HHS Public Access

Author manuscript

South Med J. Author manuscript; available in PMC 2023 January 01.

Published in final edited form as:

South Med J. 2022 January ; 115(1): 26–32. doi:10.14423/SMJ.0000000000001345.

Stigma, Social Support, and Substance Use in Diverse Men Who Have Sex With Men and Transgender Women Living with HIV in the US Southeast

Katherine R. Schafer, MD, **Amanda E. Tanner, PhD, MPH**, **Lilli Mann-Jackson, MPH**, **Jorge Alonzo, JD**, **Eunyoung Y. Song, PhD**, **Scott D. Rhodes, PhD, MPH**

Department of Internal Medicine, Section on Infectious Diseases, the Department of Social Sciences and Health Policy, and the CTSI Program in Community Engagement, Wake Forest School of Medicine, Winston-Salem, North Carolina, the Department of Public Health Education, University of North Carolina, Greensboro, and Health Quality Partners, Doylestown Health, Doylestown, Pennsylvania.

Abstract

Objectives: Human immunodeficiency virus (HIV) rates in the southeast United States are high and substance use is common among people living with HIV (PLWH). This study used baseline data from the *weCare* intervention study to examine factors associated with the use of alcohol, tobacco, and marijuana among racially and ethnically diverse young gay, bisexual, and other men who have sex with men (GBMSM) and transgender women in the southeast who were newly diagnosed as having HIV, not linked to care, out of care, and/or not virally suppressed.

Methods: Self-reported data were collected from 196 GBMSM and transgender women living with HIV via Audio Computer-Assisted Self-Interview at enrollment. Measures assessed demographics; stigma; social support; basic and clinical service needs; HIV disclosure; social media use; and recent use of alcohol, tobacco, and marijuana. Logistic regression identified correlates of past 30-day substance use.

Results: In multivariable analysis, increased age and needing basic support services were associated with past 30-day tobacco, cigarette, electronic cigarette, and/or hookah use. Increased HIV-related stigma and needing basic support services were associated with past 30-day marijuana use. Being White and needing clinical support services were associated with infrequent or no past 30-day marijuana use.

Conclusions: HIV-related stigma and needing basic support services were associated with substance use among GBMSM and transgender women living with HIV in the southeastern United States. Routine screening for basic needs could identify GBMSM and transgender women living with HIV at risk for substance use and offer insight into intervention leverage points.

Keywords

HIV; rural; stigma; substance use

Correspondence to Dr Katherine R. Schafer, Wake Forest School of Medicine, Medical Center Boulevard, Winston-Salem, NC 27157. kschafer@wakehealth.edu.

Racial/ethnic, sexual, and gender minority people living with human immunodeficiency virus (HIV) (PLWH) experience high rates of substance use, including the use of alcohol, tobacco, and marijuana.[1–8] Substance use among PLWH is associated with health-compromising behaviors and negative HIV-related health outcomes, including lower engagement in HIV care, lower adherence to antiretroviral therapy, higher rates of immunosuppression, increased participation in sexual risk behaviors, higher rates of morbidity and mortality, and increased burdens on healthcare systems.[9–12]

Alcohol use can be particularly deleterious for PLWH. Regular alcohol use can weaken the immune system, contribute to higher viral loads, damage the liver, increase cholesterol levels, and lead to sexual risk behaviors.[13–15] Similarly, tobacco and marijuana use (including through electronic cigarettes [e-cigarettes] and hookahs) carry significant health risks that contribute to increased risk for cancers, cardiovascular disease, acute and chronic lung diseases, and mental health disorders.[16–19]

Although there are well-established relations between substance use and HIV, there is limited research describing correlates and patterns of substance use among young gay, bisexual, and other men who have sex with men (GBMSM) or transgender women living with HIV in the southeastern United States. This region is the epicenter of the US HIV epidemic, having the highest incidence of HIV in the nation.[20] Racial/ethnic, sexual, and gender minorities within the region are disproportionately represented in terms of both incidence and prevalence of HIV.[5,21–23] Because HIV incidence and prevalence in the Southeast are high and substance use is common among PLWH, it is important to identify factors associated with substance use within this population to develop context-specific prevention strategies.

The existing literature supports a strong association between stigma and social support and HIV care engagement and health outcomes.[24–28] Specifically, stigma is a barrier to antiretroviral therapy adherence and clinic attendance, both of which predict mortality for PLWH.[29] HIV-related stigma is particularly profound in the Southeast.[30] Because the South represents nearly half of the nonmetropolitan population of the United States, the region faces known challenges associated with rural settings, including a relative lack of political, religious, social, economic, and cultural diversity and support that are found in larger urban settings.[31,32] Social support, including emotional, informational, and tangible support from family and friends or in the form of services from organizations, increases health-related quality of life and health outcomes among PLWH, but the role of social support is less clear within the context of substance use.[33,34] Social media is a prevalent tool for building social support, and self-disclosure of personal information fosters deeper connection, even when done in a virtual space.[35] More research is needed to understand how stigma and social support may affect substance use among GBMSM and transgender women living with HIV, especially in the Southeast, and how social media may mediate these relationships.

Accordingly, we examined the associations between participants' self-reported demographics, stigma, social support, basic and clinical service needs, HIV disclosure, and social media use with recent use of alcohol, tobacco, and marijuana among racially and

ethnically diverse young GBMSM and transgender women in the Southeast who were newly diagnosed as having HIV, not linked to care, out of care, and/or not virally suppressed.

Methods

Study Design

We analyzed baseline data from participants in the *weCare* intervention study, which was part of a social media intervention initiative of the Health Resources and Services Administration, AIDS Bureau, Special Projects of National Significance designed to increase HIV care engagement among young GBMSM and transgender women living with HIV. Ten project sites across the United States used a variety of mHealth, social media, and other mobile technology strategies designed specifically for youth and young adults living with HIV.[36] Our *weCare* intervention harnessed commonly used social media platforms, including Facebook, texting, and GPS-based mobile applications, to provide targeted, tailored, and personalized messaging to participants to increase HIV care engagement.[37,38]

To be eligible to participate in the *weCare* intervention study, potential participants self-identified during the screening process as men or transgender individuals living with HIV who were newly diagnosed (ie, tested positive for HIV for the first time within the past 12 months), not linked to care (ie, aware of their HIV status but had never attended an HIV medical visit), out of care or not fully retained in care (ie, had been diagnosed as having HIV for >12 months, but had a gap in attending HIV medical visits of >6 months within the past 24 months), and/or not virally suppressed (ie, had a viral load ≥200 copies per milliliter at last laboratory test). Additional eligibility criteria included being 16 to 34 years old, reporting sex with men, and having the ability to provide informed consent or assent. The study methodology has been published, and *weCare* has recently been added to the Centers for Disease Control and Prevention's *Compendium of Evidence-Based Interventions and Best Practices for HIV Prevention*.[8–41] Human protection oversight and approval were provided by the Wake Forest School of Medicine institutional review board.

Data Collection

We recruited participants by distributing study information (eg, posters, flyers, brochures) at HIV care clinics, HIV testing sites, health departments, acquired immunodeficiency syndrome service organizations, gay bars and clubs, community colleges, small businesses, and community events (eg, Pride events); through the use of mass media (eg, newspaper) and social media; and by word of mouth, in which study participants invited friends and acquaintances to participate. Enrollment, including consent procedures, and data collection occurred one to one in private, convenient, and safe locations within each participant's HIV care clinic or in the community, such as parking lots, fast food restaurants, and inside or outside participants' homes.

We collected baseline self-reported data from all *weCare* study participants using Audio Computer-Assisted Self-Interview software between September 2016 and May 2018. Data collection was in either English or Spanish, depending on the language preferences of the

participant, and took approximately 45 minutes per participant. Each participant received a $15 incentive for completing the assessment.

Measures

The assessment included items to measure demographics, stigma, social support, basic and clinical service needs, HIV disclosure, social media use, and recent use of alcohol, tobacco, and marijuana. All of the items had been validated in previous research with adult English-speaking and Spanish-speaking populations in the United States.[36] Demographic characteristics assessed included age, gender identity, race/ethnicity, educational attainment, and employment status.

HIV-related stigma was measured using an abbreviated version of the HIV Stigma Scale, consisting of 10 four-point Likert-scale items that used all of the subscales (personalized stigma, disclosure concerns, negative self-image, and concern with public attitudes about PLWH); response options ranged from “strongly disagree” (1) to “strongly agree” (4).[36,42] The HIV-related stigma score was calculated by summing all of the items, with higher scores equating to higher levels of HIV stigma ($\alpha = 0.84$).

Social support was assessed using 2 items (“I can get friends to help me with the things I need” and “I can get emotional support from friends and family”) with 10-point scale response items ranging from “not confident at all” (0) to “very confident” (10). The social support score was created by summing the two items, with higher scores equating to higher levels of social support.

Support services needed were assessed by asking, “In the past 6 months, have you needed any of the following support services?” Response options included: “food,” “clothing,” “toiletries and hygiene products,” “transportation,” “employment services,” “case management,” “mental health counseling or treatment,” “substance use counseling or drug treatment,” “healthcare insurance counseling,” “healthcare service navigation,” and “hormone therapy.” A basic support services score was calculated by summing five response options: “food,” “clothing,” “toiletries and hygiene products,” “transportation,” and “employment services.” A clinical support services score was calculated by summing six response options: “case management,” “mental health counseling or treatment,” “substance use counseling or drug treatment,” “healthcare insurance counseling,” “healthcare service navigation,” and “hormone therapy.” Responses were coded as needing basic and clinical services, basic services only, clinical services only, or no services. Higher scores illustrate higher needs.

HIV disclosure was assessed by asking, “Who have you told that you have HIV?” Response options were “no one,” “main partner or spouse,” “one or more other sex partners,” “one or more family members,” “one or more friends,” “healthcare providers,” “coach, teacher, pastor, rabbi, or clergy,” “clinic staff,” and “other.” Participants were asked to specify whether they selected “other.” Participant responses were dichotomized as disclosure to anyone and no disclosure.

We assessed social media use for social and sexual networking by asking, “Do you use any of the following social media or sexual or social networking sites or apps?” Response options were A4ARadar, Badoo, Facebook, Grindr, Instagram, Jack’d, Plenty of Fish, Scruff, Snapchat, Twitter, Tumblr, and other. Participants were asked to specify if they selected “other.” Participant responses were dichotomized as use of social media for social and/or sexual networking and no use.

Substance use was assessed by asking how often the participant had used each of the following substances during the past 30 days: alcohol, tobacco, cigarettes, e-cigarettes, hookah, and marijuana (not prescribed). Use of each substance was dichotomized into past 30-day use (“several times a month,” “once a week,” “several times a week,” “once a day,” and “more than once a day”) and infrequent or no past 30-day use (“once a month or less,” “zero times,” or “never use”).

Statistical Analysis

Descriptive statistics on selected demographic characteristics, HIV-related stigma, social support, basic and clinical support services needed, HIV disclosure, social media use for social and sexual networking, and substance use were calculated. Logistic regression was used to identify correlates associated with past 30-day substance use. Bivariate models were generated for each correlate and substance use outcome. Multivariable models were generated, including the correlates that were associated at $P \leq 0.25$ in the bivariate models, with the outcomes according to standard model building strategies.[43] Unadjusted and adjusted odds ratios (AORs) and 95% confidence intervals (CIs) are presented. Modeling was performed using the LOGISTIC procedure in SAS version 9.4 (SAS Institute, Cary, NC).

Results

Of the participants who completed the baseline survey (N = 198), 2 participants had missing data on selected characteristics and/or substance use outcomes. The results reported here are based on the remaining 196 participants.

Descriptive Statistics

Table 1 illustrates demographics, other characteristics, and substance use reported by participants. The mean age of the participants was 26.6 years (range 18–34); 94% identified as cisgender men, 5% identified as transgender women, and 1% identified as gender nonconforming; 64% identified as African American/Black, 14% identified as White, and 13% identified as Latinx. Sixty-one percent of participants reported educational attainment above a high school diploma or high school equivalency, and 51% reported full-time employment or student status. Overall, participants had a mean HIV stigma score of 24.5 (range 10–40) and a mean social support score of 14.2 (range 0–20).

Nearly 1 in 4 participants reported needing basic services only, 1 in 5 reported needing both basic and clinical services, and 1 in 10 reported needing clinical services only in the past 6 months. Almost half of the sample reported not needing any services. Among those who reported needing basic services (n = 73), the mean number of basic services needed

was 1.9 (range 1–5), and among those who reported needing clinical services (n = 52), the mean number of clinical services needed was 1.4 (range 1–3). The majority of participants reported disclosure of their HIV diagnosis to someone in their lives (94%) and the use of social media for social and sexual networking (92%).

Nearly 40% of participants reported alcohol use; 41% reported tobacco, cigarette, e-cigarette, and/or hookah use; and 40% reported marijuana use during the past 30 days.

Bivariate Analyses

In bivariate analyses, no factors were significantly associated with past 30-day alcohol use. Increased age (OR 1.09, 95% CI 1.02–1.17, $P = 0.01$) and needing a higher number of basic support services in the past 6 months (OR 1.61, 95% CI 1.22–2.12, $P = 0.01$) were significantly associated with past 30-day tobacco, cigarette, e-cigarette, and/or hookah use. Full-time employment or student status (OR 0.56, 95% CI 0.32–1.00, $P = 0.05$) was less likely to be associated with past 30-day tobacco, cigarette, e-cigarette and/or hookah use.

Increased HIV-related stigma (OR 1.07, 95% CI 1.02–1.12, $P = 0.007$) and needing a higher number of basic support services in the past 6 months (OR 1.31, 95% CI 1.03–1.68, $P = 0.03$) were significantly associated with past 30-day marijuana use. Being White (OR 0.21, 95% CI 0.07–0.64, $P = 0.01$) and needing a higher number of clinical support services in the past 6 months (OR 0.57, 95% CI 0.35–0.93, $P = 0.02$) were less likely to be associated with past 30-day marijuana use (Table 2).

Multivariate Analyses

In multivariate analyses, no factors were significantly associated with past 30-day alcohol use. Increased age (AOR 1.12, 95% CI 1.04–1.21, $P = 0.003$) and needing a higher number of basic support services in the past 6 months (AOR 1.58, 95% CI 1.15–2.16, $P = 0.005$) were significantly associated with past 30-day tobacco, cigarette, e-cigarette, and/or hookah use.

Increased HIV-related stigma (AOR 1.07, 95% CI 1.02–1.12, $P = 0.01$) and needing a higher number of basic support services in the past 6 months (AOR 1.60, 95% CI 1.16–2.20, $P = 0.004$) were significantly associated with past 30-day marijuana use. Being White (AOR 0.25, 95% CI 0.08–0.80, $P = 0.02$) and needing a higher number of clinical support services in the past 6 months (AOR 0.41, 95% CI 0.22–0.75, $P = 0.005$) were less likely to be associated with past 30-day marijuana use (Table 3).

Discussion

Approximately 40% of racially and ethnically diverse young GBMSM and transgender women living with HIV within our sample reported use of alcohol, tobacco, and/or marijuana in the past 30 days. Given the link between substance use and HIV-related health outcomes, supporting the health of PLWH requires attending to factors that are associated with substance use.[10,13–15] Thus, understanding factors associated with substance use is important to identify potential intervention leverage points and ameliorate associated health consequences among PLWH, especially GBMSM and transgender women who face

additional stigma.[44] This analysis explored correlates of alcohol, tobacco, and marijuana among a particularly vulnerable population: racially and ethnically diverse young GBMSM and transgender women who were newly diagnosed as having HIV, not linked to care, out of care, and/or not virally suppressed. This population is at increased risk for negative HIV-related sequelae and HIV transmission.

In our analysis, age, race/ethnicity, HIV-related stigma, needing basic services (eg, food, clothing, toiletries and hygiene products, transportation, employment services) and clinical services (eg, case management, mental health counseling or treatment, substance use counseling or drug treatment, healthcare insurance counseling, healthcare service navigation, hormone therapy) were associated with past 30-day tobacco, cigarette, e-cigarette, hookah use, and/or recreational marijuana use. Social support was not associated with substance use, and none of the correlates was associated with past 30-day alcohol use. These results could highlight the ways in which substance use, particularly more “social” substances such as cigarettes and marijuana, may be used to cope with challenges (eg, stigma) and develop connections to others.

National healthcare organizations, including the National Academy of Medicine, have recommended that providers and health systems assess and address social determinants of health among patient populations, and this may be the most critical among GBMSM and transgender women living with HIV.[45] Although PLWH in this sample were engaged in clinical care, they reported some basic needs. Performing basic needs assessments for PLWH within the clinic setting may be useful in identifying individuals who could benefit from targeted assistance to navigate community resources, particularly for needs related to food, clothing, and employment. Meeting these needs may help reduce some substance use (eg, tobacco/cigarettes) in a vulnerable population who are already at increased risk for adverse health outcomes.

Addressing HIV-related stigma among PLWH and providing resources to reduce stigma may be critical to reduce substance use, especially marijuana use, and the associated health-related consequences. At the same time, environmental and communication strategies designed to increase understanding of HIV and reduce health-compromising attitudes and perceptions are needed to reduce stigma within clinics and communities more broadly. Although approaches to moderating stigma tend to focus on individual-level coping, changes are needed at the macro-level (eg, education of clinical settings regarding appropriate terminology for gender identities and sexual orientations).[46]

Some limitations to this analysis should be noted. Selection and self-report biases may have affected the results; however, all eligible clinic patients from September 2016 through May 2018 were approached and screened, and only 10 refused to enroll. Our use of the Audio Computer-Assisted Self-Interview also reduced the risk of socially desirable responses. Although participants in this study included a racially and ethnically diverse group of young GBMSM and transgender women living with HIV, the sample size, based on the *weCare* intervention evaluation, was relatively small; a larger sample size may yield other significant correlates. Although this analysis was at a single site, the findings are relevant and potentially generalizable to other clinical settings because the patterns of alcohol,

tobacco, and marijuana use described in this study are similar to other cohorts; they provide critical information about a unique population in the southeastern United States, a region that carries the greatest burden of HIV in the country.[47,48]

Conclusions

To promote overall health and well-being, it is crucial to better understand factors associated with substance use among young GBMSM and transgender women living with HIV. This is especially important given the association with decreased care engagement for PLWH (which confers increased risks of morbidity and mortality) and long-term health sequelae (eg, hepatotoxicity, cardiovascular disease, acute/chronic lung diseases). Demographic characteristics (eg, age, race) and HIV-related stigma, as well as needing basic and clinical services, are important correlates of substance use, specifically tobacco and marijuana. These results suggest leverage points where targeted interventions could be integrated into standard HIV care to identify higher-risk individuals and mitigate substance use patterns to prevent long-term deleterious health outcomes as well as promoting overall health and well-being.

Acknowledgments

This research was made possible in part by funding grants from the Department of Health and Human Services, Health Resources and Services Administration, HIV/AIDS Bureau's Special Projects of National Significance Program (H97HA28896), and the National Center for Advancing Translational Sciences (UL1TR001420). Its contents are solely the responsibility of the authors and do not necessarily represent the official views of the US government.

K.R.S., A.E.T., L.M.-J., E.Y.S., and S.D.R. list all or part of the above funding as past institutional payments. J.A. did not report any financial relationships or conflicts of interest.

References

1. Schuler MS, Rice CE, Evans-Polce RJ, et al. Disparities in substance use behaviors and disorders among adult sexual minorities by age, gender, and sexual identity. Drug Alcohol Depend 2018;189:139–146. [PubMed: 29944989]
2. Substance Abuse and Mental Health Services Administration. National survey on drug use and health: lesbian, gay, & bisexual (LGB) adults. https://www.samhsa.gov/data/data-we-collect/nsduh-national-survey-drug-use-and-health. Accessed February 27, 2020.[A]
3. Jamal A, Phillips E, Gentzke AS, et al. Current cigarette smoking among adults—United States, 2016. MMWR Morb Mortal Wkly Rep 2018;67:53–59. [PubMed: 29346338]
4. Chou FY, Armstrong HL, Wang L, et al. A longitudinal analysis of cannabis use and mental health symptoms among gay, bisexual, and other men who have sex with men in Vancouver, Canada. J Affect Disord 2019;247:125–133. [PubMed: 30665075]
5. Dawson-Rose C, Draughon JE, Zepf R, et al. Prevalence of substance use in an HIV primary care safety net clinic: a call for screening. J Assoc Nurses AIDS Care 2017;28:238–249. [PubMed: 26763795]

[A]The URL for reference 2 leads to a general splash page, not specifically about LGBTQ adults. Could you insert a more specific URL that would lead to that information?

[A]The URL for reference 2 leads to a general splash page, not specifically about LGBTQ adults. Could you insert a more specific URL that would lead to that information?

6. Moore CL, Gidding HF, Jin F, et al. Patterns of drug use and drug-related hospital admissions in HIV-positive and -negative gay and bisexual men. AIDS Behav 2016;20:2372–2386. [PubMed: 26837635]
7. Shariati H, Armstrong HL, Cui Z, et al. Changes in smoking status among a longitudinal cohort of gay, bisexual, and other men who have sex with men in Vancouver, Canada. Drug Alcohol Depend 2017;179:370–378. [PubMed: 28844014]
8. Lachowsky NJ, Dulai JJ, Cui Z, et al. Lifetime doctor-diagnosed mental health conditions and current substance use among gay and bisexual men living in Vancouver, Canada. Subst Use Misuse 2017;52:785–797. [PubMed: 28379111]
9. Lehavot K, Huh D, Walters KL, et al. Buffering effects of general and medication-specific social support on the association between substance use and HIV medication adherence. AIDS Patient Care STDS 2011;25:181–189. [PubMed: 21375430]
10. Reback CJ, Runger D, Fletcher JB. Drug use is associated with delayed advancement along the HIV care continuum among transgender women of color. AIDS Behav 2021;25(Suppl 1):107–115. [PubMed: 31187356]
11. Rosen JG, Malik M, Cooney EE, et al. Antiretroviral treatment interruptions among Black and Latina transgender women living with HIV: characterizing co-occurring, multilevel factors using the gender affirmation framework. AIDS Behav 2019;23:2588–2599. [PubMed: 31263998]
12. Xavier Hall CD, Morgan E, Bundy C, et al. Substance use predicts sustained viral suppression in a community cohort of sexual and gender minority youth living with HIV. AIDS Behav 2021;25:3303–3315. [PubMed: 33582890]
13. Cook RL, Zhou Z, Kelso-Chichetto NE, et al. Alcohol consumption patterns and HIV viral suppression among persons receiving HIV care in Florida: an observational study. Addict Sci Clin Pract 2017;12:22. [PubMed: 28950912]
14. Pence BW, Thielman NM, Whetten K, et al. Coping strategies and patterns of alcohol and drug use among HIV-infected patients in the United States Southeast. AIDS Patient Care STDS 2008;22:869–877. [PubMed: 19025481]
15. Williams EC, Hahn JA, Saitz R, et al. Alcohol use and human immunodeficiency virus (HIV) infection: current knowledge, implications, and future directions. Alcohol Clin Exp Res 2016;40:2056–2072. [PubMed: 27696523]
16. Volkow ND, Baler RD, Compton WM, et al. Adverse health effects of marijuana use. N Engl J Med 2014;370:2219–2227. [PubMed: 24897085]
17. Hall W, Degenhardt L. Adverse health effects of non-medical cannabis use. Lancet 2009;374:1383–1391. [PubMed: 19837255]
18. Jha P, Ramasundarahettige C, Landsman V, et al. 21st-century hazards of smoking and benefits of cessation in the United States. N Engl J Med 2013;368:341–350. [PubMed: 23343063]
19. Chatham-Stephens K, Roguski K, Jang Y, et al. Characteristics of hospitalized and nonhospitalized patients in a nationwide outbreak of e-cigarette, or vaping, product use-associated lung injury—United States, November 2019. MMWR Morb Mortal Wkly Rep 2019;68:1076–1080. [PubMed: 31751326]
20. Centers for Disease Control and Prevention. HIV surveillance report. Volume 29. Diagnoses of HIV infection in the United States and dependent areas, 2017. https://www.cdc.gov/hiv/pdf/library/reports/surveillance/cdc-hiv-surveillance-report-2017-vol-29.pdf. Published November 2018. Accessed March 2020.
21. Hernandez D, Kalichman SC, Katner HP, et al. Psychosocial complications of HIV/AIDS-metabolic disorder comorbidities among patients in a rural area of southeastern United States. J Behav Med 2018;41:441–449. [PubMed: 29383534]
22. Skalski LM, Watt MH, MacFarlane JC, et al. Mental health and substance use among patients in a North Carolina HIV clinic. NC Med J 2015;76:148–155.
23. Centers for Disease Control and Prevention. HIV and AIDS in the United States by region. https://www.cdc.gov/hiv/statistics/overview/geographicdistribution.html. Updated May 11, 2015. Accessed April 19, 2016.

24. Amico KR, Konkle-Parker DJ, Cornman DH, et al. Reasons for ART non-adherence in the Deep South: adherence needs of a sample of HIV-positive patients in Mississippi. AIDS Care 2007;19:1210–8. [PubMed: 18071964]
25. Fredericksen RJ, Edwards TC, Merlin JS, et al. Patient and provider priorities for self-reported domains of HIV clinical care. AIDS Care 2015;27:1255–1264. [PubMed: 26304263]
26. Glynn TR, Llabre MM, Lee JS, et al. Pathways to health: an examination of HIV-related stigma, life stressors, depression, and substance use. Int J Behav Med 2019;26:286–296. [PubMed: 31065930]
27. Kempf MC, McLeod J, Boehme AK, et al. A qualitative study of the barriers and facilitators to retention-in-care among HIV-positive women in the rural southeastern United States: implications for targeted interventions. AIDS Patient Care STDS 2010;24:515–520. [PubMed: 20672971]
28. Sweeney SM, Vanable PA. The association of HIV-related stigma to HIV medication adherence: a systematic review and synthesis of the literature. AIDS Behav 2016;20:29–50. [PubMed: 26303196]
29. Giordano TP, Gifford AL, White AC Jr, et al. Retention in care: a challenge to survival with HIV infection. Clin Infect Dis 2007;44:1493–1439. [PubMed: 17479948]
30. Reif S, Wilson E, McAllaster C, et al. The relationship of HIV-related stigma and health care outcomes in the US Deep South. AIDS Behav 2019;23(Suppl 3):242–250. [PubMed: 31317363]
31. Novak NL, Baquero B, Askelson NM, et al. Health equity in midsize rural communities: challenges and opportunities in a changing rural America. Am J Public Health 2020;110:1342–1343. [PubMed: 32783728]
32. US Census Bureau, 2011–2015 ACS 5-year estimates. https://www.census.gov/programs-surveys/acs/technical-documentation/table-and-geography-changes/2015/5-year.html. Accessed March 11, 2021.
33. Bekele T, Rourke SB, Tucker R, et al. Direct and indirect effects of perceived social support on health-related quality of life in persons living with HIV/AIDS. AIDS Care 2013;25:337–346. [PubMed: 22774876]
34. Qiao S, Li X, Stanton B. Social support and HIV-related risk behaviors: a systematic review of the global literature. AIDS Behav 2014;18:419–441. [PubMed: 23921582]
35. Utz S The function of self-disclosure on social network sites: not only intimate, but also positive and entertaining self-disclosures increase the feeling of connection. Comput Hum Behav 2015;45:1–10.
36. Medich M, Swendeman DT, Comulada WS, et al. Promising approaches for engaging youth and young adults living with HIV in HIV primary care using social media and mobile technology interventions: protocol for the SPNS Social Media Initiative. JMIR Res Protoc 2019;8:e10681. [PubMed: 30702434]
37. Centers for Disease Control and Prevention. Linkage to, Retention in, and Re-engagement in HIV Care (LRC) Chapter. https://www.cdc.gov/hiv/research/interventionresearch/compendium/lrc/index.html. Accessed January 2020
38. Tanner AE, Mann L, Song E, et al. weCARE: a social media-based intervention designed to increase HIV care linkage, retention, and health outcomes for racially and ethnically diverse young MSM. AIDS Educ Prev 2016;28:216–230. [PubMed: 27244190]
39. Tanner AE, Song EY, Mann-Jackson L, et al. Preliminary impact of the weCare social media intervention to support health for young men who have sex with men and transgender women with HIV. AIDS Patient Care STDS 2018;32:450–458. [PubMed: 30398955]
40. Centers for Disease Control and Prevention. HIV/AIDS Prevention Research Synthesis Project. Compendium of Evidence-Based Interventions and Best Practices for HIV Prevention. https://www.cdc.gov/hiv/research/interventionresearch/compendium/index.html. Updated April 14, 2020. Accessed April 21, 2020
41. Tanner AE, Mann-Jackson L, Song EY, et al. Supporting health among young men who have sex with men and transgender women with HIV: lessons learned from implementing the weCare intervention. Health Promot Pract 2020;21:755–763. [PubMed: 32757841]
42. Berger BE, Ferrans CE, Lashley FR. Measuring stigma in people with HIV: psychometric assessment of the HIV stigma scale. Res Nurs Health 2001;24:518–529. [PubMed: 11746080]

43. Hosmer D, Lemeshow S. Applied Logistic Regression. New York: John Wiley & Sons; 1989.
44. Altman D, Aggleton P, Williams M, et al. Men who have sex with men: stigma and discrimination. Lancet 2012;380:439–445. [PubMed: 22819652]
45. The National Academies of Sciences, Engineering, and Medicine. Integrating Social Care into the Delivery of Health Care: Moving Upstream to Improve the Nation's Health. Washington DC: The National Academies Press; 2019.
46. Lupez EL, Lammert T, Davis G, et al. "I'll take gender identity for 500." Changing knowledge and comfort in the care of LGBTQ patients with a novel training approach. https://www.acponline.org/system/files/documents/membership/residents/competitions-awards/national-abstract-competition/student-winners-2018.pdf. Published 2018. Accessed November 7, 2021.
47. Fuster-RuizdeApodaca MJ, Castro-Granell V, Garin N, et al. Prevalence and patterns of illicit drug use in people living with HIV in Spain: a cross-sectional study. PLoS One 2019;14:e0211252. [PubMed: 31206550]
48. Centers for Disease Control and Prevention. HIV in the southern United States. https://www.cdc.gov/hiv/pdf/policies/cdc-hiv-in-the-south-issue-brief.pdf. Updated September 2019. Accessed February 13, 2020.

Key Points

- People living with human immunodeficiency virus report high rates of substance use and stigma, which can have a negative impact on their engagement in care and, subsequently, health outcomes.
- For a population of young African American/Black and Latinx gay, bisexual, and other men who have sex with men and transgender women living with human immunodeficiency virus in the southeastern United States, higher levels of stigma and need for basic support services predict increased tobacco and marijuana use.
- Further research is needed to determine whether addressing stigma and basic needs can reduce substance use for this vulnerable population.

Table 1.

Demographics, characteristics, and substance use behaviors (N = 196)

Characteristics	N (%) mean (SD)
Age, y (range 18–34)	26.6 (4.3)
Gender identity	
Cisgender man	184 (93.9)
Transgender woman	10 (5.1)
Gender queer/gender nonconforming	2 (1.0)
Race/ethnicity	
African American/Black	127 (64.1)
White	28 (14.1)
Latinx	25 (12.6)
Other	18 (9.1)
Educational attainment	
Above high school diploma/GED	121 (61.1)
High school diploma, GED, or below	77 (39.0)
Current employment status	
Full-time employed/student	100 (50.5)
Part-time/disabled/unemployed	98 (49.5)
HIV-related stigma	24.5 (6.5; range 10–40)
Social support	14.2 (5.6; range 0–20)
Support services needed (%)	
Basic[a] and clinical[b] services	34 (17.4)
Basic services only	47 (24.0)
Clinical services only	18 (9.2)
No services needed	97 (49.5)
Basic service score (n = 73)	1.9 (range 1–5)
Clinical service score (n = 52)	0.7 (range 1–3)
Disclosed HIV status to others	184 (93.9)
Use of social and/or sexual networking sites	180 (91.8)
Past 30-d alcohol use	74 (37.4)
Past 30-d tobacco, cigarette, e-cigarette, and/or hookah use	81 (40.9)
Past 30-d marijuana use	79 (39.9)

e-cigarette, electronic cigarette; GED, General Educational Development; HIV, human immunodeficiency virus; SD, standard deviation.

[a]Basic services include food, clothing, toiletries/hygiene products, transportation, employment services, and other (financial).

[b]Clinical services include case management, mental health counseling/treatment, substance use counseling or treatment, healthcare insurance counseling, healthcare service navigation, and hormone therapy.

Table 2.

Bivariate correlates of substance use (N = 196)

	Past 30-d alcohol use		Past 30-d tobacco, cigarette, e-cigarette, and/or hookah use		Past 30-d recreational marijuana use	
Substance use outcome	**OR (95% CI)**	***P***	**OR (95% CI)**	***P***	**OR (95% CI)**	***P***
Age	1.00 (0.94–1.07)	0.9	**1.09 (1.02–1.17)**	**0.01**	1.00 (0.94–1.07)	0.9
Male	1.23 (0.36–4.23)	0.7	0.96 (0.30–3.15)	0.9	0.64 (0.20–2.07)	0.5
White (White vs non-White)	1.08 (0.48–2.45)	0.9	0.93 (0.41–2.11)	0.9	**0.21 (0.07–0.64)**	**0.01**
Above high school diploma/GED	0.97 (0.54–1.76)	0.9	0.59 (0.33–1.06)	0.1	0.72 (0.40–1.28)	0.3
Employed full-time or student	1.45 (0.81–2.59)	0.2	**0.56 (0.32–1.00)**	**0.05**	0.79 (0.44–1.40)	0.4
Increased HIV-related stigma	1.00 (0.95–1.04)	0.9	1.03 (0.99–1.08)	0.1	**1.07 (1.02–1.12)**	**0.007**
Increased social support	1.04 (0.98–1.09)	0.9	0.97 (0.92–1.02)	0.3	0.98 (0.93–1.03)	0.4
Basic services needed	1.11 (0.87–1.41)	0.4	**1.61 (1.22–2.12)**	**0.01**	**1.31 (1.03–1.68)**	**0.03**
Clinical services needed	0.89 (0.58–1.36)	0.6	1.37 (0.91–2.06)	0.1	**0.57 (0.35–0.93)**	**0.02**
Disclosed HIV status to others	1.23 (0.36–4.23)	0.7	2.16 (0.57–8.24)	0.3	1.35 (0.39–4.63)	0.6
Use of social and/or sexual networking sites	2.82 (0.78–10.3)	0.1	1.57 (0.52–4.71)	0.4	0.84 (0.30–2.35)	0.7

Boldface type indicates significance at $P < 0.05$. CI, confidence interval; e-cigarette, electronic cigarette; GED, General Educational Development; HIV, human immunodeficiency virus; OR, odds ratio.

Table 3.

Multivariable correlates of substance use (N = 196)

Substance use outcome	Past 30-d alcohol use		Past 30-d tobacco, cigarette, e-cigarette, and/or hookah use		Past 30-d recreational marijuana	
	AOR (95% CI)	***P***	**AOR (95% CI)**	***P***	**AOR (95% CI)**	***P***
Age	NA		**1.12 (1.04–1.21)**	**0.003**	NA	
Male	NA		NA		NA	
Race/ethnicity (White vs non-White)	NA		NA		**0.25 (0.08–0.80)**	**0.02**
Above high school diploma/GED	NA		0.55 (0.28–1.05)	0.07	NA	
Employed full-time or student	1.40 (0.78–2.52)	0.3	0.88 (0.46–1.66)	0.7	NA	
Increased HIV-related stigma	NA		1.03 (0.98–1.08)	0.3	**1.07 (1.02–1.12)**	**0.01**
Increased social support	1.03 (0.97–1.09)	0.3	1.01 (0.95–1.08)	0.7	NA	
Basic services needed	NA		**1.58 (1.15–2.16)**	**0.005**	**1.60 (1.16–2.20)**	**0.004**
Clinical services needed	NA		0.97 (0.60–1.55)	0.9	**0.41 (0.22–0.75)**	**0.004**
Disclosed HIV status to others	NA		NA		NA	
Use of social and/or sexual networking sites	2.75 (0.75–10.1)	0.1	NA		NA	

Correlates are $P \leq 0.25$ from bivariate model. Boldface type indicates significance at $P < 0.05$. AOR, adjusted odds ratio; CI, confidence interval; e-cigarette, electronic cigarette; GED, General Educational Development; HIV, human immunodeficiency virus; NA, not included in the multivariable model.