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ABSTRACT There is limited research documenting health disparities between gay and bisexual males. This study examined health behaviors and outcomes -- substance use, mental health, and homelessness -- of young gay and bisexual males in Chicago. Data was from a cross-sectional survey of 180 bisexual and gay males age 16-24. Bivariate results indicate that bisexual males experience higher rates of homelessness, daily marijuana use, depressive symptoms, lifetime gonorrhea and chlamydia. Logistic regression results reveal homelessness was significantly associated with marijuana use, gonorrhea, chlamydia, and depressive symptoms. Research on disparities within sexual minorities and homelessness are needed to better understand pathways.

INTRODUCTION

Health disparities between lesbian, gay, bisexual, and transgender (LGBT) populations and the heterosexual population have been documented on a range of issues from sexual health to substance use to mental health (Mayer, et al., 2008). The majority of research investigating LGBT health disparities combines these sexual minority identities into one category, which has resulted in a lack of clarity surrounding different health behaviors and outcomes within the LGBT community.

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From the few studies examining health disparities between LGBT youth, substance use has been found to be higher among bisexual youth than among gay and lesbian youth. A cross sectional study on adolescents and young adults found that having partners of both genders was associated with higher prevalence of marijuana, alcohol, cocaine, and injection drug; the study also found that being attracted to and having sexual experiences with both genders was associated with higher marijuana use, binge drinking, and overall substance use (Brewster & Tillman, 2012). A longitudinal study found that youth who identified as bisexual had higher use of alcohol, binge drinking and drunkenness than their gay or heterosexual counterparts (Marshal, et al., 2009). A study using the longitudinal and nationally representative Adolescent Health data found youth with both partners most likely to have used any illegal drugs and twice as likely

than those with only opposite or same sex partners to smoke tobacco regularly (Udry & Chantala, 2002).

It is well documented that depression, suicidal ideation and attempt are higher among those who identify as gay and bisexual than those who identify as heterosexual (Eisenber & Resnick, 2006; Heeringen & Vincke, 2000; King, et al., 2008; Paul, et al., 2002). A study of young and middle-aged adults found bisexual males to have significantly higher rates of anxiety and depression compared to heterosexual and homosexual males (Jorm, et al., 2002).

Men who have sex with men, including gay and bisexual men, have documented higher rates of sexually transmitted infections, including HIV (Benson & Hergenroeder, 2005; Celentano, et al., 2005; CDC). However, existing research has examined all MSM together resulting in little research on differing STI rates between gay and bisexual males.

Sexual minority youth experience homelessness at alarmingly higher rates than heterosexual youth. A representative survey of Massachusetts's high school students found prevalence of homelessness at 3% for heterosexual students, 15% for bisexual students, and 25% for lesbian and gay students (Corliss, et al., 2011). Numerous studies have documented the increased risk and prevalence of homelessness among sexual minorities (National Alliance to End Homelessness). Similar to research on STIs, existing literature has documented higher rates of homelessness among LGBT populations, but has not differentiated these rates between identities.

As research surrounding the LGBT community has grown there remains limited research that documents differences between gay and bisexual males. This study was conducted to better understand the differences and disparities in health behaviors and outcomes among young gay and bisexual males in Chicago.

METHODS

Study Procedures

This study used data collected in 2012 as part of the Chicago Young Men's Health Study (CYMHS), which surveyed 200 young men who have sex with men on a range of health behaviors and health status indicators. Participants were recruited using online advertisements, flyers and handcards at community venues and peer referrals. Eligibility criteria required participants to be between ages 16-24, born biological male, and having oral or anal sex with another male within the past year. Written consent was collected from all participants 18 years and older. Written informed assent was obtained from participants younger than 18; documentation of parental consent was waived to avoid selection biases of only recruiting youth whose parents are aware and comfortable with their sexual orientation. The research protocol was approved the institutional review board at DePaul University. The survey was administrated in English using audio computer assisted survey interview format (ACASI). The survey took 1 hour to complete. Participants were paid $40 for their time.

Measures

Demographic variables of interest were collected including age, race/ethnicity, sexual orientation, education and employment. Past year homelessness was assessed by asking if participants had ever experienced homelessness during the past 12 months. The Center for Epidemiologic Studies (CESD) depression scale was utilized to measure depressive symptomology over the previous seven days. The scale is a 20-item measure that has been widely used to assess depressive symptomology in ethnically diverse groups of adolescents (Perreria, et al., 2005; Prescott, et al., 1998; Radloff, 1991). Alcohol use was assessed in multiple ways. Typical drinking behaviors were assessed by asking how many drinks containing alcohol participants have on a typical day when they are drinking. Weekly binge drinking was assessed by asking during the past three months how often did participants have 5 or more drinks of alcohol in one day. Marijuana use was assessed by asking how often participants smoked marijuana with a response scale ranging from do not smoke, once a month or less, more than once a month but less than once a week, one or more times a week, but not every day;

Table 1. Participant Characteristics

	Bisexual (n=56)		**Gay** (n=124)		**Stat. Signif.**	
	M	SD	M	SD	Chi sq.	p
Age	20.9	2.09	20.8	2.16		N/S
Race/Ethnicity	n	%	n	%		N/S
Black/African American	27	48.21	37	66.07	57.156	.002
White/Caucasian	4	7.14	39	31.45		N/S
Latino/Hispanic	14	25	38	30.65		N/S
Multi-racial/Other	12	21.43	10	8.06		N/S
Diploma	45	80.36	109	87.90		N/S
No Diploma	12	21.43	15	12.10		N/S
Homelessness	38	67.86	30	24.19	34.450	.000
Daily Marijuana Use	16	28.57	15	12.10	7.776	.020
Major Depressive Symptoms	25	44.64	34	27.42	5.271	.072
Minor Depressive Symptoms	23	41.07	54	43.55		N/S
Typical Drinking is Binge	17	30.36	44	35.48		N/S
At Least Weekly Binge Drinking	16	28.57	33	26.61		N/S
Gonorrhea	10	17.86	11	8.87	13.488	.036
Chlamydia	11	19.64	7	5.65	12.469	.052
Syphilis	6	10.71	9	7.26		N/S
HPV Positive	1	1.79	10	8.06		N/S
HIV Positive	3	5.36	12	9.68		N/S
HIV Status Unknown	3	5.36	19	15.32		N/S
Insertive UAI with casual Partner	13	23.21	19	15.32		N/S
Receptive UAI with casual Partner	9	16.07	18	14.52		N/S
Insertive UAI with anonymous partner	5	8.93	12	9.68		N/S
Receptive UAI with anonymous partner	5	8.93	10	8.06		N/S
Any Hard Drug Use (cocaine, methamphetamine, ecstasy, heroin)	5	8.93	8	6.54		N/S
Unprotected vaginal sex	26	46.43	2	1.61	56.652	.000

and every day. Both alcohol and marijuana assessed use within the previous three months. STI variables were dichotomized ("Have you ever had chlamydia?"). Sexual risk behaviors were assessed including unprotected anal intercourse (UAI) and unprotected vaginal intercourse (UVI) during previous three months.

Data Analysis

For the purpose of this study only males who identified as gay or bisexual were included (n=180). Average age of both gay and bisexual participants was 20.8 (SD=2.09).

Of the bisexual participants, approximately 48% identified as Black/African American, 7% identified as white/Caucasian, 25% identified as Latino/Hispanic, and 21% identified as multi-racial/other. Of the gay participants, approximately 30% identified as Black/African American, 31% identified as white/Caucasian, 31% identified as Latino/Hispanic, 8% identified as multi-racial/other. The data was analyzed using SPSS. Bivariate analyses were conducted to compare self-reported prevalence of STIs, unprotected anal intercourse (UAI) with casual and anonymous partners, unprotected vaginal sex (UVI), substance use, depressive symptoms, and homelessness in past 12 months among males who identify as gay (n=124) and who identify as bisexual (n=56). Due to results of bivariate analyses, we entered bisexual identity, African American race/ethnicity and homelessness in past 12 months as predictors in logistic regression models examining the health variables of interest.

RESULTS

Participant characteristics are presented in Table 1. Bisexual males were significantly more likely to have experienced homelessness in the past 12 months, report daily marijuana use, lifetime prevalence of gonorrhea and unprotected vaginal intercourse. Chlamydia was close to being statistically significant at the .052 level. Due to the significant differences between gay and bisexual participants in terms of homelessness and African American identity, we conducted post hoc analysis using bisexual identity, being African American, and homelessness as possible predictors in multivariate logistic regression models examining the health variables for which there were significant differences in the bivariate analyses. Multivariate analyses indicated that homelessness was significantly associated with daily marijuana use (OR=3.65), chlamydia (OR=5.27), gonorrhea (OR=3.19), and major depressive symptoms (OR=4.63). Bisexual identity was not significantly associated with any of the health outcomes in the multivariate analyses.

Table 2. Logistic Regression Results

	Bisexual Identity	**Homeless-ness Past 12 Months**	**African American**
	OR (95% C.I.)	OR (95% C.I.)	OR (95% C.I.)
Daily Marijuana Use	1.97 (.85, 4.53)	3.65*** (1.51,8.82)	.57 (.25, 1.33)
Major Depressive Symptoms	1.29 (.63, 2.65)	4.63*** (2.28, 9.41)	.786 (.39, 1.57)
Chlamydia	2.14 (.78, 5.89)	5.27** (1.55, 17.93)	1.30 (.47, 3.57)
Gonorrhea	1.23 (.48, 3.21)	3.19* (1.15, 8.86)	2.26 (.88, 5.77)

*****p<.001**
****<p.01**
***p<.05**

DISCUSSION

This study examined disparities in health behaviors and outcomes in young gay and bisexual males in Chicago. Initial bivariate results showed bisexual males more likely to be African American, experience homelessness in the past 12 months, use marijuana daily, and report lifetime prevalence of gonorrhea and chlamydia. Our multivariate findings show that homelessness, not bisexual identity or being African American, was significantly associated with daily marijuana use, chlamydia, gonorrhea, and major depressive symptoms. The multivariate findings show that young males who experience homelessness were two times more likely to use marijuana daily, four times more likely to have major depressive symptoms, five times more likely to ever had chlamydia and two times more likely to ever had gonorrhea.

The multivariate results suggest that it is homelessness, not sexual identity per se, that is driving the health disparities between young bisexual and gay males in this sample. Although this study originally examined differences between bisexual and gay males, the role of homelessness has emerged as the most significant finding.

Homelessness among LGBT youth needs further research and most importantly, interventions. The lived experiences of LGBT youth experiencing homelessness is documented to be more difficult than their stably housed LGBT counterparts and their heterosexual homeless counterparts; LGBT homeless youth experience higher rates of risky sexual behavior, survival sex, sexually transmitted infections, substance abuse, depressive symptoms, and suicide attempts (Cochran et al. 2002; Gattis 2013; Rew et al. 2005; Van Leeuwen et al. 2005). Furthermore, services oriented towards homeless LGBT persons are limited. A study by the William's Institute at UCLA found that over 94% of homeless providers served LGBT persons, but only 24% offered specialized services oriented for the LGBT population (Durso & Gates, 2012). The intersectionality of identities, needs, and disparities that LGBT youth experience demands action.

HIV and syphilis rates were not significantly different. Gonorrhea and chlamydia rates were likely higher in bisexual males because of female partners. Gonorrhea and chlamydia often do not present symptoms in females and can unknowingly be transmitted (Zimmerman, et al. 1990). There was also no significant difference on measures of alcohol consumption and binge drinking. Research shows a correlation between binge drinking and increased risky sexual behaviors (Woolf & Maisto, 2009) so it is not surprising that neither were significant.

This study has several limitations. The cross-sectional study design limits our ability to infer causal relationships among the variables analyzed. Non-probability and convenience sampling methods limit the generalizability of our findings to wider populations of young gay and bisexual males. Self-report data is a limitation because of possible recall bias.

The high rates of homelessness, marijuana use, STI prevalence, and depressive symptoms among bisexual and African American young men needs to be further studied. There is a growing body research showing health disparities among bisexual male youth compared to gay-identified male youth (Agronick, O'Donnell, Stueve, San Doval, Duran, & Vargo, 2004; Gwadz, et al., 2006). Most importantly, further research is needed to better understand the health disparities occurring among LGBT youth and emerging adults who experience homelessness. These findings underscore the importance of future research into disparities within LGBT populations.

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