assault survivors who receive medical care can also, if they choose, access psychosocial care, socioeconomic reinsertion opportunities, and legal aid through local partners.

Clinical care for sexual assault must be integrated into primary health care, especially in crisis settings. Once these services are available, the community must be told where to access immediate and anonymous care in case of sexual assault. The DRC government and the international community should ensure that health workers are trained to appropriately respond to survivors and that these services are available to all who need them. The DRC government and the international community should also uphold their commitments to end sexual violence and the impunity with which it is perpetrated against women in the DRC. ■

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Contributors

S.E. Casey and J. Austin participated in study conceptualization and design. S.E. Casey led the implementation of the study. S.E. Casey, M.C. Gallagher, and J. Austin analyzed the data. S.E. Casey and M.C. Gallagher led the writing of the article. J.L. Meyers, B.R. Makanda, M.C. Vinas, and J. Austin contributed to the writing of the article. All authors reviewed and approved the final version of the article.

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The institutional review boards of Columbia University's Mailman School of Public Health and the University of Kinshasa School of Public Health approved this study protocol.

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Increased Risk of Suicide Attempts Among Black and Latino Lesbians, Gay Men, and Bisexuals

Shannon O'Donnell, MD, MSc, MPH, Ilan H. Meyer, PhD, and Sharon Schwartz, PhD

Members of racial/ethnic minority groups have a lower lifetime prevalence than have Whites of mental disorders, a risk factor for suicide attempts; paradoxically, however, lesbian, gay, and bisexual (LGB) ethnic minority youths may be at increased risk for suicide attempts relative to White LGB youths. We found that the increased risk of suicide attempts among racial/ethnic minority LGB respondents in our sample relative to White respondents was not explained by excess youth onset of depression and substance abuse or by a higher susceptibility to suicide in the racial/ethnic minority LGB group. (*Am J Public Health.* 2011;101:1055–1059. doi:10.2105/AJPH.2010.300032)

Mood and substance use disorders are known risks for suicide.[1,2] Members of racial/ethnic minority groups have a lower lifetime risk for mental disorders than do Whites,[3–5] but, paradoxically, lesbian, gay, and bisexual (LGB) individuals of racial/ethnic minority backgrounds may be at an increased risk for suicide attempts relative to Whites.[5,6] Lifetime suicide attempt rates in the LGB population range from 10% to 40%,[7–15] compared with 0.4% to 5.1%[2] in the heterosexual population.

According to the minority stress model,[16] the excess prejudice, stigma, and discrimination encountered by sexual minority individuals lead to increased mental health problems in this population and a resulting increased risk of suicide. Explanations for disparities in suicide rates between the LGB and heterosexual populations

often cite the increased prevalence of such problems, including depression and substance abuse.[17] Researchers—primarily looking within LGB samples—have described additional risk factors related to minority stress, prejudice, stigma, and discrimination, including gender-atypical behavior,[14,18] family rejection,[15] and early age of self-labeling.[18]

Research evaluating racial/ethnic differences among LGB subpopulations is limited,[5,6,15,19–21] and much of the work that has been done has involved samples of men[6,19–21] or samples in which more than 70% of the respondents are White.[6,20,21] Within this literature, however, evidence suggests that Black and Latino LGB individuals are at increased risk for suicide attempts relative to White LGB individuals.[5,6] This finding is perplexing for 2 reasons.

First, this pattern is the inverse of the pattern in the general population, in which the rate of suicide among Whites is more than double that among Blacks and Latinos.[22] Second, in both the LGB population and the general population, the lifetime prevalence of mood and substance use disorders is lower among Blacks and Latinos than among Whites.[3–5] These disorders are consistently reported as the most robust risk factors for suicide.[1,2] The reason is unclear why Blacks and Latinos in the LGB population might have a higher prevalence of suicide attempts than Whites given their typically lower lifetime prevalence of mental disorders.

We tested 2 hypotheses in an effort to explain this unexpected finding. First, we hypothesized that although lifetime prevalence rates of mood and substance use disorders are lower among Black and Latino LGB adults than they were among White LGB adults, the opposite pattern would be observed among youths (i.e., higher rates among Black and Latino youths than among White youths). Because most suicide attempts in the LGB population occur among those younger than 25 years,[21] lifetime prevalence estimates of mood and substance use disorders may not provide an accurate understanding of disparities in suicide attempts between different LGB subgroups. To test our hypothesis, we determined whether major depressive disorder (MDD) or substance use disorders were present among LGB minority youths before a suicide attempt or before the age by which most suicide attempts occur. Our overall aim was to assess whether such disorders mediate the higher prevalence of suicide attempts among LGB minority youths despite the lack of lifetime between-group disparities in these disorders.

Our second hypothesis was that the increased susceptibility to suicide among racial/ethnic minority LGB individuals with mental disorders explains the increased risk of suicide attempts among racial/ethnic minority LGB youths. According to this hypothesis, despite the lower prevalence of MDD and substance use disorders in the Black and Latino LGB population, individuals in this group who are affected by one of these disorders are more likely than are White LGB individuals with such a disorder to attempt suicide.

METHODS

Our study population included 388 New York City LGB residents aged 18 to 59 years who were recruited through sampling at 274 Project Stride (Stress, Identity, and Mental Health) venues across 32 different zip code areas in the city and through snowball referrals made between February 2004 and January 2005. (Project Stride is described in more detail at http://www.columbia.edu/~im15.[5,23,24]) Of the participants, 50% were men; 33% were Black, 33% were Latino, and 34% were White.

Measures

Data on LGB orientation, race/ethnicity, and other demographic characteristics were self-reported. The computer-assisted World Mental Health Survey version of the World Health Organization's Composite International Diagnostic Interview (version 19)[25] was used to evaluate respondents with respect to diagnoses of MDD and substance use disorders (according to the *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition*[26]) and to assess suicidal behaviors.

Statistical Analysis

Despite the many differences between Black and Latino identities, we combined Black and Latino participants in our analyses to capture information on factors related to racial/ethnic minority status shared by Blacks and Latinos in the United States. When we computed results for each racial/ethnic group separately, they did not differ from the findings presented here.

We compared groups with respect to their suicide risk to test the hypothesis that MDD and substance use disorders in youth mediate[27,28] the association between minority status and increased risk for suicide attempts. Logistic regression was used to analyze the associations of minority race/ethnicity with suicide attempts and with youth-onset MDD and substance use disorders.

In evaluating youth-onset disorders, we coded a disorder as present only if its onset preceded age at first suicide attempt. Among those with no history of suicide attempts, we coded a disorder as present if its onset occurred before a specified critical age, defined as the age before the majority of suicide attempts might have occurred had they occurred among respondents who did not actually attempt suicide. We calculated this critical age as 1 standard deviation above the mean age at which suicide attempts occurred among attempters in our sample (17.4 years, SE=0.8). One standard deviation above that age was 6.5 years, and thus the critical age for the comparison group was calculated as 24 years.

We tested interactions of minority race/ethnicity with MDD and substance use disorders on a multiplicative scale. To do so, we used a logistic model interaction term to compare the risk of suicide attempts among Black and Latino respondents with MDD and substance use disorders with the risk among Whites with these disorders.

In addition to calculating crude odds ratios (ORs) and 95% confidence intervals (CIs), we calculated odds ratios adjusted for respondents' education, employment status, and negative net worth (a measure of financial resources indicating that a respondent's total financial assets were lower than his or her total debt) at the time of their interview; results showed that the adjusted values were not different from the crude values. SPSS version 18 (SPSS Inc, Chicago, IL) was used in conducting all of the statistical analyses.

TABLE 1—History of Suicide Attempt and Preattempt Major Depressive Disorder and Substance Use Disorders: Lesbian, Gay, and Bisexual Participants, New York, NY, 2004–2005

	Black (n = 128), % (SE)	Latino (n = 128), % (SE)	White (n = 132), % (SE)	Total (n = 388), % (SE)	χ^2 (*P*)
Lifetime suicide attempt	19.5 (3.5)	22.7 (3.7)	9.1 (2.5)	17.0 (1.9)	7.2 (.03)
Major depressive disorder					
Disorder present before or at age of suicide attempt	30.4 (9.8)	41.4 (9.3)	50.0 (15.1)	39.1 (6.1)	0.8 (.66)
Disorder present before age 24 y[a]	11.7 (3.2)	19.2 (4.0)	28.3 (4.1)	20.2 (2.2)	11.7 (.003)
Substance use disorder					
Disorder present before or at age of suicide attempt	17.4 (8.1)	24.1 (8.1)	25.0 (13.1)	21.9 (5.2)	0.3 (.85)
Disorder present before age 24 y[a]	19.4 (3.9)	22.2 (4.2)	32.5 (4.3)	25.2 (2.4)	8.1 (.02)

[a]Among respondents with no history of a suicide attempt, presence of major depressive disorder and substance use disorders before the age of 24 years (predefined as the upper age limit by which most suicide attempts occur) was assessed.

RESULTS

Table 1 displays the prevalence of lifetime suicide attempts as well as the prevalence of MDD and substance use disorders before a suicide attempt or before the age of 24 years (i.e., the critical age). Between-group comparisons showed that the risk of a suicide attempt was significantly elevated among Black and Latino respondents relative to White respondents (OR=2.7; 95% CI=1.4, 5.2). Our first hypothesis was that mood and substance use disorders in youth would mediate this increased risk. This hypothesis required that Black and Latino respondents have a higher prevalence of these disorders than White respondents. The data failed to support the hypothesis: racial/ethnic minority respondents had a lower risk than did White respondents of both MDD (OR=0.6; 95% CI=0.3, 0.9; data not shown) and substance use disorders (OR=0.6; 95% CI=0.4, 0.9; data not shown) before a suicide attempt (or, among those who did not attempt suicide, before the critical age).

In addition, controlling for MDD did not decrease the odds of a suicide attempt among racial/ethnic minority respondents (OR=3.1; 95% CI=1.5, 6.1), nor did controlling for substance use disorders (OR=2.6; 95% CI=1.3, 5.0). Table 2 presents the results of the models focusing on the relationships among minority race/ethnicity, MDD, substance use disorders, and suicide attempts.

Our second hypothesis asserted that interactions between race/ethnicity and MDD or substance use disorders could explain the increased risk of suicide attempts among Black and Latino respondents relative to White respondents. Our data failed to support this hypothesis as well: Black and Latino respondents with MDD were equally as likely as were White respondents with MDD to attempt suicide. The same finding was true for substance use disorders. Table 3 displays the results of the models focusing on interactions between race/ethnicity and the disorders assessed.

DISCUSSION

Our results expand on previous findings indicating that suicide risk among LGB individuals is related to race/ethnicity.[5,6] In our LGB sample, minority race/ethnicity was associated with a significantly increased risk of suicide attempts in youth. Also, we assessed whether this increased risk was associated with depression or substance use disorders. Our findings demonstrated that this elevated risk is not explained by excess mood and substance use disorders in youth among racial/ethnic minority individuals. Moreover, it is not a result of the higher risk of suicide among racial/ethnic minority LGB individuals with MDD and substance use disorders compared with White LGB individuals with these disorders. These results suggest that Black and Latino LGB individuals may be at elevated risk for suicide attempts even in the absence of the traditional markers of depression and substance abuse.

This study involved a nonrandom sample from an urban US city, and thus our prevalence estimates may not be generalizable to all LGB groups. The strength of the sample, however, is

TABLE 2—Relationships Between Minority Race/Ethnicity, Major Depressive Disorder, Substance Use Disorders, and Suicide Attempts: Lesbian, Gay, and Bisexual Participants (n = 64), New York, NY, 2004–2005

	Suicide Attempt Risk		
	Model 1, OR (95% CI)	Model 2, Adjusted OR (95% CI)	Model 3, Adjusted OR (95% CI)
Minority race/ethnicity	2.7* (1.4, 5.2)	3.1* (1.5, 6.1)	2.6* (1.3, 5.0)
Major depressive disorder	. . .	3.0* (1.7, 5.4)	. . .
Substance use disorders	. . .	. . .	0.9 (0.5, 1.8)

Note. CI = confidence interval; OR = odds ratio. Ellipses indicate that no analysis was conducted.
*$P < .05$.

TABLE 3—Interactions of Race/Ethnicity With Major Depressive Disorder (MDD) and Substance Use Disorders in Youth: Lesbian, Gay, and Bisexual Participants (n = 64), New York, NY, 2004–2005

	Suicide Attempt Risk	
	Model 1: Interaction With MDD, OR (95% CI)	Model 2: Interaction With Substance Use Disorders, OR (95% CI)
Minority race/ethnicity	2.8 (1.1, 6.9)	2.3 (1.1, 5.0)
MDD or substance use disorders	2.5 (0.8, 8.4)	0.7 (0.2, 2.7)
Minority race/ethnicity × MDD or substance use disorders	1.3 (0.3, 5.0)	1.5 (0.3, 7.0)

Note. CI = confidence interval; OR = odds ratio.

that it included a large number of LGB individuals recruited from a diverse selection of venues. In addition, it is one of the few samples of its size to be evenly representative of the 3 predominant racial/ethnic groups in the United States.

Our results are preliminary and suggest that further work is necessary to explain the perplexing findings that motivated our research. For example, although researchers have suggested that the shame and stigma associated with nonheterosexual behavior are increased in Latino cultures, in which collectivism and familial honor are strong,[29] this hypothesis has not been formally tested. Nor have possible racial/ethnic differences in the coming-out period or the experience of negative life events, such as violence and homelessness, been rigorously evaluated. Finally, evidence suggests that discrimination is associated with an increased risk of suicide attempts within LGB subpopulations, but the role of discrimination in mediating suicidal behavior among racial/ethnic minority LGB individuals has not been established.[30] Researchers assessing disparities in suicide rates between different racial/ethnic groups need to examine such social stress explanations by carefully examining causal pathways.[24,28] ■

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S. O'Donnell wrote the article, conducted the data analysis, and helped conceptualize the aims and data-analytic approach. I. H. Meyer designed the study, conceptualized the aims, cowrote the article, and helped with the data-analytic approach. S. Schwartz helped with the study design, conceptualized the aims, designed the data-analytic approach, and cowrote the article.

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Human Participant Protection

The Western Institutional Review Board approved this study. All respondents provided written informed consent.

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