Cannabis use in PLWH who use cocaine and HIV outcomes

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INTRODUCTION

- Antiretroviral therapy (ART) has significantly improved HIV outcomes among people living with HIV (PLWH)
- Despite this, there remain large disparities in **HIV viral load (VL) suppression**
- These are particularly emphasized among **PLWH who use cocaine**
- Concurrently, cannabis use has increased and has become more socially acceptable
- Among PLWH who use cocaine, who are particularly vulnerable to insufficient VL suppression, how does cannabis use affect VL suppression?
- **We hypothesized that VL suppression will be worse among PLWH who use cocaine and cannabis than in those who do not use cannabis.**

METHODS

- Secondary data analysis of baseline interviews from an existing randomized control trial in the Bronx, NY at Albert Einstein College of Medicine/Montefiore Medical Center
- The parent randomized control trial tested the efficacy of financial incentives for abstinence from opiate or cocaine use compared with a control condition of performance feedback on VL suppression among PLWH using opioids or cocaine, prescribed ART
- Participants were recruited from June 2012- January 2017
- Recruited from Montefiore clinics, letters to Montefiore patients, flyers and brochures in Montefiore sites and surrounding community sites, participant incentives to recruit peers, ads in newspapers

- **Data sources**
  - Viral load at baseline visits
  - ACASI questionnaires- demographics, self-reported drug use, alcohol use, depressive symptoms, psychiatric symptoms
  - Medical records
- **Primary outcome variable:** VL suppression (undetectable VL at study visit and 3 consecutive VL's prior to study enrollment)
- **Primary exposure variable:** past 30-day cannabis use by self-report

- **Analyses**
  - Bivariate analyses to test for association
  - Multiple logistic regression analysis

Table 1. Eligibility Criteria

Inclusion	Exclusion
≥18 years old	Inability to give informed consent
Spanish or English fluency	Inability to follow research protocol
HIV-infected	Current chronic pain syndrome that requires prescription opioid analgesics for 1+ months
Currently taking ART for at least 16 weeks	Unstable health (hospitalized 3+ times in previous 6 months)
Imperfect adherence to ART in the previous 4 weeks	
Cocaine use disorder and self-reported cocaine use in the past month	

Frequent cannabis use is associated with **HIV viral load suppression** in people living with HIV who use cocaine

Table 1. Demographic Characteristics of Participants who Endorse Cocaine Use (n=130)

	Total n=130 (%)	No Cannabis Use (0 days) n=67 (52%)	Moderate Cannabis Use (1-14 days) n=44 (34%)	Frequent Cannabis Use (≥15 days) n=19 (15%)	p-value
VL Suppression[a]	38 (31)	20 (30)	9 (24)	9 (53)	0.093
Sociodemographic Characteristics					
Age, years[c]	50 (7)	51 (7)	50 (8)	47 (8)	0.056
Gender					0.04
Male	83 (64)	39 (58)	31 (72)	13 (68)	-
Female	43 (33)	28 (42)	14 (21)	6 (32)	-
Transgender	3 (2)	0	3 (7)	0	-
Race/Ethnicity[c]					
Hispanic	31 (24)	13 (19)	17 (31)	1 (14)	0.42
Non-Hispanic Black	69 (53)	35 (52)	23 (53)	11 (58)	0.94
Non-Hispanic White	6 (5)	5 (7)	1 (2)	0 (0)	0.27
Non-Hispanic Other[d]	23 (18)	14 (21)	6 (14)	3 (16)	0.63
Clinical Characteristics					
Depressive symptoms[e]	77 (59)	42 (63)	23 (52)	12 (63)	0.51
Psychiatric symptoms[f]	0.09 (0, 0.25)	0.09 (0, 0.28)	0.09 (0,19)	0.11 (0, 0.33)	0.83
Substance Use					
Illicit opioid or heroin use[g]	51 (39)	25 (37)	17 (39)	9 (47)	0.73
Hazardous alcohol use[h]	41 (32)	19 (28)	17 (39)	5 (26)	0.45
Cocaine use, days[i]	9 (8.5)	9.4 (9)	9.3 (8.5)	6.8 (6.7)	0.49
Drug use severity, mean[j]	0.33 (0.14)	0.33 (0.13)	0.33 (0.15)	0.37 (0.12)	0.26

[a]n=121, dichotomous measure suppressed if three consecutive undetectable HIV viral loads at baseline and prior to enrollment; [b]At time of enrollment [c]n=129, mean (SD); [d]Responded Native American, Asian, or 'some other race', [e]Center for Epidemiologic Studies Depression Scale[25]≥16 indicating symptoms concerning for depression; [f]Addiction Severity Index psychiatric status subscale, median (IQR)[23]; [g]self-reported use in the past 30-days; [h]Alcohol use disorder identification test ≥8[04]; [i]self-reported number of days in the past 30 of cocaine use, mean (SD); [j]Addiction Severity Index drug use subscale, mean (SD)[23]; Abbreviations: VL- viral load, SD- standard deviation

RESULTS

- When adjusting for age, gender, race, and ethnicity, PLWH who use cocaine and endorsed **frequent cannabis use** (≥15 days in a month) had **5 times the odds of VL suppression** compared with those who did not use cannabis (adjusted Odds Ratio = 5.1, 95% Confidence Interval= 1.4-18.6).
- Moderate cannabis use was not associated with VL suppression.

LIMITATIONS

- Small sample size, with few in the frequent cannabis group
- We were unable to assess for confounding by chronic pain because patients with chronic pain were excluded
- Potential for volunteer bias
- Possible unmeasured confounding

CONCLUSIONS

- There was an association between frequent cannabis use and VL suppression among PLWH who use cocaine.
- There is some thought that cannabis use may reduce the frequency of other illicit drug use. This may lead to improvement in engagement with HIV care with improved VL suppression
- With growing cannabis use– both recreational and medical– it is important to know how cannabis use affects HIV outcomes among PLWH whoa re especially vulnerable to negative health outcomes, such as PLWH who use cocaine
- More work is needed with larger sample sizes and a focus on cannabis use to fully understand this relationship.

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