Published in final edited form as:

Am J Addict. 2015 August ; 24(5): 391–395. doi:10.1111/ajad.12244.

A PILOT STUDY TO ASSESS TOBACCO USE AMONG SEXUAL MINORITIES IN HOUSTON, TEXAS

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Abstract

Background and Objectives—To assess tobacco use among lesbian, gay, bisexual, and transgender (LGBT) individuals from the 2014 Houston Pride Parade and Festival in Houston, Texas (TX).

Methods—Cross-sectional study using convenience sample of LGBT individuals (n=99) examining tobacco use, sexual orientation, and other socio-demographic factors through survey participation.

Results—Findings showed a high prevalence of tobacco and electronic cigarettes use. White LGBT individuals had greater odds of using any type of tobacco product.

Discussion and Conclusions—Despite a high smoking prevalence among the surveyed LGBT individuals, this study sample did not identify tobacco use as a health issue.

Scientific Significance—Supports the need for further investigation on tobacco-related disparities among LGBT individuals in Houston, TX.

Introduction

According to the Williams Institute, approximately 3.8% of adults in the US self-identify as lesbian, gay, bisexual, or transgender (LGBT) individuals, corresponding to about 9 million adults.¹ This percentage is similar to the 3.5% figure reported by the 2012 Gallup survey,

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Declaration of Interest

The authors report no conflicts of interest. The authors alone are responsible for the content and writing of this paper.

whose results were based on a poll conducted in all 50 states and the District of Columbia.² These statistics include those who self-identify as LGBT individuals, so actual numbers may be higher due to under-reporting of sexual orientation. In Texas (TX), the LGBT population makes up approximately 3.3% of the population.²

Smoking in the LGBT population has been reported from different sources as highly prevalent (30.8%), which is alarmingly higher than rates seen in the heterosexual population (20.5%).³ This can be attributed to several factors including additional stress felt by this population due to stigmatization and discrimination as well as targeted marketing by tobacco companies.⁴⁻⁶ Furthermore, smoking prevalence for LGBT youth is as high as that of LGBT adults, and before the age of 13 more than twice the numbers of gay, lesbian, and/or bisexual students had smoked a cigarette compared to their heterosexual counterparts.^{7,8} For these reasons, cancer risk in this group is higher than in the general population. In addition, The President's Cancer Panel specifically highlighted the risk of lesbian smokers as five times higher for breast cancer, colorectal cancer, and other cancers compared to other women.⁹ Gay men have been reported to receive cancer diagnoses 1.9 times that of heterosexual men.⁹ A higher incidence of cancer morbidity is seen in the LGBT population as a result of the aforementioned risks.⁹ Although preliminary data are available in this area, data on sexual orientation are often not collected along with tobacco use prevalence making research in this field far from complete.

In 2009, a systematic review of 42 peer-reviewed research articles published between 1987 and 2007 reported that odds ratios (OR) of smoking among LGBT individuals ranged from 1.5 to 2.5, in comparison to heterosexual populations.¹⁰ In addition, early reports from Arizona, California, Massachusetts, New Mexico, Oregon, and Washington found that members of the LGBT community smoke at a far greater rate than that of their heterosexual counterparts, although estimates varied widely.¹¹

In the 2014 Annual State Smoking Report Cards, a survey conducted in all 50 states by LGBT HealthLink, TX received a grade of "C+", indicating that work still needs to be done in order to increase LGBT inclusion in tobacco control practices at policy, training, data collection, and community engagement level.¹² While some progress has been made in the area of routine surveillance (e.g., the Texas Tobacco Quit Line currently collects sexual orientation data from its callers), a large proportion of tobacco users within the LGBT community in TX remains invisible. This obscurity proves the need of studies with population-based sampling that will inform the development and evaluation of tobacco prevention and control interventions for this at-risk group. Better understanding the profile and needs of the LGBT population at the local level, as well as the reasons why LGBT individuals use tobacco products, will likely aid researchers and community leaders in implementing efficacious cessation programs for this vulnerable group on a larger scale. Therefore, the objective of this study was to assess the prevalence of use of different tobacco products among a group of LGBT individuals participating in the 2014 Pride Parade and Festival in Houston, TX, and to explore factors that may affect tobacco use patterns in the LGBT population sample.

Methods

A cross-sectional survey (20 items), approved by the Institutional Review Board of The University of Texas MD Anderson Cancer Center, examined tobacco use, sexual orientation, and other socio-demographic factors. Our data collection instrument was adapted from the “Voices of Health, a survey of LGBT health in Minnesota”.¹³ Four trained interviewers used a paper-and-pen instrument distributed to LGBT adults (aged 18 year or older) participating in the 2014 Houston Pride Parade and Festival. All items used simple check boxes or Likert-type rating scales, with skip patterns when appropriate. LGBT study participants were initially stratified into cigarette smokers and non-cigarette smokers. All participants who responded “Yes” to the question “*Have you smoked at least 100 cigarettes (5 packs) in your entire life?*” and “*Do you now smoke every day or some days?*” were classified as current smokers, while non-cigarette smokers were those participants who responded “*Not at all*” or “*I have already quit*”. Current smokers who responded “Yes” to the question: “*Do you currently use any tobacco products other than cigarettes?*” and “*Do you currently use other forms of tobacco every day or some days?*” were classified as current tobacco users. All the other respondents were not using any type of tobacco products. The survey took approximately 7 minutes to complete. Self-identified LGBT individuals were eligible, regardless of smoking status. No remuneration of any kind was given to participants. To ensure anonymity, no code numbers or identifying information was included on the survey. Our main outcome was current tobacco use, which was defined as having smoked cigarettes or having used any other type of tobacco products every day or some days. Chi-squared statistics (or Fisher’s exact test, when appropriate) were used to assess differences in independent proportions between tobacco users and non-tobacco users. For continuous dependent variables, we used t-tests. In addition, we conducted logistic regression models to examine univariate and multivariable associations between socio-demographic risk factor and current tobacco use. Variables that were statistically significant at $p < 0.10$ in univariate analysis were entered into a multivariable logistic regression model, and retained in the final multivariable model with $p < 0.05$. Data were analyzed using SPSS v.22.0 (IBM Corp., Armonk, NY, USA).

Results

Socio-demographic and behavioral characteristics

In total, data pertaining to 99 respondents were analyzed. Table 1 shows the demographic characteristics of the respondents. In general, the majority of the respondents (mean age of 30 ± 11.0 years) were lesbian (40%), followed by gay (39%), bisexual (16%), and another sexual orientation (4%). Respondents were more likely to be white (42%), working full time (61%), single or not living with significant other (71%), covered by any kind of health insurance (69%), not living with children at home (84%), and “out” to their primary health care provider (80%). Twenty three percent of the sample reported high school or less as their highest level of education (Table 1).

Tobacco use-related and contextual characteristics

Fifty five percent of the respondents were current smokers (mean age of smoking initiation 16.6 ± 4.46 years). When adding current use of any type of tobacco products, tobacco use prevalence was as high as 61%. *Hookah* (water pipe, 12%) was the most common non-cigarette tobacco product consumed by study participants. Thirty percent of the respondents reported current use of nicotine delivery devices (e-cigarettes).

The majority of the respondents (63%) disagreed or were unsure that LGBT individuals smoke at a higher rate than the general population. In addition, when asked about the top health issues for the LGBT community that need more resources, only 6% of the study sample selected tobacco use and/or second hand smoke exposure.

Factors associated with current use of any type of tobacco products

In univariate analysis, the only factor associated with current tobacco use was race/ethnicity. The conditional logistic regression model with backward stepwise procedure for current tobacco use retained the same covariate (race/ethnicity), which achieved statistical significance. After controlling for age, sexual orientation, education, employment, relationship status, health insurance, children in the household, and being “out” to their doctor, white LGBT individuals were almost four times more likely to be current tobacco users [adjusted odd ratio (adj OR) = 3.80; 95% confidence interval (CI) 1.044–13.830; $p < 0.05$] than non-white LGBT individuals.

Discussion

This cross-sectional study characterized tobacco use patterns among a group of LGBT individuals attending the 2014 Pride Parade and Festival in Houston, TX and assessed the demographic and behavioral correlates of tobacco use in this disproportionately affected group. Our results showed an alarmingly high prevalence of tobacco use (both cigarette and non-cigarette tobacco products) among study participants (61%). According to 2011 data from the Centers for Disease Control and Prevention (CDC),¹⁴ the prevalence of cigarette smoking and smokeless tobacco use among the adult population in TX was 19% and 4%, respectively. This means that the prevalence of participants in our study is at nearly three times the rate of the general population in the state of Texas in 2011. Additionally, the prevalence of e-cigarette use among study participants was also high (30%). Due to the nature of our sample and study design, it is not possible to compare our results to the prevalence of e-cigarette use reported by the U.S. adult general population (2%).¹⁵ However, our results add to the growing body of scientific evidence that suggests a greater e-cigarette use among sexual minorities,³ indicating that these novel devices may help to perpetuate the prominent cigarette culture among the LGBT community.

Across the sexual minority spectrum of this study, lesbians had the highest tobacco use prevalence (40%). Within the sample and controlling for a number of demographic and behavioral characteristics, being an LGBT-non-Hispanic white individual was associated with a significantly increased likelihood of tobacco use. These findings are consistent with results from previous reports where being non-Hispanic white was associated with a greater

risk of cigarette smoking among gays, lesbians and bisexuals living in California,^{16,17} one of the few states with pioneering work on LGBT health issues.

Only 6% of the study participants included tobacco use and/or second hand smoke exposure among the top three health issues for the LGBT community in Houston. While the risk of selection bias could be considered, we excluded this possibility due to the fact that this particular health issue was third on a list of 13 health issues read to the study participants during the completion of the survey. Our results support the findings of Grov, *et al.* 2013, who reported smoking as the least important health issue for a sample of 660 gay and bisexual men living in New York City.¹⁸ Additional demographic and behavioral characteristics presented in this report are currently assisting the design and implementation of a larger sample size online tobacco survey. These results will assist in reinforcing educational strategies to prevent tobacco-associated health risks, which have somehow been minimized by the tobacco industry in an effort to normalize cigarette smoking and the use of other tobacco products within the LGBT community.^{19,20} Additionally, key lessons learned from a wide range of community-based tobacco control projects implemented across the nation,²¹ are serving as models for developing better and more culturally tailored tobacco interventions for the LGBT individuals living in Houston, TX.

Despite the important strengths of these preliminary findings, several limitations must be considered: 1) This study was based on cross-sectional data, therefore we cannot assume any causal relationships between risk factors and tobacco use, 2) our sample was selected using non-probability sampling methods, 3) tobacco use was based on self-report, 4) the small sample size may have yielded insufficient power to detect significant differences between tobacco users and non-tobacco users, and 5) selecting participants from a pride event may have resulted in individuals unrepresentative of the LGBT community as a whole in Houston, TX..

The LGBT community in our sample has not yet identified tobacco use as a health issue, despite the high prevalence of tobacco consumption. These pilot data support the need for further investigation on tobacco-related disparities among LGBT individuals in TX and, the imminent need for integrating routine questions on sexual orientation into state surveillance and designing tailored-tobacco cessation programs for this priority population.

Acknowledgments

This research was supported in part by funds from the Texas Tobacco Settlement (Houston, Texas) for Dr. Irene Tamí-Maury; by discretionary funds from Dr. Ellen R. Gritz (Houston, TX); by a cancer prevention fellowship for Hillary Lapham supported by the National Cancer Institute grant R25E CA056452-21A1, Shine Chang, PhD, Principal Investigator (Bethesda, Maryland); and by the National Institutes of Health MD Anderson Cancer Center Support Grant CA016672 (Bethesda, Maryland). The authors want to express their gratitude to Dylen Flunker, MPP from the Program in Human Sexuality at the University of Minnesota, for providing help in the design of the data abstraction instrument. We thank Scott B. Cantor, Ph.D. for his guidance in the submission of this study to the Institutional Review Board of The University of Texas MD Anderson Cancer Center and for believing in the importance of this research, and Ms. Debbie Torres for her assistance in the preparation of this manuscript. Also, the authors want to thank Houston Area Community Services (HACS) for the support provided during data collection.

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Table 1

Demographics for Tobacco users vs Non-tobacco users demographics from a sample of LGBT individuals attending the 2014 Houston Pride Parade and Festival

Characteristics	All Participants 95 ^b (100%)	Non- Current Tobacco Users ^a 37 (39%)	Curent Tobacco Users 58 (61%)	<i>p</i> value
Mean Age (±SD)	30±11.0	29±9.3	31±12.1	0.301
Sexual Orientation				
Gay	37 (39.4)	16 (43.2)	21 (36.8)	0.877
Lesbian	38 (40.4)	14 (37.8)	24 (42.1)	
Bisexual	15 (16.0)	6 (16.2)	9 (15.8)	
Other ^c	4 (4.3)	1 (2.7)	3 (5.3)	
Gender at Birth				
Male	44 (48.9)	16 (47.1)	28 (50.0)	0.787
Female	46 (51.1)	18 (52.9)	28 (50.0)	
Gender Identity				
Male	45 (47.9)	17 (45.9)	28 (49.1)	0.576
Female	44 (46.8)	19 (51.4)	25 (43.9)	
Transgender	5 (5.3)	1 (2.7)	4 (7.0)	
Ethnicity				
White/Caucasian	39 (41.9)	10 (27.8)	29 (50.9)	0.033
Black/African American	7 (7.5)	3 (8.3)	4 (7.0)	
Hispanic/Latino	32 (34.4)	12 (33.3)	20 (35.1)	
Other	15 (16.1)	11 (30.6)	4 (7.0)	
Highest level of education				
High school or less	19 (22.6)	4 (12.1)	15 (29.4)	0.094
Some college	38 (45.2)	19 (57.6)	19 (37.3)	
University or higher	27 (32.1)	10 (30.3)	17 (33.3)	
Work Status				
Full Time	51 (60.7)	20 (62.5)	31 (59.6)	0.558
Part Time	18 (21.4)	8 (25.0)	10 (19.2)	
Not Working/Volunteer	15 (17.9)	4 (12.5)	11 (21.2)	
Living Status				
Single (not living w/sig. ^d)	60 (71.4)	27 (81.8)	33 (64.7)	0.090
Married (living w/sig. ^d)	24 (28.6)	6 (18.2)	18 (35.3)	
Health Care Coverage				
Yes	59 (68.6)	22 (71.0)	37 (67.3)	0.723
No	27 (31.4)	9 (29.0)	18 (32.7)	
Children Living With				
Yes	13 (15.7)	5 (15.6)	8 (15.7)	0.994
No	70 (84.3)	27 (84.4)	43 (84.3)	
“Out” to Primary Doctor				
Yes	57 (80.3)	23 (79.3)	34 (81.0)	0.962

Characteristics	All Participants 95 ^b (100%)	Non- Current Tobacco Users ^a 37 (39%)	Curent Tobacco Users 58 (61%)	<i>p</i> value
Somewhat	2 (2.8)	1 (3.4)	1 (2.4)	
No	12 (16.9)	5 (17.2)	7 (16.7)	

^aIncludes cigarette smokers and users of any type of tobacco products

^bDue to missing data not all the variables add up to the total sample (n=99).

^cIncludes queer, pansexual, and asexual.

^dwith significant other.