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Reducing Risk: Counseling Men Infected with HIV Who Have Sex with Men on Safer Sex Practices with Seroconcordant Partners

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ABSTRACT

The incidence of new HIV infections in the United States continues to be greatest among men who have sex with men (MSM). MSM infected with HIV often seek seroconcordant sexual partners based on intent to limit psychosocial, legal, and health risks they perceive as higher with serodiscordant sexual partners. However, the rationales for limiting sexual relationships exclusively with other MSM infected with HIV may be rooted in misinformation or misperception. Thus, these clients may have a unique sexual health knowledge deficit that nurses, social workers, and other clinicians need to address to help them reduce risk. This article focuses on sexually related health risks that are distinct to MSM infected with HIV seroconcordant partners. Data on the most recent HIV-infection incidence rates in MSM in the United States is provided. Discussion concentrates on the risk these individuals may have in communicating and acquiring sexually transmitted diseases other than HIV, the risk of HIV superinfection, and how sexually transmitted diseases affect persons who are immunocompromised differently than those who are immunocompetent. Finally, recommendations for healthcare professionals who counsel MSM infected with HIV in sexual decision making is provided.

KEYWORDS

AIDS; bisexual; gay; HIV; men who have sex with men; risk; seroconcordant; sexually transmitted disease; superinfection

Introduction

Incidence rates of new HIV infections among men who have sex with men in the United States

The most recent data from the Centers for Disease Control and Prevention (CDC; 2017b) indicate men who have sex with men (MSM) continue to supply the greatest number of new HIV infections in the United States. These data, compiled in 2015, emphasize that HIV remains a major health disparity in MSM. MSM constituted 82% of all new infections of HIV in males; and MSM made up 67% of total new diagnoses (CDC, 2017b). Male-to-male sexual contact was identified as the mode of transmission among 26,375 adult and adolescent males who are newly infected, with an additional 1,202 cases in MSM who also reported injection drug use (CDC, 2017b).

In addition to the higher risk of HIV infection among these sexual minorities, race has also been found to be a major confounding variable. Although new infections in White MSM dropped by 18% between 2005 and 2014, rates in Latino MSM rose by 24% during this same time period (CDC, 2017b). In African American (AA) MSM, rates increased by 22%, though by only 1%, over the last 5 years of the data collection period, suggesting a leveling off of new infections in AA MSM (CDC, 2017b). These statistics stress that interventions aimed at reducing transmission of HIV in MSM should remain a high public health priority.

Preexposure prophylactic therapy (PrEP) is a new emerging prevention strategy involving daily use of emtricitabine/tenofovir (Truvada®) by MSM who are HIV seronegative as a regimen to prevent infection (Blackwell, 2014). Clinical studies suggest this can decrease chances of infection

in these men by up to 90% (Blackwell, 2014; CDC, 2017c). Although there are longstanding public health campaigns focusing on the reduction of transmission of HIV by accentuating safer sexual behaviors by MSM, social science literature is largely void of information about serosorting of partners by MSM to reduce risk of communication of HIV.

A 2015 article by Blackwell did describe the positive and negative implications of this risk avoidance strategy in HIV seronegative MSM. The goal of this work is to expand this discussion to include an examination of the pros and cons of serosorting among MSM who are HIV seropositive. These MSM often engage in limiting their sexual relationships to other MSM who are seropositive with the intent to limit psychosocial, legal, and health risks they perceive as higher with sexual partners who are serodiscordant.

Data suggest MSM who are HIV seropositive use CD4 counts and HIV-RNA levels as determinants for use of condoms during anal intercourse (Halkitis, Wilton, Parsons, & Hoff, 2004). Suzan-Monti and associates (2011) also found MSM who are HIV seropositive who experience virologic success were more likely to have a steady serodiscordant sexual partner. Lower perceived risk of HIV reinfection, lower behavioral intentions for condom use, and higher CD4 counts were predictive of MSM who are HIV seropositive engaging in unprotected anal intercourse with a primary sex partner infected with HIV (Halkitis et al., 2004).

To achieve the objectives of this article, an extensive literature review was completed, concentrating on data that examined the risks seroconcordant MSM infected with HIV may have during sexual activity. These studies examined communication and acquisition of sexually transmitted diseases other than HIV, the risk of HIV superinfection, and how sexually transmitted diseases affect persons who are immunocompromised differently than those who are immunocompetent. Finally, the literature was appraised to determine specific, evidence-based strategies for healthcare professionals to utilize when counseling MSM infected with HIV in sexual decision making.

Characteristics of sexual decision making in seroconcordant MSM infected with HIV

Research suggests MSM who are HIV seropositive have different health risks, based on differing sexual behaviors, than those who are HIV seronegative. Serosorting (restricting sexual partners who share the same identified HIV serostatus) is one described risk reduction activity among seronegative and seropositive MSM who are affected by HIV. In addition, seropositioning differences have also been found. MSM who are HIV seropositive, for example, were more likely to engage in anal receptive behavior during anal intercourse with a partner self-reported as HIV seronegative than with one self-reported as HIV seropositive (Mcfarland et al., 2012). This seropositioning behavior in the MSM who are HIV seropositive was reported with greater consistency than condom use (Mcfarland et al., 2012). Because anal receptive intercourse has been identified as the highest sexual risk behavior for HIV acquisition, this study indicated avoidance of this activity during serodiscordant sex as a possible protective practice by MSM who are HIV seropositive. This same study also showed higher percentages of abstinence or sexual-avoidant behaviors in MSM who are HIV seropositive compared to MSM who are HIV seronegative (Mcfarland et al., 2012). An older (2003) study by Halkitis, Parsons, and Wilton showed a significantly higher proportion of intentional unprotected anal intercourse among mutually reported MSM who are HIV seropositive in New York City compared to those who mutually self-reported as HIV seronegative.

Although different in setting, these findings were echoed in a more recent (2017) study by Card and colleagues. Their research, focusing on sexual behaviors in MSM who met in online environments, showed MSM infected with HIV had substantially higher rates of condomless anal sex (CAS) when compared to non-MSM infected with HIV. Although 32.4% of the HIV seronegative participants reported CAS when having sex with other MSM self-reported HIV seronegative or with MSM of unknown serostatus, this figure rose to 62.1% in MSM who are HIV seropositive who had sex with other MSM who are HIV seropositive (Card et al., 2017). An Australian-based study by Rawstrone and associates (2007) showed a large proportion of unprotected anal intercourse occurred among

seroconcordant partners infected with HIV; this dyad comprised almost 43% of all unprotected anal intercourse acts within their study. Research assessing minority MSM serosorting has also showed significantly higher unprotected anal intercourse among couples who are HIV seroconcordant, with data from Lo, Reisen, Poppen, Bianchi, and Zea (2011) highlighting this phenomenon among Latino MSM. Serostatus also impacts other areas of sexual decision making in MSM as well.

Prestage, Hurley, and Brown (2013) found MSM who are HIV seropositive were much more likely to engage in receptive “cum play” (p. 1347), in which semen is ejaculated into, or rubbed over, a participant’s anus or used as a sexual lubricant. Although this activity was reported in approximately 17% of the MSM who are HIV seronegative in their sample, 25% of the MSM who are HIV seropositive reported engaging in the activity (Prestage et al., 2013).

The review of literature conducted for this work strongly suggests MSM who are HIV seropositive have different sexual behavioral intents when compared to MSM who are HIV seronegative. Serosorting is a strong commonality within the majority of the studies evaluated. Serosorting among MSM who are HIV seronegative is largely seen as an attempt to limit or eliminate the risk of HIV transmission by MSM not infected with HIV engaged in sexual activity with one another (Blackwell, 2015).

However, the rationale for this in MSM who are HIV seropositive obviously differs because these men are already infected with HIV. HIV-related stigma has been postulated as one potential cause for MSM who are HIV seropositive to restrict their sexual partners to other men infected with HIV. This can be supported by the 2012 literature review assessing HIV-related stigma conducted by Smit and collaborators that found a large number of MSM infected with HIV worry that potential sexual partners would reject them once their HIV seropositivity was disclosed. Rutledge (2009) cited this as a potential cause of nondisclosure as well. Another possible explanation for serosorting among MSM who are HIV seropositive concerns disclosure laws within the United States.

These laws, which vary by state, stipulate that individuals infected with HIV must disclose their HIV seropositivity to sex partners or face criminal prosecution (Lichtenstein, Whetten, & Rubenstein, 2014). Healthcare professionals who oppose these laws have cited them as barriers to HIV testing and care (Lichtenstein et al., 2014); and they have also been identified as contributing factors to HIV-related stigma (Lehman et al., 2014). Thus, MSM infected with HIV may utilize serosorting as a tactic to avoid the criminal ramifications of failure to disclose their HIV serostatus to sex partners who are HIV seronegative. Data from Golub, Tomassilli, and Parsons (2009) demonstrated disclosure stigma moderated the relationship between partner serostatus and a number of psychosocial variables, including functioning, quality of life, anxiety, and role functioning.

In conclusion, MSM infected with HIV often seek seroconcordant sexual partners based on intent to limit psychosocial, legal, and health risks they perceive as higher with serodiscordant sexual partners. Research suggests a large amount of higher risk activity, particularly unprotected anal intercourse, is occurring among these MSM (Lavoie et al., 2008). This highlights the importance of a closer examination of the risks unprotected anal intercourse can pose in transmitting other sexually transmitted diseases (STDs) in MSM infected with HIV, the pros and cons of using viral load to determine need for condom usage by MSM infected with HIV, and the biological impact STDs have in individuals with a compromised immune system.

Clinical implications

Risk of communicating and acquiring sexually transmitted diseases other than HIV

Infection with HIV is significantly associated with higher rates of coinfection with chlamydia, gonorrhea, hepatitis, herpes, syphilis, and human papillomavirus (HPV) (CDC, 2017a; van de Laar & Olivier, 2017). In addition, cancers associated with HPV (e.g., anorectal carcinoma) are also greater in MSM infected with HIV (Blackwell, 2008; van de Laar & Olivier, 2017; Jin et al. 2012). A recent systematic review of HIV/STD coinfection epidemiologic data among people living with HIV

(PLWH) indicated an overall mean point prevalence of confirmed STD of 16.3% (Kalichman, Pellowski, & Turner, 2011).

Trichomoniasis was the STD with the highest prevalence among PLWH (18.8%); this was followed by syphilis and gonorrhea (9.5%, respectively) and chlamydia (5%) (Kalichman et al., 2011). The presence of STDs in persons infected with HIV increases progression of HIV disease (Poudel, Poudel-Tandukar, Nakahara, Yasouka, & Jimba, 2011). Thus, preventing coinfection with STDs has been recognized as a vital component of the care of individuals infected with HIV (Quilter, Dhanireddy, & Marrazzo, 2017). Quilter and associates (2017) identified three critical reasons to control STDs in persons infected with HIV.

These included:

- (1) The likelihood that STIs increase genital HIV load, adequate plasma suppression by anti-retroviral therapy notwithstanding, and thus enhance the efficiency of HIV transmission to sex partners who are uninfected;
- (2) The opportunity to identify those persons infected with HIV who are engaging in sexual behaviors that efficiently transmit HIV, and thus prioritize prevention interventions for them; and
- (3) The possibility that HIV seroadaptive practices effectively potentiate the likelihood of STI acquisition in such encounters if condoms are less likely to be used, as some evidence suggests (p. 41).

The best method to prevent STD transmission in MSM infected with HIV is use of condoms during anal sexual intercourse (CDC, 2017a). MSM infected with HIV should consistently observe this practice, even when their sexual partners are other men who are HIV seropositive.

Risk of HIV superinfection

Although data demonstrate persons who have undetectable serum levels of HIV RNA (viral load) have a negligible chance of communicating HIV (Center for HIV Law & Policy, 2017), these principles differ in MSM infected with HIV who have sexual relationships with other MSM infected with HIV. This is because though persons infected with HIV no longer need to be concerned about initial acquisition of the virus, some researchers suggest introduction of multiple serosubtypes of HIV can complicate HIV infection (Blackard & Mayer, 2004; Kalichman et al., 2010).

Data assessing the relationships between HIV recombination, superinfection, and the immunologic impact of introduction of foreign HIV strands are incompletely understood (Campbell et al., 2009). In addition, the studies dedicated to calculating the incidence and prevalence of this phenomenon suffer from methodological flaws such as small sample size or are based on individual case study reports. And though the emerging technology of evaluating HIV viral genomes in larger cohorts using next-generation deep sequencing has been validated in the literature (Redd et al., 2011), limits in contemporary published science on the topic seriously threaten its generalizability.

Blick and his research team (2007) assessed a case of a New York City man previously infected with HIV who has sex with men who became infected with a multidrug-resistant dual-tropic strain of HIV that quickly depleted his immune system, causing him to deteriorate and become diagnosed with AIDS. They concluded the introduction of this variant strain of HIV (sexually transmitted from another man who was HIV seropositive) was responsible for the individual's morbidity, highlighting the public health implications of unsafe sex in seroconcordant partners (Blick et al., 2007).

These sentiments were restated in the work of Poudel, Poudel-Tandukar, Yasouka, and Jimba (2007), "Risky behaviors among HIV-positive people can increase their exposure to multiple strains of HIV, which can cause superinfection" and associated HIV superinfection as a source of "serious health implications" (p. 23). However, some research suggests superinfection may not actually pose a major risk for persons infected with HIV. For example, Chakraborty, Valer, De Mendoza, Soriano,

and Quinones-Mateu (2004) performed phylogenetic analyses on a cohort of more than 100 longitudinal HIV-1 infected plasma samples. Not a single case of superinfection was found in any of the samples; driving the authors to conclude chronic HIV infection confers protection against superinfection with a second HIV-1 strain (Chakraborty et al., 2004).

Lack of superinfection in high-risk HIV-infected samples was also found in the works of Tsui et al. (2004) and Angel et al. (2004). Some research supports a relationship between the effects of superinfection and timing of exposure to additional HIV strands. Wagner and colleagues (2017) examined associations between the development of neutralizing antibody and the occurrence of superinfection in a well-characterized, antiretroviral therapy (ART)-naive, primary infection cohort of MSM. These researchers concluded:

Within the first year after HIV infection, a relatively weak neutralizing antibody response against primary and subtype-specific neutralization-sensitive viruses increases susceptibility to superinfection in the face of repeated exposures. As natural infection progresses, the immune response strengthens significantly in some superinfected individuals. (p. 1)

Thus, some work indicates persons infected with HIV are at highest risk for superinfection during the more early phases of initial HIV infection. Though data conflict on the significance of recombination, superinfection, and the immunologic impact of introduction of foreign HIV strands in individuals infected with HIV, most public health advocates conclude that clients infected with HIV should be educated about the possibility of superinfection; but the points that data are still needed, and that rates of superinfection are higher in the first few years after infection, need to be stressed (McConnell & Grant, 2006).

Pathophysiologic differences in sexually transmitted diseases in persons who are immunocompromised

STDs can accelerate the course of HIV disease; and their presence has been identified as a poor prognostic indicator in individuals infected with HIV (Munoz-Perez, Rodriguez-Pichardo, & Martinez, 1998). The major pathophysiological factors involved in this pertain to differences in immune response, which occurs when sexually transmitted bacterial or viral antigens are introduced into the person infected with HIV (Chun, Carpenter, Macalino, & Crum-Cianflone, 2013).

For illustration, herpes simplex virus-2 (HSV-2) and hepatitis B (HBV) coinfections with HIV are detailed here. HSV-2 proteins ICP-10, ICP-27, and ICP-4 have been known to upregulate HIV-1 replication; this not only enhances HIV-1 transmission, but also has significant impacts on HIV-1 viral control and disease progression in patients who are coinfecting (Albrecht, DeLuca, Byrn, Schaffer, & Hammer, 1989; Chun et al., 2013; Golden et al., 1992; Kucera, Leake, Iyer, Raben, & Myrvik, 1990; Margolis, Rabson, Straus, & Ostrove, 1992; Mosca et al., 1987). Hepatitis B (HBV) infection in persons coinfecting with HIV often results in chronic and advanced liver disease (Chun et al., 2013) and is postulated to mediate destruction of CD4 cells through T-cell activation or splenic sequestration seen with this advanced liver disease (Idoko et al., 2009).

Similar pathophysiologic interactions have been defined between HIV and coinfections with hepatitis C, HPV, syphilis, gonorrhea, chlamydia, and trichomoniasis (Chun et al., 2013). In addition, degree of HIV viral load suppression has been found to be a major contributor to the interactive effects in co-infections between HIV and these STDs (Chun et al., 2013). Although a full description of the interactive effects between HIV disease acceleration and coinfection with other STDs is beyond the scope of this article, readers should refer to a detailed and comprehensive analysis of this topic written by Chun and colleagues (2013).

Recommendations for healthcare professionals

Healthcare workers, particularly those who work in infectious disease or who provide counseling services directly to MSM infected with HIV, must have a firm understanding of the health risks associated with various sexual activities in this population. This comprehension must transcend those that occur during serodiscordant sexual experiences to include those that occur during seroconcordant ones as well.

Paternalistic and judgmental attitudes can be threatening and provide challenges that create an unstable dynamic between the clinician and the client (Hill, 2010). Thus, it is vital clinicians remain nonjudgmental in their communicative approaches and assure the client the relationship developed is designed to provide best outcomes. Assumptions about any person's sexuality are never appropriate. Instead, asking a client, "Do you have sexual relationships with men, women, or both?" is an optimal manner to approach determination of sexual orientation and open-up dialogue about sexual practices and use of risk reduction strategies (National LGBT Health Education Network, 2015, p. 6).

After developing a comprehensive social history, which includes the client's sexual history, knowledge deficits can be explored. The full breadth of educational needs in MSM infected with HIV is beyond the scope of this writing. The client should be taught the importance of condom usage when engaging in sexual activities with men who are HIV-seropositive and HIV-seronegative.

This concept may be difficult for some clients to understand as a consequence of the misperception that because he is already infected with HIV, condom use should be of low priority. However, clinicians should emphasize condoms can help reduce the risk of acquiring other STDs that disproportionately affect MSM infected with HIV, including syphilis, chlamydia, gonorrhea, herpes, hepatitis, and HPV. In addition, condoms can reduce the risk of exposure to HIV-infected body fluids, which can lower the opportunity for the introduction of STDs and additional HIV viral particles. Thus, condom usage among MSM engaging in high-risk sexual activities (e.g., anal intercourse) with seroconcordant sex partners with HIV can lower the chance of acquiring resistant HIV strands and coinfection with other STDs (CDC, 2017a).

Summary and conclusion

In conclusion, the incidence of new HIV infections in the United States continues to affect MSM the greatest. MSM infected with HIV often seek seroconcordant sexual partners based on intent to limit psychosocial, legal, and health risks they perceive as higher with serodiscordant sexual partners. However, information presented in this article indicated the reasons driving this may be rooted in misinformation or misperception.

This article focused on sexually related health risks that are distinct to MSM infected with HIV seroconcordant partners. These individuals may be at risk for communicating and acquiring STDs other than HIV, which could have more serious health consequences in persons infected with HIV and may accelerate HIV disease. Although data assessing HIV superinfection are conflicting, clinicians working with MSM infected with HIV have the responsibility to educate them about its possibility, particularly in the more early phases of acute HIV infection.

MSM clients who are infected with HIV may have a unique sexual health knowledge deficit that nurses, social workers, and other clinicians need to address to help them reduce risk. Recommendations for healthcare professionals who counsel MSM infected with HIV in sexual decision making were provided. If these professionals educate their clients about the real and potential risks that can occur during sexual activities among MSM who are HIV-seropositive seroconcordant, they can help reduce major health disparities that disproportionately affect this population. This will ultimately make a positive contribution to the health and welfare of not just the gay community, but the public health of the United States, as well.

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