

325. Cancer Screening Disparities among Persons Living with HIV (PLWH)

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Background. Cancer is now the leading cause of mortality for persons living with HIV (PLWH) in the United States, but it is uncertain whether PLWH access cancer screening that could lower this burden. We sought to assess cancer screening for breast, cervical, and colon cancer among PLWH compared with the HIV-uninfected population at a multicenter healthcare system over the past two decades.

Methods. Data were obtained from a prospective, observational HIV clinical care cohort comprised of PLWH engaged in care in the Partners Healthcare System. Patients eligible for cancer screening between the years 2002 and 2016 were included. Patients were matched in a maximum of 1:4 ratio with HIV-uninfected patients from the Massachusetts General Primary Care Practice-Based Research Network based on age, sex, race, year of study entry, and length of follow-up. The mean proportion of time in which eligible patients were guideline concordant for cervical, breast, and colon cancer screening was assessed. Non-parametric tests were used to compare screening rates between PLWH and HIV-infected and on the basis of multiple clinical and sociodemographic factors.

Results. During the observation period, a total of 495 PLWH were eligible for breast cancer screening, 1011 for cervical cancer screening, and 1965 for colon cancer screening. For each screening group, the majority of PLWH were on antiretroviral therapy (ART) and had relatively high CD4 cell counts (Table 1). Screening rates for PLWH compared with controls were 67.3% vs. 82.8% ($P < 0.0001$) for breast cancer, 49.0% vs. 73.3% ($P < 0.0001$) for cervical cancer, and 92.7% vs. 91.2% ($P = 0.96$) for colon cancer (Figure 1). Among PLWH, factors significantly associated with lower rates of screening guideline concordance were older age, lower CD4 count, HIV-1 RNA >1000 copies/mL, and HIV duration < 5 years for breast cancer, and older age, white race, English language, and lack of ART use for cervical cancer.

Conclusion. Among patients engaged in longitudinal care, PLWH had significantly lower rates of screening for breast and cervical cancer than HIV-uninfected. Disparity is not explained by racial or primary language differences. Further work to improve access to cancer screening for PLWH is needed.

Figure 1: Mean proportion of time guideline-concordant for PLWH and HIV-uninfected patients by screening type

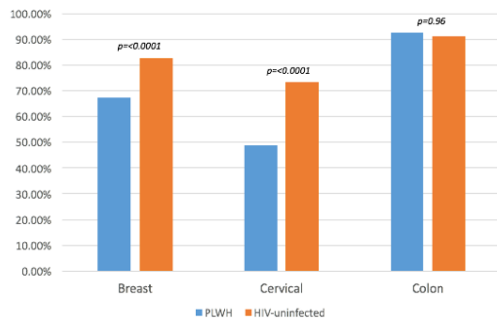


Table 1: Clinical characteristics of PLWH and factors associated with proportion of time screening guideline-concordant

Screening Type	Breast			Cervical			Colon		
	N	Mean	P-value	N	Mean	P-value	N	Mean	P-value
All	495	67.3%		1011	49%		1965	92.7%	
Age									
21-29	0	0	0.001	207	58.7%	<0.0001	0	0	<0.0001
30-39	0	0		314	54.1%		0	0	
40-49	0	0		335	44.5%		0	0	
50-59	456	69%		132	34.4%		1979	96%	
>60	39	46%		23	40.5%		168	56.2%	
Male							498	91.8%	0.89
Female							1467	93.0%	
Race									
Non-Hisp. White	166	65.3%	0.31	292	40.1%	<0.0001	1107	92.8%	0.15
Non-Hisp. Black	224	66.3%		490	51.8%		545	92.3%	
Hispanic	57	67.2%		133	52.5%		171	92.5%	
Asian	19	82.9%		21	47.7%		22	90.0%	
Other	20	82.1%		49	61.4%		71	98.9%	
Language									
English	415	66.2%	0.40	859	47.5%	0.003	1764	92.9%	0.57
Spanish	46	71.4%		84	60.0%		116	93%	
Other	27	71.1%		52	56.8%		56	88.9%	
Unknown	7	85.0%		16	46.1%		29	88.8%	
CD4 cell count at baseline									
Missing	65	62.7%	0.0002	86	28.8%	0.15	248	95.3%	0.001
<200 cells/μL	87	56.4%		212	48.3%		324	87.9%	
200-350 cells/μL	66	61.3%		200	48.1%		283	90.6%	
>350 cells/μL	277	73.2%		513	53.0%		1110	94.1%	
HIV Viral Load at baseline									
Missing	104	65.5%	0.003	84	28.7%	0.62	422	96.6%	0.096
<1000 copies/ml	261	71.5%		468	51.2%		1090	92.1%	
≥1000 copies/ml	130	60.2%		459	50.4%		453	90.5%	
ART status									
Ever	477	67.3%	0.81	965	50%	<0.0001	1950	92.9%	0.57
Never	18	66.7%		46	26.4%		50	86.6%	
Duration of HIV infection									
0-5 years	300	66.7%	<0.0001	1001	49.2%	0.092	1234	88.5%	<0.0001
>5 years	195	67.3%		1010	30.1%		731	99.7%	

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326. Is Antiretroviral Treatment Averting AIDS and non-AIDS Defining Malignancies in Colombia?

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Background. The use of effective antiretroviral therapy (ART) has shown to modify the trend of AIDS-defining malignancies (ADM) toward non-AIDS defining malignancies (NADM); however, Latin America is a region with a known late presentation of HIV/AIDS and late initiation of ART, which could not result in averting the incidence of ADM. The epidemiology of cancers that define or not AIDS in people living with HIV in Colombia is not known.

Methods. The purpose of our study was to identify the trend of ADM and NADM and the effect of ART in a collective cohort of 15 centers of 8 cities in Colombia. After the institutional review board approval, the study was conducted as a retrospective chart review of patients with any diagnosis of cancer presented after the diagnosis of HIV and a year before. Demographic and clinical data related to the HIV infection, ART treatment, and cancer diagnosis were analyzed with Stata 12 software, and associations between different variables were made using univariate and bivariate analyses.

Results. A total of 415 patients with malignancies were included since 1986 (table). Most common cancers were Kaposi sarcoma ($n = 227$; 54.7%), and non-Hodgkin lymphoma ($n = 80$, 19.3%). Median CD4+ cell count was very low in this population (median 115.5, P25-75 39.5-243) at the time of HIV diagnosis. Most common NADM were skin cancer ($n = 22$; 5.3%) and Hodgkin lymphoma (15; 3.6%). The ratio of ADM:NADM was 0.5 before 1995 and increased progressively up to 3.0 after 2010 ($P = 0.001$) (figure). By bivariate analysis, we found a correlation of ADM with older age ($P < 0.001$), male gender ($P = 0.03$), recent years ($P < 0.001$), lower CD4 and higher VL at the time of cancer ($P < 0.0001$ for both), and mortality ($P = 0.027$). Cancer-associated mortality was 3.9%.

Conclusion. The trend for diagnosis of ADM in Colombia is increasing despite antiretroviral treatment and exceeds NADM diagnosis. Potential explaining factors are the late presentation and initiation of ART, and poor treatment success in this population. Special efforts are required to diagnose and treat HIV patients in Colombia to avert this worrying trend.

Median of age (p25-75)	45 (44.9 - 47.3)	
Sex		
Male	358	86.3
Female	57	13.7
Race		
Mestizo	154	37.1%
Afrocolombian	11	2.7%
Other	229	55.2%
NR	21	5.1%
At the time of HIV diagnosis		
CD4+ lymphocyte cell count (cells/mm3, p25-75)	115.5 (39.5 - 243)	
Viral load (copies/mL, p25-p75)	58591 (7624 - 237722)	
CDC stage at the time of HIV diagnosis		
1	31	8.0%
2	84	21.8%
3	271	70.2%
Time living with HIV (years, IQR%)	8.8 (9 - 10.3)	
Antiretroviral treatment		
Patients with ART initiated before the diagnosis of cancer	241	58.1%
Time on treatment (years, p25-75)	7.6 (3.8 - 12.3)	
Data at the time of diagnosis of the malignancy		
Median time to diagnosis (years, p25-75)	5.1 (2.1 - 9.6)	
Median CD4+ lymphocyte cell count (p25-75)	151.5 (54 - 327)	
% with VL < 50 copies/mL	90	24.6%
% with VL 50 - 999 copies/mL	37	10.1%
% with VL ≥ 1000 copies/mL	239	65.3%
Diagnosis of malignancy	N	%
Kaposi sarcoma	227	54.7%
Non-Hodgkin Lymphoma	80	19.3%
Skin cancer	22	5.3%
Cervical cancer	15	3.6%
Hodgkin Lymphoma	15	3.6%
Anal cancer	16	3.9%
Breast cancer	5	1.2%
Colon cancer	4	1.0%
Prostate cancer	4	1.0%
Thyroid (papillar carcinoma)	3	0.7%
Testes cancer	3	0.7%
Eye malignancy	2	0.5%
Others (one of each)	19	4.6%
Total	415	100.0%
AIDS-related		
AIDS associated cancers	322	77.6%
Non-AIDS associated cancers	93	22.4%
Total	415	100%