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Informing Healthcare Approaches for Sexually Minoritized Men with HIV and Methamphetamine Use

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INTRODUCTION

Methamphetamine (meth) use has surged among sexual minority men (SMM) in the US, complicating HIV care engagement among SMM living with HIV (LWH)

Meth use is associated with poor adherence to antiretroviral therapy (ART), leading to elevated HIV viral load and faster disease progression[1]

AIM

To inform HIV care strategies, this study investigated the association between methamphetamine use severity and suboptimal (<90%) past month self-reported ART adherence among a nationwide sample of SMM LWH (n=7,276)

MATERIALS / METHODS

Online screener data from an RCT evaluating an mHealth intervention for ART adherence[2]

To assess the association between meth use severity and ART adherence, we conducted overall and race/ethnicity-stratified multivariable Poisson regressions adjusting for sociodemographic variables and other substance use

MATERIALS / METHODS

Inclusion Criteria: 1) cisgender men; 2) age 18+; 3) read or respond in English; 4) U.S. / territories; 5) proof of status with ART prescription; and 6) self-reported ART adherence[2]

Self-reported ART adherence: visual analog scale (0–100%)

Meth use severity: NIDA-Modified ASSIST screens for use that may qualify as a substance use disorder (0–3=Mild use, 4–26=Moderate use, 27 or higher=Severe use)[3]

RESULTS

Past 30-day suboptimal ART adherence associated with:

·higher likelihood of increasing meth use, being US Born, cocaine use, Latino ethnicity, Black race

· lower likelihood of older age or alcohol use

· stratified models showed consistent association with younger age and moderate-to-severe meth use across Latino, Black, and white participants

Table 1: Participant sociodemographic and behavioral characteristics by ART adherence among SMM with HIV who use stimulants (N=7,276)

	Total		Suboptimal Adherence (<90%)		Optimal Adherence (>90%)		P-Value
	n	%	n	%[a]	n	%[a]	
Total	7,276		2,745		4,531		
Median Age				39		42	<.001
Race/Ethnicity							
Latino	1,777	24%	707	26%	1,070	24%	<.001
Black/African American	1,637	22%	718	26%	919	20%	
Other	476	7%	164	6%	312	7%	
White	3,386	47%	1,156	42%	2,230	49%	
Sexual Identity							
Bisexual	811	11%	283	10%	528	12%	0.21
Gay	5,701	78%	2,172	79%	3,529	78%	
Other	764	11%	290	11%	474	10%	
Born in USA							
Yes	6,471	89%	2,543	93%	3,928	87%	<.001
Past 3 Month Substance Use							
Cannabis	4,333	60%	1,816	66%	2,517	56%	<.001
Alcohol	5,077	70%	1,825	66%	3,252	72%	<.001
Cocaine	1,444	20%	730	27%	717	16%	<.001
Methamphetamine Use Severity[b]							
No meth use	3421	47%	691	25%	2,730	60%	<.001
Mild use	109	1%	34	1%	75	2%	
Moderate Use	2,195	30%	1,059	39%	1,136	25%	
Severe Use	1,551	21%	961	35%	590	13%	

[a] column percent

[b] calculated using NIDA-Modified ASSIST

Table 2: Poisson regression models associated with suboptimal ART adherence among sexual minority men (SMM) (n=7,276)

	Full Sample n=7,276		Latino SMM n= 1,777		Black/African American SMM n= 1,637		Other SMM n= 476		White SMM n= 3,386	
	RR	95% CI	RR	95% CI	RR	95% CI	RR	95% CI	RR	95% CI
Age (continuous)	**0.99**	(0.98, 0.99)	**0.99**	(0.98, 0.99)	**0.99**	(0.98, 0.99)	0.99	(0.98, 1.00)	**0.98**	(0.98, 0.99)
Born in USA	**1.33**	(1.18, 1.50)	**1.21**	(1.04, 1.40)	1.28	(0.88, 1.84)	**1.43**	(1.01, 2.03)	**1.82**	(1.23, 2.71)
Past 3 Month Substance Use										
Cannabis	1.02	(0.96, 1.09)	1.09	(0.96, 1.23)	1.05	(0.92, 1.19)	1.13	(0.88, 1.46)	0.97	(0.89, 1.06)
Alcohol	**0.93**	(0.88, 0.99)	0.95	(0.84, 1.07)	0.97	(0.86, 1.10)	0.81	(0.64, 1.03)	0.93	(0.85, 1.01)
Cocaine	**1.10**	(1.03, 1.17)	**1.14**	(1.01, 1.28)	1.06	(0.94, 1.20)	1.04	(0.81, 1.34)	1.08	(0.98, 1.19)
Race/Ethnicity (reference: White)										
Latino	**1.16**	(1.08, 1.24)	-	-	-	-	-	-	-	-
Black/AA	**1.32**	(1.23, 1.41)	-	-	-	-	-	-	-	-
Other	0.99	(0.88, 1.13)	-	-	-	-	-	-	-	-
Sexual Identity (reference: Gay)										
Bisexual	0.95	(0.86, 1.04)	1.09	(0.93, 1.29)	0.98	(0.83, 1.16)	0.73	(0.48, 1.11)	0.87	(0.74, 1.02)
Other	0.91	(0.83, 1.00)	0.94	(0.78, 1.14)	0.90	(0.76, 1.06)	1.10	(0.83, 1.47)	0.88	(0.75, 1.02)
Methamphetamine Use Severity (Reference: No use)$_b$										
Mild use	**1.51**	(1.13, 2.02)	1.39	(0.76, 2.53)	0.88	(0.50, 1.56)	1.57	(0.39, 6.28)	**2.53**	(1.67, 3.84)
Moderate Use	**2.34**	(2.16, 2.54)	**2.04**	(1.74, 2.39)	**1.90**	(1.66, 2.18)	**3.02**	(2.03, 4.48)	**3.02**	(2.61, 3.50)
Severe Use	**2.88**	(2.65, 3.12)	**2.57**	(2.21, 2.99)	**2.24**	(1.95, 2.57)	**3.61**	(2.44, 5.34)	**3.74**	(3.22, 4.34)

$_b$ calculated using NIDA-Modified ASSIST

RR = relative risk; CI = confidence interval

Bold estimates indicate significance at $p < 0.05$

RESULTS: Meth Injection vs. Non-Injection Use

-White men had significantly > proportion of IDU (56%) than Latino (18%) or Black men (13%) ($p < 0.001$)

-Men who injected had lower odds of reporting past 30-day ART adherence (90% or greater) than non-injectors (39% vs. 52%; OR 0.59, $p < 0.001$)

-Stratifying ART adherence/IDU by race and ethnicity, proportions who reported ART adherence mirrored IDU use by subgroup

LIMITATIONS and CONCLUSION

-Screener survey focused mainly on study inclusion criteria

-Men were recruited for a stimulant use and HIV medication adherence study, which skewed towards moderate-to-severe users

-Results support the need for integrated, culturally competent care & substance use screening within HIV and primary care settings

-Addressing the inverse link between medication adherence and stimulant use with behavioral / biomedical interventions is a next step

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