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**Informing healthcare approaches for sexually minoritized men with HIV and methamphetamine use.**

**Background:** Methamphetamine use has surged among US sexual minority men (SMM), complicating HIV care engagement. Methamphetamine use is associated with poor adherence to antiretroviral therapy (ART), leading to elevated HIV viral load and faster disease progression. To inform HIV care strategies, this study investigated the association between methamphetamine use severity and suboptimal (<90%) past month self-reported ART adherence among SMM LWH.

**Methods:** Using online screener data from 7,276 SMM with self-reported HIV from an mHealth ART adherence intervention, we conducted multivariable Poisson regressions controlling sociodemographic variables and other substance use to investigate the association between methamphetamine use severity and ART adherence. Methamphetamine use severity was calculated using NIDA-Modified ASSIST. Self-reported ART adherence was measured using a visual analog scale (0-100%).

**Results:** Moderate (RR=2.34, 95%CI 2.16-2.54) and severe (RR=2.88, 95%CI 2.65-3.12) methamphetamine use were significantly associated with suboptimal ART adherence compared to non-use. Older age (RR=0.99, 95%CI 0.98-0.99), and being foreign-born (RR=0.75, 95%CI 0.67-0.85) were associated with better ART adherence. Latino (RR=1.16, 95%CI 1.08-1.24) and Black (RR=1.32, 95%CI 1.23-1.41) SMM reported suboptimal ART adherence more than their white counterparts. In stratified models, younger age and moderate-to-severe methamphetamine use was associated with suboptimal ART adherence across race and ethnicity.

**Conclusions:** Results support the need for culturally competent methamphetamine screening within HIV and primary care settings to improve adherence. Stimulant use severity predicts suboptimal adherence. However, stratified models by race and ethnicity did not further explain this phenomenon. Addressing stimulant use and structural barriers to treatment are critical for improving ART adherence among SMM LWH.