Sexually Transmitted Diseases in Men Who Have Sex With Men

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Men who have sex with men (MSM) have increased rates of human immunodeficiency virus (HIV) infection and sexually transmitted diseases (STDs) compared with demographically matched controls. The reasons for the disproportionate infection burden are complex, including biological, behavioral, and sociocultural factors. HIV and syphilis may often be coprevalent among MSM. The use of nucleic acid amplification testing has enhanced the ability to detect frequently asymptomatic gonococcal and chlamydial infections of the rectum and other sites. Lymphogranuloma proctitis outbreaks among MSM were noted in the developed world several years ago but have not been common recently. MSM are at increased risk for viral hepatitis and anal human papillomavirus disease. Preventive interventions include vaccination for the former and anal cytologic screening for the latter. Because of the diverse ways in which MSM may be exposed to STDs, it is essential for clinicians to obtain a thorough sexual history in a culturally competent manner.

Since the last version of the World Health Organization’s Guidelines for the Management of Sexually Transmitted Infections was published in 2004, sexually transmitted disease (STD) rates among men who have sex with men (MSM) have continued to increase across the United States and abroad [1–3]. Factors associated with increased rates of STDs include the loss of fear regarding human immunodeficiency virus (HIV) transmission because of the increased manageability of the infection, the use of the Internet as an efficient way to find sex partners, increasing use of erectile dysfunction agents, and possibly the expanding role of oral sex in STD transmission [4]. In many settings, the increases in STDs have been associated with increases in HIV, but not invariably, suggesting the possibility that “serosorting” (choosing HIV-seroconcordant partners) or other harm-reduction strategies and/or the differential prevalence of specific STDs in different subpopulations of MSM may lead to differential infection transmission [3]. Although many of the new infections are occurring among younger MSM, a substantial burden of HIV and STD morbidity continues to be found among middle-aged and older men as well [4].

One of the major factors facilitating the increased risk-taking behavior by MSM is the use of disinhibiting substances, including alcohol, crystal methamphetamine, and other recreational drugs [5]. Prevention interventions should focus on the specific situations in which these substances are used, given that the aggregate amount of substance use is generally not the primary predictor of risk-taking behavior; acquisition of HIV and other STDs is more directly related to the use of these substances in conjunction with unprotected sex [6, 7]. Among the drugs most highly associated with risk-taking behavior are methamphetamines [8] and erectile dysfunction drugs [9]. Although a preponderance of the literature regarding MSM and STD/HIV risk and prevalence is from the industrialized world, recent data suggest that HIV and STD prevalence and incidence are also significant in the developing world [10], with rates of syphilis, gonorrhea, and chlamydia in MSM cohorts in Africa, Latin America, and Asia greatly exceeding those of the general population in each of those settings.
The reasons for risk-taking behavior are complex. In many cases, concomitant psychosocial health concerns, such as depression, may predispose MSM to increased STD risk taking [11]. Frequently, these behaviors are in response to societal and familial intolerance of homosexuality. Belief systems about strategies for risk reduction may also affect disease acquisition. For example, men who engage in serosorting behavior may actually be at increased risk for HIV and STDs compared with those who do not assume that they can engage in unprotected sex if their partner indicates that he is HIV negative [12]. Although HIV and STD prevalence is high among MSM of all age strata compared with age-matched cohorts in the general population, younger MSM, particularly those who do not discuss their sexual orientation with their partners, friends, or health care providers, are at increased risk for HIV and other STDs [13]. Miscommunication and misperceptions about HIV serostatus and the presence of STDs may enable some MSM to feel comfortable engaging in unprotected sex [14].

The burden of HIV and STDs is particularly intense among black MSM despite data suggesting that these men are not engaging in riskier sexual practices than their white or Hispanic peers [15]. Although the “down low” phenomenon, in which black men engage in same-sex behavior while not identifying as homosexual, has been reported extensively in the professional and general media, careful review of the epidemiological data suggests that the minority of new HIV and STD infections are detected in this population; that is, most black MSM are infected by other MSM and most black women are infected by heterosexual male partners [16]. The increased prevalence and incidence of HIV and STD in this community compared with other populations have been documented in multiple studies, suggesting the need for culturally tailored prevention interventions [17–19].

In many jurisdictions, MSM account for the majority of primary and secondary syphilis cases that are diagnosed in public health departments [20]. Some of these individuals have met partners at commercial sex venues, such as bathhouses, and others through Internet social media sites; in both settings, HIV is often coprevalent [21]. In some jurisdictions, syphilis cases have increased by more than 4-fold between 1998 and 2005, with >90% of cases occurring among MSM [22]. Data from STD clinics in Atlanta, San Francisco, and Los Angeles suggest that HIV prevalence and incidence are high among MSM diagnosed with primary and secondary syphilis [23]. One of the consequences of the increasing coinfections of syphilis and HIV is an increase in neurosyphilis among MSM [24]. The increased preponderance of syphilis among HIV-infected MSM may reflect “seroadaptive” strategies, in which HIV-infected MSM are more likely to select other HIV-infected partners [24]. Key features of the current syphilis outbreaks among MSM include meeting partners in anonymous venues (making traditional partner notification interventions more challenging), requiring clinicians and health practitioners to recognize complex patterns of how MSM meet new sexual partners [25]. This will require increased provider education around cultural issues of sexual and gender minority populations [26]. The creative use of social media may also enhance prevention promotion for at-risk MSM [27].

Increases in unsafe sex have also been associated with an increase in rectal gonorrhea among MSM [28, 29]. MSM diagnosed with rectal gonorrhea are more likely to be HIV-infected, use recreational drugs, and have partners whose serostatus is unknown to themselves and their partners [30]. The association of increased risk-taking behaviors among MSM with increasing rates of gonorrhea has been carefully documented in ongoing surveillance studies for more than a decade in Denver [31]. In a 7-year study from San Diego, 15.8% of MSM tested for gonorrhea had a positive test in at least 1 anatomic site, with 58% having a negative urethral test while having a positive test from pharyngeal or rectal sites [32]. The utility of nucleic acid amplification testing to detect asymptomatic rectal and pharyngeal gonococcal and chlamydial infections has been demonstrated in several series [33, 34]. Because of the high coprevalence of gonorrhea or chlamydia in MSM with newly diagnosed HIV infection, it is recommended that testing for these pathogens at all relevant anatomical sites be routine in individuals newly diagnosed with HIV, to facilitate prompt diagnosis and partner identification [35]. The increasingly frequent detection of fluoroquinolone resistance among Neisseria gonorrhoeae detected in MSM necessitates treatment with expanded-spectrum cephalosporins instead of other agents [36].

After a period of relatively low rates of chlamydia among MSM in the pre-AIDS era, infection rates have been continually increasing among MSM over the past decade [37]. Since chlamydial infection is frequently asymptomatic, routine screening (particularly in the rectum) should be based on sexual risk, as opposed to relying on symptoms to prompt screening [34]. In a recent study of a cohort of MSM who were treated with single-dose azithromycin for rectal chlamydial infection, the treatment failure rate was 13%, raising the question of whether longer courses of antibiotics are necessary to treat rectal chlamydia in MSM [38]. Recent studies suggest that patients may be capable of collecting their own pharyngeal and rectal specimens in order to more efficiently detect asymptomatic chlamydial or gonococcal infections in the most cost-effective manner. The concept of home specimen collection to detect mucosal chlamydial or gonococcal infection has been found to have a high level of acceptability among MSM [39].

Over the last 5 years, reports of lymphogranuloma venereum (LGV) presenting either as proctitis or as a genital ulcer with inguinal adenopathy have been reported in several outbreaks in
Western Europe and in the United States [40–43]. When it is most fulminant, LGV can present as bloody proctitis or painful adenopathy and requires specific diagnostic tests to detect the LGV-specific serovars; these tests often cannot be performed in routine commercial labs [44]. Treatment requires a daily course of a macrolide or tetracycline for 3 weeks. Fortunately, recent reports of this STD suggest that it seems to be on the wane in Europe and in the United States.

Several studies suggest that part of the resurgence of bacterial STDs (syphilis, gonorrhea, and chlamydia) may be partially due to the practice of oral sex by MSM, often to substitute for or avoid anal sex, which increases the risk for HIV acquisition or transmission [45, 46]. Effective STD prevention health messages for MSM will need to be specific regarding both the types of practices that are safe against transmission of specific sexually transmitted diseases and the need for routine oral and penile screening for treatable bacterial STDs in MSM who routinely engage in unprotected oral sex.

MSM are at increased risk for acquisition and transmission of hepatitis A and hepatitis B, yet many MSM who are ≥21 years of age remain unvaccinated [47, 48]. Vaccination counseling is extremely important to achieve increased rates of vaccine utilization by MSM [49]. With the appropriate attention, vaccination programs against STDs can achieve high vaccination rates among MSM [50]. Although MSM may acquire hepatitis C through sexual means, particularly if traumatic sex is involved (eg, manual insertion, group sex), the prevalence of this infection among individuals who do not share needles, or who have other parenteral exposures, remains relatively low (<5%), though higher than among the general population [51].

Human papillomavirus is the major source of anal carcinoma among MSM, and the rates of anal carcinoma in MSM are much higher than the 2 per 100 000 rate seen in the general population, with recent reports suggesting rates as high as 35 per 100 000 and trends suggesting increasing rates, particularly among HIV-infected MSM [52]. The use of anal Pap smears to diagnosis atypical cellular morphology with follow-up high-resolution anoscopy to detect and remove precancerous and cancerous lesions can prevent the development of invasive rectal cancer in this population. Many providers who have expertise working with MSM feel that those who engage in receptive anal intercourse should receive screening anal Pap smears to detect cellular atypia and that HIV-infected MSM need annual follow-up examinations because of increased risk for the rapid progression of mucosal lesions. Although the frequency of follow-up for HIV-uninfected MSM has not been fully defined, some experts feel that annual examinations are warranted in this group, particularly if any atypia is noted when screening tests are performed [52]. Opinion regarding the frequency of testing for HIV-uninfected MSM with initially normal anal Pap smears is divided, with the expectation that further studies will help to define the appropriate frequency of monitoring.

Because of the high prevalence of frequently asymptomatic STDs among some MSM, proactive screening by health care providers can play an important role in the early diagnosis and interruption of disease transmission. Some MSM may avoid seeking healthcare because they expect disapproval regarding their lifestyle, so it is particularly important for clinicians to become culturally competent to provide care for this population by familiarizing themselves with existing resources [53]. Optimal care for MSM should include the ability to ask behavioral screening questions in a professional manner, without implicit assumptions. Initiating the conversation without judgments can often be helpful. For example, “Do you have sex with men, women or both?” a new patient may feel comfortable in disclosing previously unreported homosexual behavior. By creating an atmosphere in which MSM feel that they can discuss specific sexual practices and patterns of behavior, health care professionals can play an instrumental role in arresting the spread of HIV and STDs in this population.

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