this being a phenomenon found primarily in the African American or Latino communities.<sup>6,7,10,31</sup> However, in our study, men reporting being married (96.4%) or bisexual (95.0%) were Caucasian. None of these men indicated that their wives were aware of their MSM activities or supported this behavior, suggesting that their MSM activities were being kept

secret. Of the 230 men identifying as bisexual, only five men identified as Latino, three identified as African American, and two identified as Asian. Likewise, of the 184 men identifying as married, four reported being Latino and one reported being African American. This finding suggests that the number of Caucasian men secretly engaging in MSM behavior has not been fully recognized, leading to an underestimation of their numbers and potential role in heterosexual HIV transmission. With 75.0% of new HIV/AIDS cases in women being linked to heterosexual transmission, 32 the role of MSM activities among Caucasian men who are married and/or have sex with both women and men warrants further investigation.

While the authors acknowledge the large number of websites that target MSM connections, many of which have a focus on a specific subgroup of MSM or on particular types of encounters, a unique aspect of this study is that the website examined catered specifically to a cohort of international men who were seeking intergenerational sexual encounters. The website's focus on a wide range of men and behaviors made it particularly useful for a pilot study. Additionally, the characteristics of many men represented in this study (middle-aged or older Caucasian men) demonstrate the use of the Internet to seek same-sex encounters in a group that is often not identified as high risk and/ or not the recipients of targeted HIV/STI prevention efforts.

Almost two-thirds of the younger men represented in our sample profiles were specifically looking for older men. Such sexual encounters across generations may provide a mechanism for HIV infection transmission from younger men to less sexually active older men.<sup>33</sup> Conversely, such encounters can potentially expose young men who are just exploring their sexuality to older men who may be living with HIV infection.<sup>34</sup> No matter the direction of the potential exposure, the large number of men seeking cross-generational sexual encounters highlights the complexities of patterns of HIV transmission among MSM, as well as the difficulty in designing targeted prevention. Traditional cohort-focused prevention programs are likely to fully reach all the men represented in our study.

#### Limitations

The examination of one website and the extraction of information from posted profiles rather than personal interaction with men using the website represent limitations in generalizing the findings of this pilot study. Because we examined posted profiles on a website rather than obtaining information from individuals, we were unable to determine the actual sexual behaviors

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in which men engaged during specific encounters. However, the large number of profiles examined from an intergenerational website that has almost 200,000 participants worldwide does provide useful information that can inform further studies of the use of technology in seeking sexual encounters. The fact that so few of the profiles examined in this study expressed a desire for safe sex (66.3% of those who responded to the question on the profile, but only 17.5% of the total sample), and the fact that 33.7% of the men who responded to the profile question (8.9% of the total sample) actually stated a desire for unsafe sex, strongly suggests that safe sex was not a strong focus for men in seeking sex partners. Interestingly, older men ( $\geq 50$ years) were less likely to address a desire for safe sex than were younger men (<50 years). This finding may be the result of many younger men becoming sexually active during or after HIV/AIDS was identified. It may also be the result of older men not believing they are at high risk for HIV infection. The growth in the number of HIV cases being diagnosed in older men in recent years would seem to support a high level of risk-taking among this group. 32,35

The fact that 33.7% of the men in our study who responded to the profile question indicated seeking unprotected sex may be the result of a growing phenomenon among a subset of MSM. This phenomenon has been labeled "barebacking" or anal intercourse to ejaculation without a condom.<sup>36</sup> Halkitis et al. have proposed that barebacking and barebacking behavior can represent a way for some MSM to identify themselves.<sup>37</sup> Our findings are consistent with previous studies that report barebacking is linked to Internet use, 13,24,25,38 "barebackers" spend more time on the Internet than other groups,<sup>39</sup> and Internet users may be more likely to engage in barebacking than non-Internet users. 40 The fact that we found that more than a third of the men in our study were seeking barebacking provides further support for the significant public health risk this phenomenon poses among MSM, as well as women, if the men have female sex partners.

#### **CONCLUSIONS**

Clearly, our study supports the potential role of the Internet in facilitating high-risk behaviors among MSM. Further, it demonstrates the need to continue investigating intergenerational sexual connections and the public health implications of such connections. Additionally, further research on the MSM behaviors of married or publicly identified heterosexual men that focuses on the prevalence of such behaviors and their

consequences among all men (including Caucasian men) is needed.

#### **REFERENCES**

- Centers for Disease Control and Prevention (US). MMWR analysis provides new details on HIV incidence in U.S. populations. September 2008 [cited 2008 Sep 25]. Available from: URL: http://www .cdc.gov/hiv/topics/surveillance/resources/factsheets/MMWRincidence.htm
- CDC (US). HIV diagnoses climbing among gay and bisexual men [press release]; 2003 Jul 23 [cited 2008 Sep 25]. Available from: URL: http://www.natap.org/2003/aug/080803\_1.htm
- Kippax S, Race K. Sustaining safe practice: twenty years on. Soc Sci Med 2003;57:1-12.
- Seibt AC, Ross MW, Freeman A, Krepcho M, Hedrich A, McAlister A, et al. Relationship between safe sex and acculturation into the gay subculture. AIDS Care 1995;7(Suppl 1):S85-8.
- Finlinson HA, Colon HM, Robles RR, Soto M. Sexual identity formation and AIDS prevention: an exploratory study of non-gayidentified Puerto Rican MSM from working class neighborhoods. AIDS Behav 2006;10:531-9.
- Carballo-Dieguez A, Dolezal C. Contrasting types of Puerto Rican men who have sex with men (MSM). J Psychol Hum Sex 1995;6: 41-67
- McKirnan DJ, Stokes JP, Doll LS, Burzette RG. Bisexually active men: social characteristics and sexual behavior. J Sex Res 1995;32: 64-75.
- 8. Jimenez AD. Triple jeopardy: targeting older men of color who have sex with men. J Acquir Immune Defic Syndr 2003;33(Suppl 2):S222-5.
- 9. CDC (US). Cases of HIV infection and AIDS in the United States and dependent areas, 2005 [cited 2008 Sep 25]. Available from: URL: http://www.cdc.gov/hiv/topics/surveillance/resources/reports/2005report
- Denizet-Lewis B. Double lives on the down low. The New York Times Magazine 2003 Aug 3; p. 28-53.
- Liau A, Millett G, Marks G. Meta-analytic examination of online sex-seeking and sexual risk behavior among men who have sex with men. Sex Transm Dis 2006;33:576-84.
- Bolding G, Davis M, Hart G, Sherr L, Elford J. Where young MSM meet their first sexual partner: the role of the Internet. AIDS Behav 2007:11:522-6.
- Elford J, Bolding G, Sherr L. Seeking sex on the Internet and sexual risk behaviour among gay men using London gyms. AIDS 2001; 15:1400 15
- Elford J, Bolding G, Davis M, Sherr L, Hart G. The Internet and HIV study: design and methods. BMC Public Health 2004;4:39.
- Benotsch EG, Kalichman S, Cage M. Men who have met sex partners via the Internet: prevalence, predictors, and implications for HIV prevention. Arch Sex Behav 2002;31:177-83.
- Ogilvie GS, Taylor DL, Trussler T, Marchand R, Gilbert M, Moniruzzaman A, et al. Seeking sexual partners on the Internet: a marker for risky sexual behaviour in men who have sex with men. Can J Public Health 2008;99:185-8.
- McFarlane M, Bull SS, Rietmeijer CA. The Internet as a newly emerging risk environment for sexually transmitted diseases. JAMA 2000;284:443-6.
- 18. Taylor M, Aynalem G, Smith L, Bemis C, Kenney K, Kerndt P. Correlates of Internet use to meet sex partners among men who have sex with men diagnosed with early syphilis in Los Angeles County. Sex Transm Dis 2004;31:552-6.
- Kim AA, Kent C, McFarland W, Klausner JD. Cruising on the Internet highway. J Acquir Immune Defic Syndr 2001;28:89-93.
- Horvath KJ, Rosser BR, Remafedi G. Sexual risk taking among young Internet-using men who have sex with men. Am J Public Health 2008;98:1059-67.
- Blackwell CW. Men who have sex with men and recruit bareback sex partners on the Internet: implications for STI and HIV prevention and client education. Am J Mens Health 2008;2:306-13.
- Rosser BR, Oakes JM, Horvath KJ, Konstan JA, Danilenko GP, Peterson JL. HIV sexual risk behavior by men who use the Internet

- to seek sex with men: results of the Men's Internet Sex Study-II (MINTS-II). AIDS Behav 2009;13:488-98.
- 23. Balan IC, Carballo-Dieguez A, Ventuneac A, Remien RH. Intentional condomless anal intercourse among Latino MSM who meet sexual partners on the Internet. AIDS Educ Prev 2009;21:14-24.
- Grov C, Parsons JT. Bug chasing and gift giving: the potential for HIV transmission among barebackers on the Internet. AIDS Educ Prev 2006;18:490-503.
- Grov C. Barebacking websites: electronic environments for reducing or inducing HIV risk. AIDS Care 2006;18:990-7.
- 26. Hickson F, Reid D, Weatherburn P, Stephens M, Nutland W, Boakye P. HIV, sexual risk, and ethnicity among men in England who have sex with men. Sex Transm Infect 2004;80:443-50.
- 27. Hidaka Y, Ichikawa S, Koyano J, Urao M, Yasuo T, Kimura H, et al. Substance use and sexual behaviours of Japanese men who have sex with men: a nationwide Internet survey conducted in Japan. BMC Public Health 2006;6:239.
- 28. SAS Institute, Inc. SAS®: Version 9.1. Cary (NC): SAS Institute, Inc.; 2003.
- Millett G, Malebranche D, Mason B, Spikes P. Focusing "down low": bisexual black men, HIV risk and heterosexual transmission. J Natl Med Assoc 2005;97(7 Suppl):S52-9.
- Millett GA, Peterson JL, Wolitski RJ, Stall R. Greater risk for HIV infection of black men who have sex with men: a critical literature review. Am J Public Health 2006;96:1007-19.
- Boykin K. Beyond the down low: sex, lies, and denial in black America. New York: Carroll & Graf Publishers; 2005.

- 32. CDC (US). CDC HIV/AIDS fact sheet: HIV/AIDS among women. Revised June 2007 [cited 2008 Sep 25]. Available from: URL: http://www.hhs.gov/aidsawarenessdays/factsheets/docs/womenfactsheet.pdf
- 33. Mansergh G, Marks G. Age and risk of HIV infection in men who have sex with men. AIDS 1998;12:1119-28.
- Service S, Blower SM. HIV transmission in sexual networks: an empirical analysis. Proc Biol Sci 1995;260:237-44.
- CDC (US). HIV/AIDS surveillance report, 2005. Revised June 2007 [cited 2008 Sep 25]. Available from: URL: http://www.cdc.gov/hiv/topics/surveillance/resources/reports/2005report/pdf/2005SurveillanceReport.pdf
- Goodroad BK, Kirksey KM, Butensky E. Bareback sex and gay men: an HIV prevention failure. J Assoc Nurses AIDS Care 2000;11:29-36.
- Halkitis PN, Parsons JT. Intentional unsafe sex (barebacking) among HIV-positive gay men who seek sexual partners on the Internet. AIDS Care 2003;15:367-78.
- Parsons JT, Bimbi DS. Intentional unprotected anal intercourse among men who have sex with men: barebacking—from behavior to identity. AIDS Behav 2007;11:277-87.
- Grov C, DeBusk JA, Bimbi DS, Golub SA, Nanin JE, Parsons JT. Barebacking, the Internet, and harm reduction: an intercept survey with gay and bisexual men in Los Angeles and New York City. AIDS Behav 2007;11:527-36.
- Berg RC. Barebacking among MSM Internet users. AIDS Behav 2008:12:822-33.