Self-Examination Behaviors for Syphilis Symptoms Among HIV-Infected Men

To the Editors:

INTRODUCTION

Sexual risk–taking behavior among HIV-infected men who have sex with men (MSM) has been reflected in the increases in co-infection with syphilis in multiple urban areas in the United States.[1] Increases in the cotransmission of HIV and syphilis have been demonstrated in these regions as well.[2] Efforts to reduce transmission of syphilis among MSM with and without HIV have relied on symptom recognition by providers, routine syphilis testing, and partner notification efforts.[3] Patient recognition of syphilis symptoms has been emphasized in media campaigns in some regions.[4]

Although patients may be aware of sexual risk reduction techniques proven to decrease HIV transmission, they may not be aware that some of these behaviors (such as oral sex) efficiently transmit syphilis.[5] In addition, patients may not be aware of the typical symptoms that occur during the 2 infectious stages: primary (painless genital, rectal, or oral chancres) and secondary (generalized body rash, palmar/plantar rash, condyloma lata). These syphilis lesions may go undetected in MSM particularly, when located in the mouth or rectal area.[6] Self examination and detection of syphilis lesions by men may result in earlier presentation for care, diagnosis, treatment, and partner referral.

Provider instruction on other preventative self-examination behaviors such as breast, skin, and testicular exams have been incorporated into clinical care encounters.[7–9] We evaluated the impact of an intervention in which medical providers used clinical pictures of syphilis, sexual risk assessments, and loss-framed messages to increase patient self examination of their oral and rectal regions for syphilis ulcers.

METHODS

The 2 Phoenix-area clinics that reported the highest number of syphilis cases in 2007 were chosen for this education program that commenced in January 2008 and lasted 12 months. Clinic A is a publically funded HIV clinic with a patient population of approximately 1500 clients. Clinic B is a private clinic that provides care to approximately 1200 HIV patients.

In the clinic exam room, before their quarterly visit with their HIV provider, all male patients received a laminated 8.5 × 11 inch poster that contained clinical pictures of primary and secondary syphilis lesions involving the genitals (penis and vagina), rectum, mouth, and scalp. Seven loss-framed prevention messages were included at the top of each poster as follows: (1) "There is an increase of syphilis among MSM in Maricopa County", (2) "Syphilis can be transmitted through oral sex in addition to anal and vaginal sex", (3) "Sores caused by syphilis are painless and can be found in the mouth, anus, rectum, and penis", (4) "Syphilis can cause a decrease in CD4 count and an increase in HIV viral load", (5) "Neurosyphilis is being diagnosed at an increased rate in Maricopa County among HIV-infected males", (6) "Neurosyphilis can cause blindness, hearing loss, cognitive decline, stroke, and chronic headaches".

During the patient's quarterly visit, providers asked their patients the following questions regarding sexual risk as follows: (1) "In the last 3 months, how many times have you had unprotected oral sex with a steady partner, casual partner, or anonymous partner?" (2) "In the last 3 months, how many times have you had unprotected anal sex with a steady partner, casual partner, or anonymous partner?" (3) "In the last 3 months did you examine your mouth or rectum for syphilis lesions?" Providers recorded responses to these questions on brightly colored stickers affixed to the 'provider notes' section of the patient's medical chart.

Chart review and data abstraction were performed at the end of the 1-year evaluation period. In addition to the sexual risk data, demographic data (age, race, and sexual orientation) and clinical variables (CD4 count, viral load, use of antiretroviral therapy, and years since HIV diagnosis) were collected for each patient. CD4 count and viral load were recorded for the time point closest to the most recent quarterly visit. Data analysis was performed using SPSS (v. 17, Chicago, IL). McNemar test was used to compare sexual and self-examination behaviors between visits. This project proposal was determined to be "non-research" by the Arizona Department of Health Services and the Maricopa Integrated Health System institutional review boards.

RESULTS

From February 2, 2008 through January 31, 2009, 689 HIV-infected male patients received sexual risk assessment and self-examination questions at 1 or more visits by their medical provider. Nearly half (44%) of the men were white, and the median age was 44 years old. Men who reported having sex with men (MSM) comprised 76% of the sample. The median viral load was less than 75 copies per milliliter, and the median CD4 count was 435 cells per cubic millimeter. The majority of the patients were receiving antiretroviral therapy (84%), and the median years since HIV diagnosis was 8 (Table 1).

In this sample of 689 HIV-infected men, 360 (52%) reported being sexually active during the study period. There was no difference in number of unprotected sex acts with steady ($P = 0.2$), anonymous ($P = 0.7$), or casual partners ($P = 1.0$) from baseline among patients with 3 visits. In addition, the percentage of patients engaging in 1 or more unprotected oral and rectal sexual acts was not significantly different between the first and third visits. However, among patients with 2 visits who reported being

Sources of Support: None.

Presented in part at National STD Prevention Conference, March 8–11, 2010, Atlanta, GA. Abstract P31.

The findings and conclusions in this report are those of the authors and do not necessarily represent the views of the Centers for Disease Control and Prevention.

TABLE 1. Demographic Variables of Male Patients Completing Provider Sexual Risk Assessments (n = 689)

Demographic/Behavioral/Clinical Variable	Number (%) or Median (Range)
Age	44 (20–76)
Race/ethnicity	
Asian/Pacific Islander	11 (2)
Black	77 (11)
Hispanic	227 (33)
Mixed	1 (0.1)
Native American	7 (1)
Other	10 (1.5)
Unknown	55 (8)
White	301 (44)
Sexual orientation	
MSW	141 (21)
MSM	476 (69)
MSM/W	47 (7)
Unknown	25 (4)
Sexually Active	360 (52)
Viral load (copies/mL)	< 75 (25–52,000)
CD4 count	435 (6–2412)
Receiving ART	579 (84)
Years since HIV diagnosis	8 (0–28)
One visit	265 (39)
Two visits	203 (30)
Three visits	170 (25)
Four or more visits	51 (7)

sexually active, there was an increase in self examination of the oral/rectal areas from 60% to 80% between the first and second visits (P = <0.001, n = 113) and among patients with 3 visits, self examination increased from 58% to 83% between the first and third visits (P = 0.001, n = 89). Self-examination behaviors of the oral and rectal areas increased from 46% (baseline) to 72% (P = <0.001) among all patients with data from 3 or more patient encounters (n = 226).

DISCUSSION

Men participating in this educational program reported an increase in self-examination behaviors of the oral and rectal area after reviewing clinical pictures of syphilis lesions and being questioned by their medical providers regarding their unprotected sexual activity and self-examination behaviors for syphilis lesions. These results are the first to demonstrate the feasibility and success of exam room education followed by provider-delivered counseling to increase self-examination behaviors for syphilis lesions.

HIV-infected MSM with undetected syphilis lesions represent a reservoir of highly transmissible infections.[10] MSM may be especially at risk for undetected lesions located in the rectal or oral areas. Although this intervention did not result in a decrease in the number of unprotected sexual acts, the percentage of patients reporting performing self examination of the oral and rectal areas after receiving education for syphilis increased.

HIV clinicians are key participants in syphilis control as they have the opportunity to educate and counsel patients about STDs and HIV transmission risk, and provide routine Sexually Transmitted Disease screening for those patients at increased risk.[11] Educating patients regarding syphilis lesion recognition is acceptable to men at risk for syphilis[12] and may result in earlier detection, treatment, and partner management. The incorporation of syphilis symptom recognition education into HIV clinic visits should be considered in areas of high syphilis/HIV morbidity among MSM as an adjunct to routine syphilis testing.

Melanie M. Taylor, MD, MPH*†
Brandy Peterson, MPH†‡
John Post, MD§
Carol Williams, FNP§
Thanes Vanig, MD‖
Michelle Winscott, MD, MPH†
*Division of STD Prevention, National Center for HIV, STD, and TB Prevention, Centers for Disease Control and Prevention, Atlanta, GA
†Sexually Transmitted Disease Control Program, Arizona Department of Health Services, Phoenix, AZ
‡Office of Workforce and Career Development, Centers for Disease Control and Prevention, Atlanta, GA
§McDowell Clinic, Maricopa Integrated Health Systems, Phoenix, AZ
‖Spectrum Medical Group, Phoenix, AZ

REFERENCES

1. Peterman TA, Furness BW. The resurgence of syphilis among men who have sex with men. *Curr Opin Infect Dis*. 2007;20:54–59.
2. Buchacz K, Klausner JD, Kerndt PR, et al. HIV incidence among men diagnosed with early syphilis in Atlanta, San Francisco, and Los Angeles, 2004 to 2005. *J Acquir Immune Defic Syndr*. 2008:47:234–240.
3. Taylor MM, Prescott L, Brown J, et al. Activities to increase provider awareness of early syphilis in MSM in eight cities, 2000–2004. *Sex Transm Dis*. 2005;32:S24–S29.
4. Montoya JA, Kent CK, Rotbaltt H, et al. Social marketing campaign significantly associated with increase in syphilis testing among gay and bisexual men in San Francisco. *Sex Transm Dis*. 2005:32:395–399.
5. Centers for Disease Control and Prevention. Transmission of primary and secondary syphilis by oral sex—Chicago, Illinois, 1998–2002. *Morb Mortal Week Rep*. 2004;53:966–968.
6. Holmes KK, Sparling PF, Mardh PA, et al. *Sexually Transmitted Diseases*. 3rd ed. New York: McGraw Hill; 1999:479.
7. Lindberg NM, Stevens VJ, Smith KS, et al. A brief intervention designed to increase breast cancer self-screening. *Am J Health Promot*. 2009;23:320–323.
8. Phelan DL, Oliveria SA, Christos PJ, et al. Skin self-examination in patients at high risk for melanoma: a pilot study. *Oncol Nurs Forum*. 2003;30:1029–1036.
9. DeCastro BJ, Peterson AC, Costabile RA. A 5-year followup study of asymptomatic men with testicular microlithiasis. *J Urol*. 2008;179: 1420–1423.
10. Fleming DT, Wasserheit JN. From epidemiological synergy to public health policy and practice: the contribution of other sexually transmitted diseases to sexual transmission of HIV infection. *Sex Transm Infect*. 1999;75:3–17.
11. Centers for Disease Control and Prevention. Replicating effective programs plus. Partnership for health: a brief safer-sex intervention in HIV clinics. March 2007. Available at: http://www.cdc.gov/hiv/topics/prev_prog/rep/packages/partnershipforhealth.htm. Accessed December 7, 2007.
12. Peterman TA. Promoting syphilis ulcer recognition among men who have sex with men (MSM); Focus groups to explore feasibility. Presented at National STD Prevention Conference. Oral presentation A1B. 2008. March 10–13, 2008; Chicago, IL.