Addressing Anal Health in the HIV Primary Care Setting: A Disappointing Reality

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Abstract

The increased risk of anal cancer among individuals living with HIV suggests that anal health (e.g., anal symptoms, anal practices, examination of the anus) should be an issue of priority for HIV care providers to discuss with their HIV-infected patients. We investigated the prevalence of HIV-infected individuals discussing anal health with their HIV primary care provider and factors associated with this discussion. We surveyed 518 adult patients from 5 HIV primary care clinics in Miami, Florida, from May 2004 to May 2005. Overall, only 22% of women, 32% of heterosexual men, and 54% of men who have sex with men (MSM) reported discussing anal health with their HIV providers in the prior 12 months. In a multivariable logistic regression, when adjusting for other factors, heterosexual men and MSM were 2.31 and 5.56 times, respectively, more likely to discuss anal health with their HIV providers compared to their women counterparts. Other factors associated with anal health discussion were the patients' better perception of engagement with HIV providers and having had a sexually transmitted disease exam in the past 12 months. Reporting of unprotected sex with HIV-negative or unknown HIV status was inversely related to discussion of anal health with primary care providers (odds ratio [OR] = 0.53). Efforts are greatly needed to increase the focus on anal health in the HIV primary care setting for both men and women.

Introduction

HIGHLY ACTIVE ANTIRETROVIRAL THERAPY (HAART) has dramatically impacted the natural history of HIV disease, whereas the incidence of anal cancer continues to increase among HIV-infected persons compared to the general population.^{1–3} Although most available data on anal dysplasia and anal cancer in HIV-infected individuals are derived from studies with men who have sex with men (MSM),^{4,5} there is evidence that other HIV-infected individuals are at higher risk for these conditions including women, heterosexual men reporting no history of anal intercourse and HIV-positive individuals who have not gone on to develop AIDS.^{6–10}

It is well established that infection with oncogenic strains of human papillomavirus (most commonly HPV-16 and HPV-18) is responsible for at least 90% of anal cancers.^{11,12} HPV is the most common sexually transmitted disease (STD), and a recent study among MSM showed that HPV may facilitate HIV acquisition.¹³ HPV is more frequent, persistent, and

more difficult to treat in HIV-infected individuals than in HIV-negative individuals. Anal HPV infections are overwhelmingly subclinical and anal cancer may cause either no symptoms or nonspecific symptoms. Pain, bleeding, and the development of a mass lesion and symptoms may become apparent only when disease is already advanced. The prognosis of anal cancer, like that of many other cancers, is associated with the stage of disease at diagnosis.

Analysis of anal cancer outcomes from 1972 through 2000 showed that survival was significantly improved for patients who received a diagnosis of local diseases (5-year survival rate, 78%), compared to those receiving a diagnosis of regional diseases (survival rate, 56%) or distant diseases (5-year survival rate 18%).^{14,15} The provision of anal Pap smears has been proposed as a screening method for anal dysplasia and cancer,^{16–18} however, to date there are no national or international anal dysplasia screening guidelines. Currently chances of early diagnosis of anal cancer usually relies on primary care providers addressing anal health at clinic visits, including asking questions regarding anal symptoms (e.g.,

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discomfort, pain, bleeding, etc.), anal practices and examination of the anus as suggested by clinical guidelines from the National AIDS Education and Training Centers (NATEC). The NATEC specifically recommends examination of the anus at both the initial and the interim physical examinations of all HIV-infected patients.¹⁹

On average, people living with HIV in the United States see their HIV provider approximately six times per year.²⁰ These visits offer HIV providers the opportunity to address issues related to anal health with their HIV-infected patients during ongoing medical care visits. However, little is known about the frequency or extent of patient-provider discussions of anal health in the primary care setting, and to our knowledge there are no published studies on how frequently HIV-positive patients discuss anal health with their primary physicians. Within this context, this study focuses on HIV-positive patients' discussion of anal health with their primary care providers in five HIV primary care clinics in Miami, Florida. We describe the frequency of anal health discussion between HIV-positive patients and their health care providers, and we examine what factors are associated with the discussion.

Methods

Sample

The current analysis uses baseline data that were collected as part of a randomized longitudinal trial designed to test the efficacy of an HIV transmission risk reduction intervention. As part of the trial, baseline data were collected from HIV-infected male and female patients attending five HIV primary care clinics in Miami-Dade County, Florida. Data were collected from May 2004 through May 2005. Individuals were eligible for the study if they were at least 18 years old, confirmed to be HIV positive via medical record review, self-identified as having had vaginal and/or anal sex with at least one partner within the last 6 months, at clinic to receive HIV primary care on the day of recruitment, and able to communicate in English or Spanish in order to understand the English- or Spanish-delivered study activities.

Participants were recruited through flyers posted on bulletin boards designated for study advertisements within the clinics and through clinic staff members who were involved in patient care and who knew the patients' HIV-positive status soliciting participation and actively or passively referring interested patients to the study. Interested patients met with a research staff member in a private room to describe the study and obtain informed consent. Institutional Review Boards from the University of Miami, the Miami Veteran Affairs Medical Center, and the Centers for Disease Control and Prevention approved the study protocol prior to study commencement.

Procedures

A total of 518 participants were enrolled in the study. After providing informed consent, participants completed a questionnaire via audio computer-assisted self-interview (A-CASI) in either English or Spanish, according to their preference. The assessment collected demographic information along with data regarding sexual and drug using behaviors, health care and social services utilization, and questions about participants' relationship and discussions with their HIV care provider.

Dependent and independent variables

The dependent variable in the current analysis is whether the HIV primary care provider discussed anal health with the participant within the past year (yes/no), as reported by the participant. Independent variables included to address potential confounding consist of individual characteristics and characteristics of primary care received at each clinic. Socio-demographic variables included age (years), gender, sexual orientation (female, heterosexual men, and MSM), race/ethnicity (non-Hispanic black, non-Hispanic white, Hispanic, other), education (less than high school, high school or greater education degree [GED], any post-high school education), and total personal yearly income (less than \$10,000, equal or more than \$10,000).

Self-reported illicit drug use behavior in the past 6 months was defined as any drug use (crack cocaine, cocaine [powdered], methamphetamine/amphetamine, or heroin) excluding alcohol and marijuana. Several questions were asked to determine the extent of the participants sexual behavior, including: the number of sexual partners they had had in the past 6 months (0–1, 2 or more partners), if they had unprotected vaginal and/or anal sex in the past 6 months, and a binary variable was created for having had unprotected vaginal and/or anal sex in the past 6 months with a negative or unknown HIV status partner or not.

HIV-related health and management issues included years since HIV diagnosis (less than 5 years or 5 or more years), duration of clinical attendance (less than 1 month, 1 month to 1 year, 1–5 years, more than 5 years), the number of primary care visits in the past year (0–3 visits, 4–5 visits, 6–7 visits, and 8 or more visits), whether respondents were currently taking HIV medications (yes/no), whether participants had an STD examination in the past 12 months, and self-reported diagnosis of any STD in the past 12 months. Self-reported general health was measured by the item, "In general, how would you describe your health in the past 6 months?" and had response options ranging from 1 (poor) to 5 (excellent). Characteristics of the respondent's last primary care visit at each clinic included the amount of time the respondent spent with the provider, whether or not the provider asked the respondent if he/she was sexually active and whether or not the provider discussed the prevention of HIV transmission to others. Provider responsiveness was measured by 13 items each measured on a 4-point scale (never, sometimes, usually, always). The items addressed how comfortable and engaged the participant felt in general with his/her primary care provider and included questions as "Your HIV care provider listens to you" and "Your HIV care provider engages you in your care."¹⁸ A binary measure was created and coded as 1, to denote all 13 responses were answered "always," indicating a very positive relationship with the provider versus coded 0, which denotes less than all 13 responses were answered "always" (Cronbach $\alpha = 0.93$).

Statistical analysis

We performed univariate, bivariate, and multivariable analyses on demographic, social, sexual, drug use, and outcome variables. The χ^2 test of independence was used to test the association between the categorical independent variables and the dichotomous outcome variable "Did the HIV primary care provider discuss anal health within the past year with the

participant (yes/no).” Fisher’s exact test was used when the expected value within any of the cells of the 2×2 tables were less than 5. Bivariate analysis was also used to determine which variables were suitable to be tested in the multivariable model, and if the association had a χ^2 value of 0.15 or less, they were tested in the multivariable model, in a backwards stepwise fashion. A multivariable logistic regression was used to test the multivariable association between the outcome variable and the independent variables. One observation was removed as an outlier from the multivariable logistic regression analysis because it was found to have a $\Delta \chi^2$ of 15.8, and the removal of this outlier increased the goodness-of-fit.

Results

Of the 518 participants, the median age was 44 years, 32% were female, 36% heterosexual males, 32% were MSM, 62% were non-Hispanic black and 29% Hispanic. One third of respondents (33%) did not complete high school or a GED. Most respondents (68%) had an annual income of less than \$10,000. Approximately one fifth (26%) reported illegal drug use in the past 6 months. Approximately two fifths (42%) of the sample had two or more sex partners, 35% reported having vaginal and/or anal unprotected sex and 16% reported unprotected sex with HIV-negative or unknown HIV status partners in the past 6 months. Three quarters of the sample (75%) had been diagnosed with HIV for 5 or more years and had been attending HIV care for more than 1 year. Most respondents had four or more clinic visits in the last year (78%) and were currently on HAART (74%). Sixty-three percent of respondents had an STD examination in the last 12 months with 16% diagnosed with an STD in the same period. Approximately three quarters of respondents (74%) reported their general health was good to excellent and the majority of participants (90%) reported spending between 16 and 60 minutes with their HIV provider at their last primary care visit. Most participants reported that their providers asked if they were sexually active (83%) and discussed preventing giving HIV to others (66%). Half of respondents (50%) reported a very positive relationship with their HIV primary care provider. Overall only 36% of the participants reported discussing anal health with their provider with 22% women, 32% heterosexual men, and 54% MSM reporting discussion of anal health with their HIV providers in the prior 12 months.

Bivariate results (Table 1) show that respondents with a high school diploma or GED, those who reported having an STD examination in the last 12 months, and those with a positive provider responsiveness score were more likely to report anal health discussion with their provider. Rates of anal health discussion increased from women, to heterosexual men, to MSM, with 54% of the later reporting discussion. Respondents who reported that their HIV providers asked if they were sexually active and that they discussed the prevention of HIV transmission to others were more likely to discuss anal health.

In the multivariable logistic regression model (Table 2), both MSM and heterosexual men were more likely to discuss anal health with their HIV providers compared to their women counterparts (odds ratio of 5.56 for MSM and 2.31 for heterosexual men) even after adjusting for age and ethnicity. Participants who perceived having a better relationship with their HIV provider were more likely to discuss anal health

than those who reported less engagement (odds ratio [OR] = 1.69). Respondents reporting having had an STD examination in past 12 months were more likely to report discussing anal health with their providers. Self-reported HIV transmission risk to others was inversely related to discussion of anal health with primary care provider; participants reporting unprotected vaginal and/or anal sex with HIV-negative or unknown HIV status partner were less likely to discuss anal health with their providers (OR = 0.53).

Discussion

Our study findings suggest that only slightly more than one third of HIV-infected patients in this 5-clinic study in Miami reported discussing anal health with their HIV providers. This finding raises concern because it has been well recognized that HIV-infected individuals are at higher risk for both anal cancer and anal dysplasia. In fact, a recent retrospective multicenter study of 1700 HIV-infected MSM attending an anal dysplasia clinic demonstrated progression from high-grade anal dysplasia to anal cancer.²¹

In our study even among men having sex with men, a well-recognized group with increased risk of anal STDs and anal cancer, anal health discussion between HIV care providers and their HIV-infected patients happened approximately only half the time. Notably, studies have shown that HIV-infected individuals have higher rates of anal HPV infection and HPV related anal dysplasia and anal cancer compared to HIV-negative individuals independent of gender or sexual orientation.^{1,7,24,25} For example, Piketty et al.⁷ compared HIV-infected men who were injection drug users (IDU) and HIV-infected MSM, and the prevalence of high-grade anal dysplasia did not differ between the two groups. In another example, Drobacheff et al.²⁴ investigated the prevalence of anal HPV infection in HIV-infected patients (36 men and 14 women) and found no difference in the prevalence of high-risk HPV DNA in homosexual men compared to other HIV-infected patients. In the Women’s Interagency HIV Study (WIHS) cohort, 76% of HIV-infected women had evidence of anal HPV infection, and these women were nearly two times more likely to have anal HPV infection compared to sexual behaviorally similar HIV-negative women (76% versus 42%, respectively).²⁵ This study also showed that anal HPV infection was more common than cervical HPV infection in HIV-infected women. Frisch et al.⁶ showed that the relative risks for invasive (RR = 6.8; 95% confidence interval [CI] = 2.7–14.0) and *in situ* (RR = 7.8; 95% CI = 0.2–43.6) anal cancers were as high as those for cervical and vaginal/vulvar cancer in HIV-infected women.

It is promising to observe that the odds of reporting discussion of anal health were 2.43 times greater for patients with recent STD screening. However, it is disconcerting that participants self-reporting unprotected sex with HIV-negative and unknown HIV were less likely to discuss anal health with their provider. It is likely that certain HIV providers may be more or less likely to initiate conversations or focus on these issues. Our study findings are consistent with previous research that has shown that many providers are not comfortable addressing sexual issues in the primary care setting.^{26–28} Some of the specific concerns in previous studies include concerns about the provider knowledge and expertise in this area, fears of “opening a “floodgate,” and personal

TABLE 1. SAMPLE CHARACTERISTICS AND REPORTED DISCUSSION OF ANAL HEALTH WITH HIV PRIMARY CARE PROVIDER WITHIN THE PAST YEAR

	Sample %	% Reporting anal health discussion	n	p Value
Age				< 0.001
<40 years	31	41	155	
≥40 years	69	34	352	
Gender and sexual orientation				< 0.001
Female	32	22	159	
Heterosexual men	36	32	180	
MSM	32	54	165	
Race/Ethnicity				0.152
Non-Hispanic black	62	33	311	
Non-Hispanic white	7	33	33	
Hispanic	29	44	149	
Other	2	33	12	
Educational Level				0.023
Less than high school	33	30	169	
High school or GED	29	34	146	
Any post-high school education	38	43	192	
Annual income				0.807
<\$10,000	68	36	339	
≥\$10,000	32	37	163	
Illicit drug use in the past 6 months				0.591
No	74	37	376	
Yes	26	34	132	
Number of sex partners in the last 6 months				0.221
0–1	58	34	293	
≥2	42	39	215	
Unprotected vaginal and/or anal sex past 6 months				0.460
No	65	38	297	
Yes	35	35	162	
Unprotected sex with negative or unknown HIV status past 6 months				0.156
No	84	37	425	
Yes	16	29	82	
Duration of HIV diagnosis				0.687
<5 years	25	35	127	
≥5 years	75	37	374	
Duration of clinic attendance for HIV care				0.353
<1 month	4	21	19	
1 month–1 year	21	36	108	
1–5 years	39	34	197	
>5 years	36	40	184	
Number of primary care visits in past year				0.376
0–3	22	29	110	
4–5	33	39	170	
6–7	17	38	86	
≥8	28	37	142	
Currently on HIV medication?				0.908
No	26	36	132	
Yes	74	36	376	
STD exam past 12 months				< 0.001
No	37	24	186	
Yes	63	43	318	

(continued)

TABLE 1. CONTINUED

	Sample %	% Reporting anal health discussion	n	p Value
STD past 12 months				0.705
No	84	36	425	
Yes	16	37	83	
Self-reported general health				0.202
Poor	7	22	32	
Fair	19	35	99	
Good	34	34	174	
Very good	24	43	122	
Excellent	16	35	81	
Time spent with HIV provider last visit				
<5 minutes	1	17	6	
5–15 minutes	9	22	46	
16–30 minutes	47	38	238	
31–60 minutes	30	36	154	
>60 minutes	13	41	63	
HIV provider asked if sexually active				0.002
No	17	22	87	
Yes	83	39	421	
HIV provider discussed preventing giving HIV to someone else				< 0.001
No	34	18	171	
Yes	66	46	325	
Provider engagement				0.017
Not always responsive	50	31	255	
Always responsive	50	41	253	

MSM, men who have sex with men; STD, sexually transmitted diseases.

embarrassment.²⁶ Other concerns raised in previous studies include lack of time and lack of training and concerns about not being able to cope with the issues raised by the patients.²⁷ From the patient's prospective issues like sexuality, gender, stigma, lack of knowledge of STD risk linked to anal practices and more specifically the lack of knowledge of HPV-related anal diseases are potential barriers for discussing the anus. A study of self-sampling for ano-rectal STDs among MSMs showed that the most frequently reported reason for declining self-sampling was lack of knowledge regarding ano-rectal sexually transmitted infection testing and being uncomfortable with their ano-rectal area and feeling embarrassed.²⁹ A survey of women's perception of STD risk linked to anal sex showed that STD prevention was not the primary motivation for condom use during anal intercourse.³⁰ A study to determine levels of knowledge concerning anal cancer and HPV among 384 MSMs showed that men know very little about anal cancer and virtually nothing about HPV.³¹

In our study, participants who reported a better patient-provider relationship through the provider engagement scale were more likely to report discussing anal health with their providers in the past 12 months.¹⁸ This is consistent with previous studies that showed that provider engagement was related to discussion of prevention issues between HIV primary care providers and HIV-positive patients.^{32,33} Another study conducted in Baltimore, Maryland, showed that

TABLE 2. MULTIVARIABLE LOGISTIC REGRESSION MODELING THE ASSOCIATION WITH SELF-REPORTED DISCUSSION OF ANAL HEALTH WITH PRIMARY CARE PROVIDERS (N = 499)

<i>Independent variables</i>	<i>Adj OR (95%CI)</i>
Age (continuous)*	0.98 (0.96,1.01)
At least High School Diploma*	1.09 (0.69,1.70)
African American*†	1.41 (0.85,2.35)
White or Other*†	0.96 (0.44,2.09)
MSM‡	5.56 (3.08,10.03)
Heterosexual Men‡	2.31 (1.35,3.94)
Provider Always Responsive	1.69 (1.13,2.51)
STD Exam in the Past 12 Months	2.43 (1.57,3.76)
HIV Transmission Risk to Others	0.53 (0.30,0.93)

*Forced into model.

†Reference group is Hispanic.

‡Reference group is Female.

STD, sexually transmitted diseases; Adj OR, adjusted odds ratio; CI, confidence interval.

patients who reported that their provider knew them “as a person” had higher odds of receiving HAART and adhering to HAART, and having undetectable serum HIV RNA.³⁴

Several study limitations should be recognized. First, these data are from a convenience sample of HIV-positive patients recruited from HIV primary care clinics in a large urban area in the United States. Thus, generalizations to other HIV-positive individuals in rural areas or other countries should be made with caution. Second, these data are based on self-reports. Thus, the reporting of stigmatized behaviors like unprotected sex with HIV-negative or unknown status and history of STD in the last year may have been underreported. To diminish this concern, we used computerized data collection methods that have been shown to enhance reporting of sensitive risk behaviors.³⁵ Additionally, it should be noted that any underreporting bias would suggest that the estimates of risk behavior reported in this study are low. Another limitation concerns the initiation of anal health discussion; this discussion could have been initiated by the provider or the patient and the available data do not allow for this distinction. Finally, as the analysis was cross-sectional, time order could not be established.

Our study findings reinforce the need to increase the focus on anal health in the HIV primary care setting as a strategy for anal cancer early diagnosis. While some large HIV care medical centers have introduced anal Pap smear screening programs as a tool for anal dysplasia screening and potentially anal cancer prevention, the utility of anal pap smear screening among HIV-individuals is limited by the absence of published randomized clinical trials evaluating many aspects of anal Pap smear screening.²² Although to date there have not been any published studies demonstrating the efficacy of the HPV vaccine in preventing anal cancer, it is plausible the vaccine would be protective and a future tool in anal cancer prevention. The challenge will be for HIV-infected individuals to be vaccinated before they acquire HPV infection. Recent survey on acceptability of vaccine among MSMs showed that 93% indicated that they would be willing to disclose that they were MSM to a health professional in order to obtain the vaccine for free, but not until on average 2 years after their sexual debut and after a median of 15 sexual partners.²³ While there is no consensus regarding the optimal prevention and

screening strategies for anal dysplasia and anal cancer, early diagnosis of anal cancer in HIV-infected individuals usually relies on primary care addressing anal health on clinic visits. Although there are many demands placed on HIV primary care providers who are addressing multiple needs of their HIV-positive patients, HIV primary care clinicians should be encouraged to address anal health with their patients on a periodic basis. Provider training is needed to educate clinicians about the importance of screening for anal symptoms and diseases in HIV-infected patients. In addition, training could focus on how providers could become more engaged with their patients so that they can elicit discussion about sensitive topics such as anal health. Further research is needed to provide information on what strategies to use and what the intervention message should be.

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