

Assessment of primary preventive cardiovascular care in patients with HIV infection in a FQHC

Nourhan Shaltout, PharmD Candidate 2020; Sanjukta Basu, PharmD Candidate 2020; Ayşe Elif Özdenler, PharmD, BCACP, CDE, AAHIVP
Fairleigh Dickinson University School of Pharmacy & Health Sciences; Florham Park, NJ



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Introduction

- Patients with human immunodeficiency virus (HIV) infection are at a higher risk of arteriosclerotic cardiovascular disease (ASCVD), although the exact reason is not well understood.
- Antiretroviral drug classes frequently used to manage HIV infection, have been suggested to increase the risk of myocardial infarction.^{1,2} Antiretrovirals can also lead to metabolic disturbances such as dyslipidemia.³
- Although patients with HIV infection have increased risk of ASCVD, the current guidelines do not recommend the initiation of statin therapy in all patients with HIV infection. Many trials exclude patients with HIV due to drug-drug interactions between statins and antiretrovirals (ART).⁴⁻⁵
- According to the U.S Preventive Services Task Force, use of low-dose aspirin (ASA) is recommended in individuals, 50-59 years of age, with $\geq 10\%$ 10-year cardiovascular disease (CVD) risk to be used as a primary prevention of CVD.⁶ There is limited information available on the utilization and benefit of aspirin in HIV-infected patients. This study was designed and started prior to the update in aspirin recommendations for primary prevention.
- Cigarette smoking is an established risk factor for CVD. The smoking rates are higher in those with HIV infection compared to those without the infection.⁷ Smoking cessation counseling is a challenge but critical in all individuals including those with HIV-infection.

Objectives

- To investigate whether primary preventive cardiovascular (CV) care differs among patients with and without HIV infection in a Federally Qualified Health Center (FQHC).

Methods

- Patients, ages 40-79, with and without HIV infection who had at least 4 appointments in the past 2 years (2016-2018) were included in the study.
- A matching pool of patients without HIV infection were used as the control arm.
- Patients who had a CV event were excluded from the study.
- A retrospective chart review was done to identify patients within each arm who qualified for low-dose ASA, statin, and/or smoking cessation counseling.
- The American College of Cardiology ASCVD risk calculator and U.S. Preventive Services Task Force was used to identify patients that qualify for primary prevention with a statin and low-dose ASA, respectively.⁸
- Patients who qualified for statin therapy where then assessed for whether it was initiated and if the dose was at the correct intensity.
- Patients who qualified for low-dose ASA therapy where later assessed for whether it was initiated.
- Patients who were identified as smokers where assessed for whether they received smoking cessation counseling in the past year.
- Student's t-test was used to compare continuous variables and the chi square test was used to compare proportions. The two arms were statistically compared to identify if a significant difference existed in the level of preventative CV care amongst HIV-infected and non-HIV-infected patients.

Results

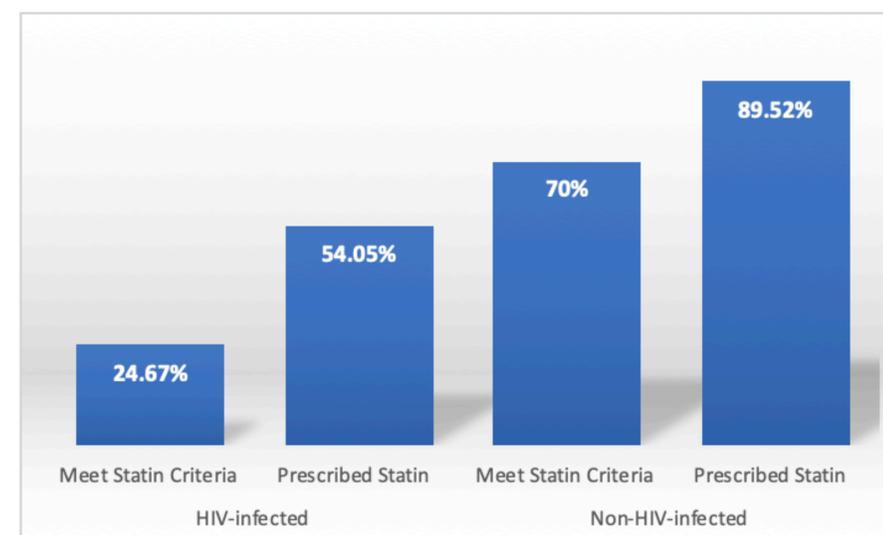
	HIV-infected (N=150)	Non-HIV-infected (N=150)	P-value
Age			P < 0.0001
Mean (SD)	45.85 (12.31)	59.16 (8.84)	
Median	46	60	
Mode	51	59	
Sex (male), N (%)	112 (74.67)	35 (23.33)	P < 0.0001
Race, N (%)			P < 0.0001
White	52 (34.67)	7 (4.67)	
Black	33 (22)	6 (4)	
Hispanic	61 (40.67)	131 (87.33)	
Asian	4 (2.67)	6 (4)	

Table 2: Statin, low-dose ASA, and/or smoking cessation counseling needs assessment

	HIV-infected	Non-HIV-infected	p-value
Meets statin criteria, N (%)	37 (24.67)	105 (70)	p<0.0001
Prescribed statin, N (%)	20 (54.05)	94 (89.52)	p<0.0001
Receiving correct statin intensity, N (%)	16 (80)	82 (88.17)	**
Meets ASA criteria, N (%)	12 (8.16)	16 (10.67)	**
Prescribed ASA, N (%)	4 (33)	8 (50)	**
Current smokers, N (%)	57 (38)	17 (11.33)	p<0.0001
Receiving smoking cessation counseling in the past year, N (%)	47 (82.46)	13 (76.47)	**

**No statistical analysis done due to low sample size

Figure 1: Statin for Primary Prevention



Conclusion

- There is a statistically significant difference in the number of patients who meet statin criteria for primary prevention in both arms (HIV-infected 37/150, non-HIV-infected 105/150; p-value < 0.0001).
- Among patients that met statin criteria, there is a statistically significant difference in the number of patients who were prescribed it among both arm (HIV-infected 20/37, non-HIV-infected 94/105; p-value < 0.0001).
- The statistical difference in the number of patients receiving correct intensity statin could not be measured due to low sample size (HIV-infected 16/20, non-HIV-infected 82/94).
- More patients in the HIV-infected arm were current smokers compared to the non-HIV-infected arm (HIV-infected 57/150, non-HIV-infected 17/150; p-value < 0.0001).
- Among patients who were current smokers, 47/57 in the HIV-infected arm and 13/17 in the non-HIV-infected arm received smoking cessation counseling in the past year. Statistical analysis could not be done due to low sample size.
- Statistical analysis for the ASA endpoint could not be done due to low sample size.
- There were 12/150 and 16/150 patients who met ASA criteria in the HIV-infected and non-HIV-infected arms, respectively.
- Among patients who met ASA criteria, 4/12 and 8/16 patients were prescribed low-dose ASA in the HIV-infected and non-HIV-infected arms, respectively.
- The statistically significant difference in our results is likely due to limited time during HIV appointments to address preventive CV care compared to primary care appointments.

Table 3: Strengths and limitations of study

Strengths	Limitations
<ul style="list-style-type: none"> • Equally large sample size in both arms • De-identified data to minimize bias • Retrospective chart review 	<ul style="list-style-type: none"> • Exclusion of patients <40 and >79 years of age. • Unable to assess patient adherence • Unable to statistically analyze certain endpoints due to low sample size

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The authors of this poster have nothing to disclose.

Author Contact Information: Nourhan Shaltout, PharmD Candidate 2020
230 Park Avenue, Florham Park, NJ 07932
Email: nourhan@student.fdu.edu