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Lesbian, Gay, and Bisexual Adults Have Higher Prevalence of Illicit Opioid Use than Heterosexual Adults: Evidence from the National Survey on Drug Use and Health, 2015-2017

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Lesbian, Gay, and Bisexual Adults have Higher Prevalence of Illicit Opioid Use than Heterosexual Adults: Evidence from the National Survey on Drug Use and Health, 2015–2017

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Abstract

Purpose: We estimated illicit opioid use prevalence among LGB and heterosexual adults.
Methods: Cross-sectional National Survey on Drug Use and Health data (2015–2017) were used to estimate illicit opioid use prevalence by sexual identity, age, and gender.
Results: An estimated 1.1 million LGB adults used illicit opioids in the preceding 12 months (LGB adults: 9.8%; heterosexual adults: 4.24%). Prevalence of illicit opioid use was significantly higher among LGB women aged <50 and gay/bisexual men (18–25 and 50+) compared with their heterosexual counterparts.
Conclusions: Interventions targeting LGB illicit opioid use should account for possible differential minority stress associated with age and gender.

Keywords: adults, drug use, gender, opioid, prevalence, sexual minority

Introduction

Drug overdose is now the leading cause of injury-related mortality in the United States, due in large part to the opioid epidemic.[1] Recent calls to consider the economic and social determinants of the opioid epidemic highlight the role of physical and psychological trauma, social isolation and disadvantage, and despair.[2] Opioid use and its implications remain strongly patterned by age and cohort.[3] Opioid use is highest among younger adults, whereas overdose deaths are highest among middle-aged adults.[1] There is also evidence that the initiation of opioid use varies by age, whereby younger adults most likely begin using prescription opioids and older adults may use heroin first.[3,4] Older adults who misused prescription pain medications were more likely to have been prescribed them compared with younger adults who were more likely to acquire pain medications from nonphysician sources (e.g., peers).[5]

Although sexual minority stress reflects many of the psychosocial determinants of illicit opioid use, limited evidence has explored how LGB adults' high drug use operates within the current U.S. opioid public health emergency. Overall, LGB individuals have well-documented high rates of drug use and dependence.[6] LGB individuals' higher drug use is typically conceptualized as a strategy to cope with personal and vicarious experiences of stigma, discrimination, and stress in predominantly heterosexual societies.[7,8] Most research to date has focused on community studies among youth and documented that LGB individuals' drug use is highest among adolescents and young adults, with less information available on older adults.[6] Although prevalence of drug use among LGB adults decreases with age, the rate of decline varies by gender.[9] Indeed, patterns of LGB drug use vary by gender and sexual orientation across younger and middle adulthood; for example, bisexual women have particularly high rates of drug use.[6,9]

Building on evidence of opioid use from community-based samples of LGB adults,[10–12] recent analysis of 2015 National Survey on Drug Use and Health (NSDUH) data found that LGB adults had a higher odds of illicit opioid use than their heterosexual counterparts.[9] However, no studies have characterized epidemiological trends of opioid use prevalence differences by sexual identity (LGB adults vs. heterosexual adults) across multiple age and gender groups of U.S. adults using a nationally representative sample. To address this gap in evidence of prevalence of illicit opioid use among adults by sexual identity, gender, and age, we used data from the NSDUH,[13] an annual cross-sectional survey in all 50 states and D.C., and the only federal survey that included questions about both opioid use and sexual identity.

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We pooled 2015–2017 data among adults aged 18+ to estimate age- and gender-stratified prevalence differences between LGB and heterosexual adults.

Methods

Sample/population

We pooled cross-sectional NSDUH[13] data from 2015 to 2017, all years in which the NSDUH included both sexual identity and opioid use questions. The sample in this study included adults aged 18+ with complete data on our variables of interest, which are described in the Measures section. Our total unweighted sample size included 126,463 individuals; see Supplementary Table S1 for unweighted sample characteristics. The Smith College Institutional Review Board deemed this secondary data analysis of publicly available data to be exempt from review.

Measures

NSDUH imputed an indicator variable that considered opioid use in the past year from self-reported heroin use or prescription pain drug misuse in the past year. Self-reported heroin use was assessed among those who reported ever using heroin. Respondents were asked, ''How long has it been since you last used heroin?'' to which they reported one of the following responses ''within the past 30 days''; ''more than 30 days ago but within the past 12 months''; or ''more than 12 months ago.'' Misused prescription pain medication was calculated from a respondent's self-report of having used 1 of 10 groups of prescription pain medication in the preceding 12 months (e.g., OxyContin, oxycodone, and fentanyl). Of those who reported ''yes,'' respondents were asked subsequent questions about whether they had ''used prescription pain relievers in any way a doctor did not direct you to use them.''

In this article, we refer to the variable that combined heroin use and prescription pain medication misuse as ''illicit opioid use.'' Thus, our dependent variable was self-reported illicit opioid use in the preceding 12 months (yes/no). Respondents who either used heroin or misused prescription pain medication in the preceding 12 months were classified as having illicit opioid use; respondents who neither used heroin nor misused prescription pain medication in the preceding 12 months were classified as not having illicit opioid use.

Sexual identity was assessed from a self-reported response to the following interview question: ''Which one of the following do you consider yourself to be?'' to which respondents responded ''lesbian or gay,'' ''bisexual,'' or ''heterosexual, that is, straight.'' Interviewers identified and reported the respondent's gender as a binary gender (male/female). Respondents self-reported their date of birth, which the computer-assisted data collection system used to calculate the respondent's age in years. NSDUH categorized age into four categories: 18–24, 25–34, 35–49, and 50+. Additional data collection details are available in the NSDUH documentation.[13]

Statistical analysis

NSDUH used a complex multistage sampling strategy, and calculated sampling weights that generate estimates that represent the U.S. civilian, noninstitutionalized population aged 12 or older. We used the *survey* package in R to account for NSDUH clustered and stratified sampling design adjusted standard errors with Taylor series linearization for variance estimation.[14]

We describe the survey weighted prevalence (and 95% confidence intervals [CIs]) of estimated illicit opioid use in the preceding 12 months by sexual identity (LGB or heterosexual), age, and gender. We estimated percentage prevalence as well as the total estimated population of illicit opioid users in the preceding 12 months by sexual identity, age, and gender. We estimated prevalence differences in illicit opioid use by sexual identity (prevalence among LGB adults vs. prevalence among heterosexual adults) in each age and gender group. We chose to estimate prevalence differences on the additive scale as the best reflection of the absolute magnitude of health disparities, instead of a relative scale measure such as risk or odds ratios. To estimate prevalence differences, we fit survey-adjusted generalized linear regression models with an identity link, stratified by age and gender. Although the focus of this analysis was the prevalence difference within age groups, we also pooled adults of all ages and estimated prevalence differences of illicit opioid use between LGB and heterosexual adults by gender and race/ethnicity (Supplementary Table S2 and Supplementary Figs. S1 and S2). Statistical code for replication of these results is available from the corresponding author upon request.

Results

In this sample, there were 8241 LGB adults of whom 984 reported illicit opioid use in the preceding 12 months (unweighted percentage prevalence: 11.9), and 118,222 heterosexual adults of whom 6370 reported illicit opioid use (unweighted percentage prevalence: 5.4); see Supplementary Table S1. Survey weighted analyses of the estimated percentage prevalence and the estimated population of individuals reporting illicit opioid use in the preceding year in the United States by gender, age, and sexual identity are presented in Table 1. We estimated that, from 2015 to 2017, slightly more than 1.1 million LGB adults in the United States, on average, used illicit opioids in the preceding year based on NSDUH survey weighted population totals (Table 1).

Opioid use in the preceding 12 months was more prevalent among LGB adults than among heterosexual adults (Fig. 1) at all ages, particularly for women. Prevalence of illicit opioid use was significantly higher among LGB women than among heterosexual women within the age groups of 18–25, 26–34, and 35–49 (Table 1). Prevalence of illicit opioid use in the preceding year among LGB women ages 18–25 was 14.4% compared with 5.9% for heterosexual women of the same age (PD: 8.5, 95% CI: 6.8–10.2). Although prevalence of illicit opioid use was higher among gay and bisexual men than among heterosexual men, the differences were statistically significant only among younger (age 18–25) and older (age 50+) men. Six percent of gay and bisexual men aged 50+ reported illicit opioid use in the preceding year compared with 2.8% of heterosexual men of the same age (PD: 3.2, 95% CI: 0.3–6).

Discussion

The prevalence of illicit opioid use in the preceding 12 months among LGB adults was, on average, double the

Table 1. Weighted Estimated Population, Estimated Percentage Prevalence, and Prevalence Difference of Illicit Opioid Use by Sexual Identity, Gender, and Age: National Survey on Drug Use and Health, 2015–2017

		Estimated population of illicit opioid users (n)		*Estimated percentage prevalence of illicit opioid use (%)*		
Gender	*Age group*	*LGB*	*Heterosexual*	*LGB*	*Heterosexual*	*Prevalence difference (95% CI)*
Female	18–25	340,494	855,649	14.4	5.9	8.5 (6.8 to 10.2)***
Female	26–34	217,005	909,574	12.4	5.2	7.2 (5 to 9.4)***
Female	35–49	130,961	1,178,028	9.5	4.1	5.4 (2.6 to 8.1)***
Female	50+	43,987	1,168,594	3.7	2.1	1.6 (−0.5 to 3.8)
Male	18–25	119,996	1,316,595	11.4	8.2	3.2 (0.5 to 5.9)*
Male	26–34	90,131	1,517,432	9.4	8.4	1 (−1.8 to 3.8)
Male	35–49	66,563	1,431,537	7.3	5	2.2 (−0.2 to 4.6)
Male	50+	91,095	1,383,982	6	2.8	3.2 (0.3 to 6)*
Total	All	1,100,232	9,761,391	9.9	4.3	5.6 (4.8 to 6.5)***

*$p < 0.05$, ***$p < 0.001$. Prevalence differences are unadjusted. All estimates account for the NSDUH complex sample and sampling weights (linear Taylor series standard errors). Illicit opioid use refers to either heroin use or prescription pain medication misuse in the preceding 12 months.

CI, confidence interval; NSDUH, National Survey on Drug Use and Health.

prevalence among their heterosexual counterparts in the United States. This article presents the first data about how LGB disparities in drug use operate in the ongoing U.S. opioid public health emergency in multiple age groups of adults.[15] Our results suggest that LGB adults, especially younger LGB women and older gay and bisexual men, are a high-risk population for illicit opioid use.

Specifically, we found a significantly higher prevalence of illicit opioid use among younger LGB women (age <50), as well as the youngest (18–25) and oldest (50+) gay and

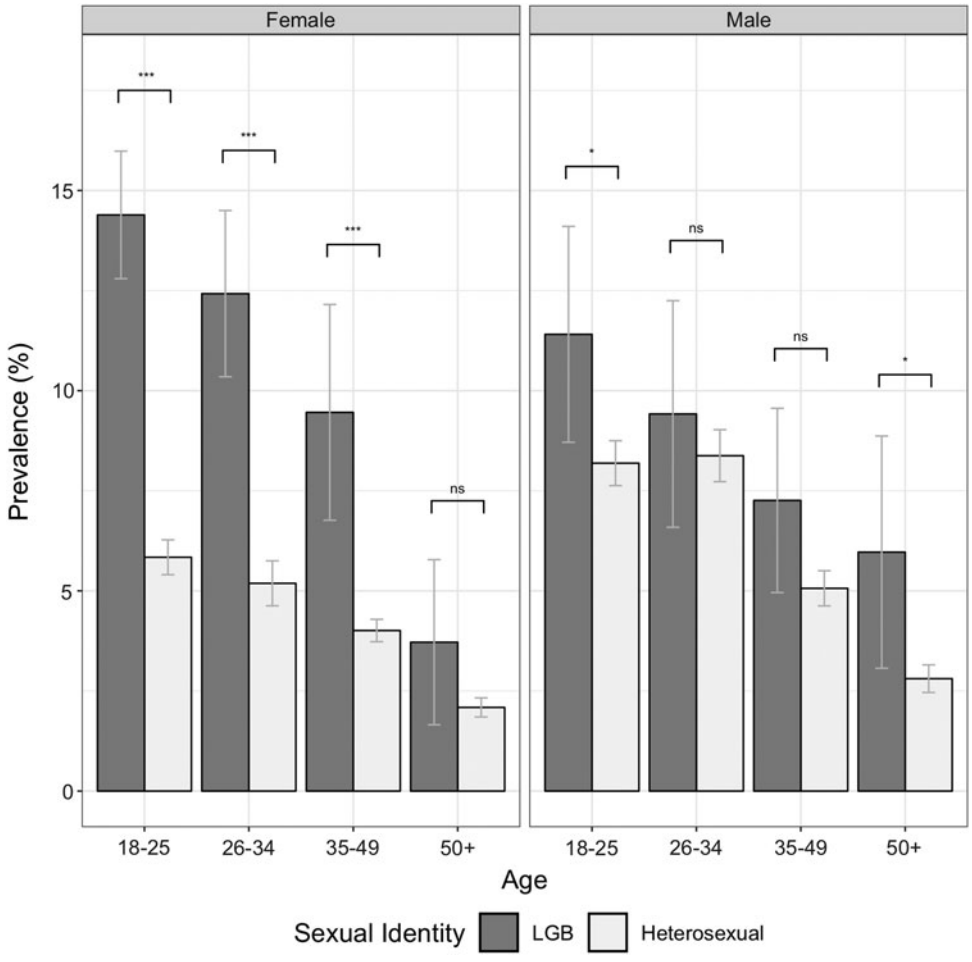

FIG. 1. Estimated percentage prevalence of illicit opioid use in the preceding 12 months by sexual identity, age, and gender: National Survey on Drug Use and Health, 2015–2017. ns: $p \geq 0.05$, *$p < 0.05$, ***$p < 0.001$.

bisexual men, compared with their heterosexual counterparts of the same age and sex. Almost 15% of LGB young women (18–25) reported illicit opioid use in the preceding 12 months. These patterns are fairly consistent with the literature on substance use, which shows that substance use wanes at later ages,[16] although others have noted that the ''protective'' factor of age may be less pronounced for sexual minority than for heterosexual adults.[16] Indeed, we showed evidence of the magnitude of prevalence decreasing with age, but still found a significantly higher prevalence of illicit opioid use in the preceding 12 months among gay and bisexual older men compared with their heterosexual counterparts.

Future epidemiological surveillance should consider specific sexual minority stress-related risk factors and other mental health outcomes; for example, minority stress mediators and illicit opioid use or illicit opioid use and depressive symptoms. These results are consistent with current conceptualizations about social determinants of the opioid epidemic resulting from psychological trauma[2] of which sexual minority adults face considerable amounts across their life course.[17] Culturally tailored services that address minority stress and are informed by trauma-focused interventions should be developed to address the specific needs of LGB individuals in different age groups.[18] Such interventions should acknowledge the impact of structural stigma that results in differential rights and opportunities for sexual minority adults compared with their heterosexual counterparts. Continued efforts to enhance LGB cultural competence among specialized treatment and primary care providers should include addressing providers' attitudes, knowledge, and skills, as well as creating a welcoming and safe clinical environment for LGB individuals.[19,20]

Limitations

Although we were unable to consider lesbian/gay and bisexual identities separately by gender and age due to small sample sizes, other researchers have shown that bisexual women are at particular risk for illicit opioid use compared with heterosexual women.[9] Although the Institute of Medicine called for increased intersectional approaches to LGBT health research,[17] we were unable to disaggregate the results further by race/ethnicity or socioeconomic status because of the smaller sample of sexual minority adults, even with 3 years of data. Moreover, during 2015–2017, the NSDUH did not include questions about gender identity; therefore, this analysis was limited to sexual orientation only. Future research should consider illicit opioid use among transgender adults. We note that the measure of illicit opioid use was self-reported and combined heroin use and prescription pain medication misuse; it is likely that self-reported data resulted in underreporting, and thus these estimates are likely biased toward the null. Clinical screening and treatment interventions, including LGB-supportive and tailored treatment options, as well as different treatment options by gender, may be warranted for LGB individuals.[21]

Conclusions

The results of this study of a nationally representative data set suggest that prevalence of illicit opioid use among LGB adults is, on average, approximately double that of heterosexual adults. The magnitude of this difference between LGB and heterosexual adults' illicit opioid use in the preceding year varied by age and gender. Prevalence of illicit opioid use among LGB women who were <50 years of age was significantly higher than prevalence among heterosexual women in the same age group. Prevalence of illicit opioid use among gay and bisexual men aged 18–25 and 50+ also was higher than among heterosexual men in the same age groups. This evidence extends the well-established patterns of LGB adults' high drug use to the current U.S. opioid public health emergency. Although recent calls to consider social determinants of illicit opioid use have not explicitly included sexual identity, the psychological trauma that is posited to drive the opioid epidemic fits well with sexual minority stress models that explain LGB individuals' drug use. Our results offer new empirical evidence that sexual identity, age, and gender are important factors to consider in addressing the current opioid public health emergency.

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Author Disclosure Statement

No competing financial interests exist.

Supplementary Material

Supplementary Table S1
Supplementary Table S2
Supplementary Figure S1
Supplementary Figure S2

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