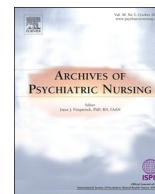




Contents lists available at ScienceDirect

Archives of Psychiatric Nursing

journal homepage: www.elsevier.com/locate/apnu

Violence and substance use in sexual minorities: Data from the Second Brazilian National Alcohol and Drugs Survey (II BNADS)

Alessandra Diehl^{a,*}, Sandra Cristina Pillon^{b,e}, Raul Caetano^c, Clarice Sandi Madruga^a, Christopher Wagstaff^d, Ronaldo Laranjeira^a

^a Federal University of São Paulo (UNIFESP), Psychiatric Department, Brazil

^b University of São Paulo (USP), Psychiatric Nursing and Human Science Department, Faculty of Nursing at Ribeirão Preto, Brazil

^c Prevention Research Centre, Pacific Institute for Research and Evaluation, Oakland, California, United States of America

^d School of Nursing, Institute of Clinical Sciences, College of Medical and Dental Sciences, University of Birmingham, Birmingham, England, UK

^e PAHO/WHO Collaborating Centre for Nursing Research Development, Brazil

ARTICLE INFO

Keywords:

Substance use disorder
Sexual minorities
Sexual orientation
Violence
Adult survivors of child abuse

ABSTRACT

Objective: To describe the prevalence of substance use and the associations between adverse early life experiences, sexual behaviour and violence in sexual minority (SM) individuals.

Methods: The Brazilian National Alcohol and Drugs Survey is a probabilistic household survey performed in 2012, collecting data from 4067 Brazilians aged 14 years and older.

Results: 3.4% of the sample declared themselves as sexual minorities, 53.8% female, 66.5% single, mean age of 29.5 years (standard deviation 16.0 years). A high prevalence of alcohol dependence (15.2%) and binge drinking (22.2%) was identified in the SM group. Respondents were more likely to use crack cocaine and hallucinogens, to have been involved in child prostitution, child sexual abuse and to report suicidal ideation in the previous year. Respondents were also more likely to engage in unprotected sex compared to non-sexual minorities. Nearly one-third referred to having suffered homophobic discrimination in their lives. Respondents also reported higher rates of domestic violence (18.9%) and urban violence (18%) among the SM.

Conclusion: The findings reinforce that violence directed at individuals in the Brazilian SM community begins early in life and persists into adulthood when compared to non-sexual minorities. This population is also more exposed to substance use disorders.

Introduction

Sexual minority (SM) individuals include a wide range of sexual orientations (lesbian, gay, bisexual, asexual), gender identities (transgender, two-spirited, *travesti*, third gender, intersexual, queer, and questioning) and expressions (agender, pangender, gender queer). They are generally based on sexual identity, behaviour or attraction (Beek, Cohen-Kettenis, & Kreukels, 2016; Drescher, 2010), face significant forms of violence (Basch, 2011; Mahomed & Trangoš, 2016; Walsh, 2016), which is largely unrecognised by both SM communities and in broader society (Diehl et al., 2017; DiStefano, 2009). The violence is combined with additional health risks (Blondeel et al., 2016) and a higher burden of mental disorders (Flentje, Leon, Carrico, Zheng, & Dilley, 2016; King et al., 2008; Skerrett & Mars, 2014), including substance use (Berger & Mooney-Somers, 2016; Hughes, Wilsnack, & Kantor, 2016; Mereish & Bradford, 2014) when compared to the

general population and heterosexual and cisgender peers (Bouris, Everrett, Heath, Elsaesser, & Neilands, 2016; D'haese, Dewaele, & Houtte, 2016; Kerridge et al., 2017).

Evidence suggests that lesbians are significantly more likely to drink in binge patterns than heterosexual women (Hughes et al., 2016; Rosario, 2008). Bisexual women, on the other hand, report drinking more damagingly than heterosexual or lesbian women (Rosario, 2008; Wilsnack et al., 2008). Bisexual adults have significantly higher rates of alcohol abuse (22.6%) than their heterosexual peers (14.3%) (Substance Abuse and Mental Health Services Administration [SAMHSA], 2012). This difference in alcohol consumption is only significant among bisexual women (23.7%) (VanKim & Padilla, 2010). Studies have also shown that gay men use substances, including alcohol, illicit drugs (amphetamines and other club drugs) and prescription drugs (Keckojevic et al., 2012) at higher rates than the general population (Halkitis & Jerome, 2008; Ross et al., 2014).

* Corresponding author at: Borges Lagoa, 570 7th floor, Vila Clementino, CEP 04038-020 São Paulo, SP, Brazil.

E-mail addresses: alediehl@terra.com.br (A. Diehl), C.Wagstaff@bham.ac.uk (C. Wagstaff).

<https://doi.org/10.1016/j.apnu.2019.11.003>

Received 25 December 2018; Received in revised form 30 October 2019; Accepted 9 November 2019

0883-9417/ © 2019 Published by Elsevier Inc.

Among transgender individuals, studies have shown that marijuana, crack and alcohol are the substances which are most commonly used. Other studies have found high rates of methamphetamine use (4–46%) and injectable drug use (2–40%) in the transgender population (SAMHSA, 2012). Some studies suggest that rates of tobacco use among transgender people may vary from 45 to 74% (Clements-Nolle, Marx, Guzman, & Katz, 2001; SAMHSA, 2012; Zians, 2006).

In 2015, the Global Drug Survey evaluated a large sample of 58,963 individuals (16 to 35 years old) from nine different countries, comparing across sexual orientation subgroups, showing that SM adolescents and young adults generally reported higher rates of alcohol and other drugs use, starting at an earlier age compared to heterosexual peers. Differences in substance use were greater among women than male and rates of substance use were generally higher among bisexuals than homosexuals of both genders (Demant et al., 2016).

Some researchers have drawn upon minority stress theories (Hequembourg & Brallier, 2009; Lea, de Wit, & Reynolds, 2014) to understand increased rates of substance use in SM individuals (Hequembourg & Dearing, 2013), attributing many specific vulnerabilities to these communities. These stress factors include homophobia; poor social and family support; exposure to violence, aggression, or harassment; victimisation across development; experiences of rejection and discrimination; internalised homophobia; the ‘coming out process’; eventful and/or chronic stressors that give rise to exacerbation of other stressors experienced across the life course (Blosnich & Horn, 2011; Parks, Hughes, & Kinnison, 2007; Rosario, Schrimshaw, Hunter, & Levy-Warren, 2009; Woodhead et al., 2016). Beginning with childhood maltreatment and through adulthood with other forms of violence, people of SM experience alarmingly high rates of victimisation from multiple sources. Additionally, sexual minorities also experience high rates of victimisation within intimate relationships (DiStefano, 2009; van Anders, 2015).

Regarding exposure to violence, studies have shown that both lesbian and gay men report having suffered harassment or physical violence in their family due to their sexual orientation (Duncan, Hatzenbuehler, & Johnson, 2014). Compared with heterosexual adults, higher prevalence rates of gay and lesbian adults, and bisexual adults, reported having been victims of intimate partner violence (Gross, Aurand, & Addessa, 2000; VanKim & Padilla, 2010).

Studies also suggest that access to treatment services for substance use for the SM are often characterised by discrimination, hostility and insensitivity of the service provider, rigour in binary gender (female/male) facilities, segregation within programmes and lack of acceptance in specific gender-specific recovery groups (Clements-Nolle et al., 2001; Zians, 2006).

Despite the international literature available, many large-scale drug surveys have rarely investigated sexual orientation and gender identity. However, when this subject is explored, results show smaller gender differences in alcohol use and related problems among the SM than among heterosexuals (Hughes et al., 2016). Few population surveys have been conducted on substance use (Hughes et al., 2016) and violence in low and middle-income countries, especially in developing countries such as Brazil, have been constantly highlighted as among the most homophobic and transphobic countries of the world (Grupo Gay da Bahia, 2013). Brazil has a high rate of homophobic crime: every 26 h a non-heterosexual individual is murdered. Furthermore, over 40% of all murders of people from SM group occur in Brazil. Common weaknesses of previous studies are that samples consist of homogenous SM only, without investigation into group differences (Reisner, Falb, Wagenen, Grasso, & Bradford, 2013).

We hypothesize, in this current study, SM group presents experience higher level of violence suffered throughout life, substance use (primarily stimulants), as well as, engaging higher risk sexual behaviours when compared to heterosexual peers.

The aims of this study are to describe the patterns and prevalence of substance use, sexual behaviour and violence (exposure to adverse early

life events, child sexual abuse, domestic violence, urban violence and homophobia) in SM individuals compared to those not identified as SM in a Brazilian populational national sample.

Methods

Ethical issues

This study was approved by the Federal University of São Paulo (UNIFESP) Ethics Committee (protocol number 1672/04). All adult participants signed an informed consent form and assent forms were signed by the adolescents/minors (under 18 years old) in an individual interview and conducted in a private place. With the adolescent participants legal guardians signed the assent terms used in the Free, Prior and Informed Consent (FPIC) process. The participants did not receive any funds or compensation for participating in this study. The FPIC was obtained by the reading of the text, conducted by a trained researcher. Identification of Brazilian indigenous natives was made through the self-declaration of the participant at the time of asking the variable race/origin (white, black, brown, yellow, indigenous, refuses to speak their race). Regarding the assessment/comprehension, the interviewer was instructed to complete open-ended questions from the questionnaire, such as “Above all, do you think the respondent understood all the questions well?” “Did you think the respondent answered the questions as carefully and as best as possible?” or “Note down any other impressions, observations and occurrences during the questionnaire application?” which together with the educational level helped the team to select and difficulty understanding the questionnaire.

The Second Brazilian National Alcohol and Drugs Survey (II BNADS), conducted in 2012, using a multistage cluster sampling procedure to select 4607 individuals aged 14 years old or older – including 1157 adolescents (9.4% 14–17 years) – from the Brazilian population. Brazilian residents who do not speak Portuguese (native Brazilians living in the Amazonian forest) and individuals with severe intellectual disability were excluded from the sample.

The overall response rate was 77%, and 79% within the adolescent sample. The II BNADS sampling involved three stages: selection of 149 counties using probability-proportional-to-size methods; selection of a total of 375 census sectors from within those counties, also using probability-proportional-to-size methods; and within each census sector, selection of eight households, by simple random sampling and selection of one member of each household to be interviewed, by the ‘the closest future birthday’ technique (Abdalla et al., 2014).

To guarantee confidentiality, those questions considered sensitive, such as illicit drug use, sexual orientation and childhood sexual abuse (CSA) were not asked face-to-face, but self-completed and returned in sealed envelopes to the interviewer.

Measurements

Sociodemographic characteristics

The variables investigated were: sex at birth, age, marital status, race, schooling years, religious affiliation, occupational status and family monthly income that was based on the Minimum Wage (MW) assessed during the survey period at \$ 545.00 in 2012 when data were collected.

Sexual minority (SM)

The question, “How do you define your sexual orientation?” was asked in a self-completed questionnaire and returned in a sealed envelope as described above, this category was created by authors with a binary variable called ‘Sexual Minority’ (the term LGBTQI+ remains less recognised in Brazil) from all the answer forms of sexual orientation and gender identity apart from heterosexual or cisgender, comprising of individuals who self-identified as homosexual, bisexual, transgender, questioning or pansexual individuals. The cisgender and heterosexual

individuals were designated as non-sexual minorities.

Alcohol consumption

Alcohol use disorder (AUD) was assessed with the Portuguese-language version of the Composite International Diagnostic Interview (CIDI 2.1), adapted for use in Brazil (Quintana, Andreoli, Jorge, Gastal, & Miranda, 2004). Although the 2006 and 2012 BNADS II series both pre-dated the fifth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5), the questionnaire included questions related to craving, which allowed AUD to be diagnosed on the basis of the eleven corresponding DSM-5 criteria (American Psychiatric Association [APA], 2013). Individuals who had met two or more of those criteria in the past 12 months were classified as having AUD.

Binge drinking

We defined binge drinking (BD) as proposed in 2004 by the National Advisory Council to the National Institute on Alcohol Abuse and Alcoholism (NIAAA), which considers it a pattern of drinking that brings the blood alcohol concentration to 0.08 g/dl or above. For the typical adult, this pattern corresponds to women consuming ≥ 4 drinks over a period of approximately 2 h (NIAAA, 2004–2005). The questionnaire addressed this subject with the following yes/no question: 'In the last 12 months, have you drunk four or more shots of any alcoholic beverage, on any given occasion, over a period of approximately two hours?'

Illegal substance use

Defined as lifetime, or past 12 months, self-reported use of the following substances: cannabis, amphetamine type stimulants (ATS), defined by the use of amphetamines (such as speed, crystal meth, ecstasy and other MDMA alternatives); crack/cocaine; crack and cannabis (bazooka combination of crack and marijuana) cocaine; and other illegal drugs, defined by the use of solvents (glue and ether-chloride spray), opioids (heroin and morphine) and hallucinogens (LSD, magic mushrooms). To guarantee confidentiality, the questions considered sensitive, such as illicit drug use, sexual orientation and childhood sexual abuse were not asked face-to-face, but completed separately by the participant and returned in sealed envelopes.

Sexual behaviours

Included frequency of condom use, history of sexual experience in exchange for money before 18 years of age, history of sexually transmitted infections (STIs) and treatment.

Adverse early life experience (AELE)

Evaluates two domains: a) sexual violence: 'During your childhood or adolescence, have you been sexually abused, were you maliciously touched, forced to perform oral sex or had sex with someone older than you or had involvement in prostitution'; b) physical violence: assessed similarly but investigating of physical aggression. A binary variable was created where 1 was coded for individuals who answered affirmatively to at least one of the questions.

Exposure to violence during adulthood (EVA)

Assessment adapted from the Conflict Tactics Scales Form R developed by Straus (1979) with cross-cultural adaptation to Brazilian Portuguese, published by Hasselmann and Reichenheim (2003). Respondents were asked a total of nine questions about the occurrence of different types of violent behaviours in the last 12 months, including minor violence (throwing something; pushing, grabbing, or shoving; slapping) and severe violence (kicking, biting, or hitting; hitting or trying to hit with something; burning or scalding; forced sex; threatening with a knife or gun; using a knife or gun). First, respondents were asked if they had perpetrated these acts against their partner and then were asked to report if their partner has perpetrated these acts against them. Based on their responses, a four-level variable was created (none,

one, two, three or more events). A binary variable was also created combining the events, where one was determined as the individuals who were positive (as victims or perpetrators) for at least one event (Hasselmann & Reichenheim, 2003; Straus, 1979).

Suicide ideation and suicide attempts

Investigated by direct Yes/No questions regarding thoughts and suicide attempts in the last 12 months.

Statistical analysis

Data was analysed using Stata 12. All estimates of prevalence rates were made using the appropriate Stata survey commands (svy) to generate robust standard errors. Statistical analyses included the Chi-square test or Fisher's exact test for small samples in the bivariate analysis. These tests allow for evaluation of the relationship between variable: dependent (SM Group and Non-SM Group) and co-variable: information socio-demographic, substance use prevalence and patterns of consumption, sexual behaviours, AELE, violence and suicide (ideation and attempts). Logistic regression was used adjusted odds ratios (OR) with 95% confidence intervals (CI) were calculated for the associations between dependent variable, Sexual Minorities with co-variables: socio-demographic information, AUD, binge drinking (BD), illicit substance use, AELE, EVA, suicidal (thoughts / attempts), and sexual behaviour (HIV, STIs and use condoms in sexual intercourses). All the logistic regression models were adjusted by co-variables, such as socio-demographics (age and religion). Due to the large amount of missing information, the variables sex at birth, schooling and income were excluded from analysis. Subsequently, the collinearity test (using a variance inflation factor VIF) was used to evaluate how much the variance is inflated and the correlation among explanatory variables. However, variables such as treatment for alcoholism, having been victim, perpetrator or mutual violence (victim or perpetrator) of domestic violence were not included in the multivariate analysis, because of lack of collinearity between two (or more) independent variables.

Then the final logistic regression model was performed. The significance level of 5% was used for all statistical tests.

Results

Sociodemographic profile

The total sample ($n = 4205$), a little over half of the sample was female, with a mean of age of 35.8 (standard deviation [SD] 18.8 years) ranging from 14 to 99 years. The sample was also almost equally split between married and unmarried, adults and Caucasian. The participants had studied until elementary school (49.3%), did not work (75.4%), were Catholic (63.4%) and 57.9% reached the monthly minimum wage family income (less than R\$ 545 Brazilian Real in 2012). The sociodemographic profile is presented in Table 1.

In the sample, 3.4% ($n = 158$) self-identified themselves as being SM, half of them (50.6%) self-declared as homosexuals (51.2% gay men and 48.8% lesbians) and the other half were 20.3% bisexual, 17.1% transsexuals, 7.6% pansexual and 4.4% were uncertain (did not know exactly about their sexual orientation and/or their gender identity). Nine percent did not answer the question about sexual orientation and gender identity.

In the bivariate analysis, the SM group were younger (mean age 29.5 and SD 16.0 years versus $35.7 \pm SD = 18.8$ for non-sexual minorities), unmarried (66.5% SM versus 54.2% non-SM) and Catholic (63.9% SM versus 62.7% non-SM).

Substance use

AUD and BD were higher among SM individuals when compared to non-SM (15.2% and 22.2% respectively). Regarding the use of illicit

Table 1
Socio-demographic data of Brazilian sexual minorities and non-sexual minorities (N = 4607).

		Sexual minorities 158 (3.4%)	Non-sexual minorities 4047 (87.8%)	p-Value
Age ^a	Mean ± SD	29.5 ± 16.0	35.7 ± 18.8	< 0.001*
	n (%)		n (%)	
Sex at birth ^b	Female	85 (53.8)	2207 (54.5)	0.855
	Male	73 (46.2)	1840 (45.5)	
Marital status ^b	Unmarried	105 (66.5)	2194 (54.2)	0.002*
	Married	53 (33.5)	1853 (45.8)	
Schooling years ^b	< 8 years	65 (41.1)	1753 (43.3)	0.588
	> 8 years	93 (58.9)	2294 (56.7)	
Current job	No	123 (77.8)	3047 (75.3)	0.464
	Yes	35 (22.2)	1000 (24.7)	
Race ^b	Caucasian	67 (42.4)	1666 (41.2)	0.836
	Non-Caucasian	91 (57.6)	2374 (58.8)	
Religion ^c	Catholic	101 (63.9)	2533 (62.7)	0.002*
	Evangelic	23 (14.6)	987 (24.4)	
	Spiritualistic	9 (5.7)	137 (3.4)	
	Others	25 (15.8)	383 (9.5)	
Salary range ^b	< 1 MW	60 (66.7)	1429 (57.6)	0.464
	> 1 MW	30 (33.3)	1054 (42.4)	

Note: SD = standard deviation. MW - Minimum Wage = R\$ 545,00 (2012).

^a Independent t-test.

^b Chi-square test.

^c Fisher's exact test.

* p-Value ≤ 0,05.

substances, the SM group presented higher prevalence of cocaine use (7.6%), hallucinogens (7.0%), marijuana (5.1%), amphetamine stimulants (ATS) (3.2%), crack (1.9%), smoked crack with marijuana (1.3%), steroid use (2.9%) and at least one drug of abuse (any illegal drug) (10.8%) in the last 12 months when compared with the non SM. In addition, 21.9% were tobacco smokers, however, no statistical differences were observed between the SM and non- SM individuals. Injectable drug use was observed in only one case among the SM participants. Age of drinking onset (mean ± standard deviation 16.6 ± 4.5 versus 17.0 ± 5.6 years, $p > 0.05$), marijuana (17.7 ± 3.3 versus 17.2 ± 3.9 years, $p > 0.05$) and cocaine (19.3 ± 3.3 versus 18.8 years, $p > 0.05$) but these were not statistically significant (Table 2).

Adverse early life events (AELE)

Childhood Sexual Abuse (CSA) rates were higher among the SM (13.6%) and in this group, 7.5% were involved in early prostitution, 7.3% suffered sexual abuse and physical violence (19.7%) in childhood, when compared to the non- SM.

Exposure to violence in adulthood (EVA)

Higher percentages of domestic violence (18.9%), urban violence (18.0%) and mutual violence in at least one event (15.1%) were observed among the SM participants and almost a third mentioned having suffered homophobic discrimination in their lives (See Table 2).

Sexual behaviour

The sexual behaviours of the SM and non-SM are presented in Table 2. In the SM group, more than half (55.8%) of the participants did not use, or rarely use, condoms in sexual intercourse, 7.5% were given money for sex before the age of 18 years, 2.1% are HIV positive, 3.5% had STIs in their lives and 3.8% had previous treatment for STIs.

Table 2
Substance use prevalence and patterns, sexual behaviours, AELE, violence and suicide attempts in sexual minorities and non-sexual minorities (N = 4067).

	Sexual minorities 158 (3.8%)	Non-sexual minorities 4047 (87.8%)	p-Value*
	n (%)	n (%)	
Substance use			
Alcohol dependence ^a	24 (15.2)	334 (8.3)	0.002
Binge-drinking, at least once time a month ^a	35 (22.2)	644 (15.9)	0.003
Crack use ^b	3 (1.9)	14 (0.3)	0.003
Cocaine use ^b	12 (7.6)	102 (2.5)	< 0.001
Cocaine and/or crack use in the last 12 months ^b	7 (4.4)	61 (1.5)	0.004
At least one illegal drug use in the last year ^b	17(10.8)	161 (4.0)	< 0.001
Marijuana use ^b	8 (5.1)	50 (1.2)	< 0.001
Marijuana smoked with crack use ^b	2 (1.3)	8 (0.2)	0.007
Anabolic use ^b	4 (2.9)	16 (0.4)	< 0.001
Hallucinogens use ^b	7 (5.1)	28 (0.7)	< 0.001
Solvents use ^a	12 (8.6)	68 (1.8)	< 0.001
Amphetamine stimulants use (ATS) ^b	5 (3.2)	49 (1.2)	0.032
Tobacco use ^a	31 (19.6)	889 (22.0)	0.484
Adverse early life experiences			
Child sexual abuse ^b	21 (13.6)	169 (4.2)	< 0.001
Physical violence ^b	27 (17.1)	357 (8.8)	< 0.001
Prostitution ^b	11 (7.5)	37 (1.0)	< 0.001
Sexual violence ^b	11 (7.3)	85 (2.2)	< 0.001
Exposure to violence			
Urban violence ^b	27 (18)	342 (8.9)	< 0.001
Domestic violence ^b	10 (18.9)	118 (6.3)	< 0.001
Homophobic discrimination ^b	9 (29)	2 (0.4)	< 0.001
Victim and/or perpetrator of domestic violence ^a	86 (4.6)	8 (15.1)	< 0.001
Suicide ideation ^a	31 (21.1)	347 (9.1)	< 0.001
Suicide attempts ^b	18 (12.2)	185 (4.9)	< 0.001
STIs and sexual behaviour			
HIV positive ^b	3 (2.1)	10 (0.3)	< 0.001
IST and HIV ^b	6 (3.8)	43 (1.1)	0.002
HIV positive and/or IST in life ^b	5 (3.5)	42 (1.1)	0.009
Not use or rarely use condoms in sexual intercourse ^a	77 (55.8)	1439 (39.7)	< 0.001

^a Chi-square test.

^b Fisher's exact test.

* p-Value ≤ 0,05.

Suicide ideation and suicide attempts

A predominance of individuals in the SM group, had suicidal thoughts (21.1% SM versus 9.1% Non-SM Group) and suicide attempts (12.2% SM versus 4.9% Non-SM Group) when compared to non-SM. Moreover, in the multivariate analysis, the participants in the SM group presented almost three times more chances of present suicidal ideation (OR = 2.8 (IC 95% 1.40–5.53) (Table 3).

Logistic regression analysis

A half part of the SM participants belonged to the Evangelical church. SM was highly associated with the use of most illicit substances, with an 11 times greater chance of using crack/cocaine and being more likely to use hallucinogens. The SM group had nearly four times more chances of experiencing childhood prostitution and the chances doubled of both experiencing CSA and also in the reporting of inconsistent condom use.

Table 3
Adjusted odds ratio in the logistic regression model sexual minorities and non-sexual minorities.

		ORA [CI95%]	p-Value
Age	< 59 years	REF	0.161
	> 60 years	0.54 (0.23–1.28)	
Evangelical	No	REF	0.018*
	Yes	0.50 (0.28–0.89)	
Crack use	No	REF	0.043*
	Yes	11.5 (1.08–123.48)	
Crack and marijuana use	No	REF	0.183
	Yes	0.09 (0.00–3.08)	
Hallucinogens use	No	REF	0.006*
	Yes	5.4 (1.64–17.95)	
Anabolic use	No	REF	0.769
	Yes	1.3 (0.21–8.45)	
Suicide ideation	No	REF	0.004*
	Yes	2.8 (1.40–5.53)	
Any illicit drug use	No	REF	0.580
	Yes	0.83 (0.42–1.62)	
Suicide attempts	No	REF	0.570
	Yes	0.78 (0.33–1.84)	
Child sexual abuse	No	REF	0.044*
	Yes	2.0 (1.02–3.94)	
Prostitution	No	REF	0.003*
	Yes	3.9 (1.61–9.87)	
Not use or rarely use condoms in sexual intercours	No	REF	0.001*
	Yes	2.0 (1.32–3.06)	
ISTs in life/HIV positive	No	REF	0.085
	Yes	2.6 (0.85–7.72)	
Victim of urban violence	No	REF	0.142
	Yes	1.5 (0.86–2.78)	
Perpetrator of urban violence	No	REF	0.808
	Yes	0.9 (0.40–2.04)	

Note: ORA = odds ratio adjusted. CI = confidential interval.

* p -Value $\leq 0,05$.

Discussion

The findings of this study showing that people in the Brazilian sexual minorities have increased chances of substance use (especially crack and hallucinogens use) and AUD when compared to non SM which corroborating the hypotheses of the study. In addition, several measures of violence increased, reinforcing that violence against sexual minorities and other vulnerabilities (such as early prostitution, CSA) are sadly remain prevalent issues. These issues need to be addressed in order to reduce and stop the human rights violations in many countries around the world, including Brazil where these issues seem alarmingly prevalent (United Nations Human Rights Office of the High Commissioner, 2012).

It was no surprise that the Brazilian sexual minorities do not belong to evangelical church. With regard public expressions of religion the country is defined by religious pluralism. However, the prevailing Christian doctrine (regardless of the denomination) has negatively impacted upon tolerance of SM. The Christian hegemony in Brazil has negatively impacted the African-Brazilian religions with increased religious intolerance in the country, as has been seen with other religions around the world (Guedes, 2015; Lui, 2008). The National Secretariat of Human Rights reported 697 cases of religious intolerance in the states of São Paulo, Rio de Janeiro and Minas Gerais between 2011 and December 2015. In the state of Rio, CEPLIR, the agency which protects and promotes religious freedom and human rights, reported 1014 cases between July 2012 and August 2015, with 71% cases being against followers of African-based religions, 7.7% against evangelicals, 3.8% against Catholics, 3.8% against Jews and 3.8% against religious freedom in general. Religious intolerance in Brazil has been criticised worldwide for contributing to the 'pathologisation' of non-heteronormative sexual orientations and trans identities.

Literature has previously established that aggression, violence and

intolerance begin very early in the lives of people in sexual minorities. Non-acceptance begins first at home by family members who, due to unpreparedness, lack of knowledge, fear, stigma and social prejudice, end up reprimanding and harassing any manifestation of non-heteronormative orientation. Studies have shown that both lesbian and gay men report harassment or physical violence from family members due to their sexual orientation. Compared with heterosexual adults (17.5%), a significantly higher percentage of gay or lesbian adults (56.4%) and bisexual adults (47.4%) reported having been victims of intimate partner violence (Gross et al., 2000; VanKim & Padilla, 2010).

Homophobia and transphobia are complex social phenomena; and are of great concern in many countries around the world as the high rates that continue to occur, and the subsequent waste of creativity, productivity, and above all, humanity among people (Fernandes, 2013; Lyons et al., 2017; Mizock, 2017). Brazil has the highest level of homophobic hate crimes globally: every 21 h an individual with non-heterosexual sexual orientation is murdered in the country. In addition, 40% of all worldwide murders against SM individuals occur in Brazil (Grupo Gay da Bahia, 2013). Homophobia and transphobia are understood to be any form of rejection, hatred, anger or aversion to homosexuals and transsexuals perpetuated against non-heterosexual and non-cisgender people (Fernandes, 2013; Lyons et al., 2017).

Tobacco use was not as significantly different in this sample as had been expected, although other population studies have shown that tobacco use is still rising in the SM community despite the global tendency towards a decrease (American Lung Association [ALA], 2010). Our findings do not corroborate results from other international studies on the significant use of tobacco in the SM (Blosnich & Horn, 2011; Sell & Dunn, 2008). Research on the tobacco industry has documented targeted media campaigns to boost smoking among lesbians and gays in the marketplace. The tobacco industry has long understood the role that sexual orientation may play in the acceptance of smoking and the targeted marketing of brands (Sell & Dunn, 2008).

However, it was surprising to find that the likelihood of crack use was 11 times greater in sexual minorities, since other studies have shown that alcohol, amphetamines and other club drugs are more prevalent in this population. The data from this study reflects the current situation in Brazil, where it has already been established that Brazil is the world's largest crack market. About 1.8 million people reported using crack during their lifetime, with one million people using crack regularly (Abdalla et al., 2014; Dias et al., 2011). Despite the stability in the prevalence of cocaine use in the world, particularly in the United States of America, the crack cocaine market has expanded rapidly in other countries (United Nations Office on Drugs and Crime [UNODC], 2014), causing multiple social and health problems (Abdalla et al., 2014; Moreira, Barbosa, & Mitsushiro, 2014). One of the key impacts of crack cocaine use in Brazil has been the negative health consequences, including chronic and acute illness, disability and elevated mortality rates (Dias et al., 2011; Fagan, 1993). Most of the crack users in Brazil are young, poor, socio-economically marginalised and involved in petty crime (Chaves, Sanchez, Ribeiro, & Nappo, 2011). Many factors, such as the emergence of relatively cheap and widely available crack cocaine and the widespread violence in drug trafficking, have led to an increase in drug-related violence. The costs associated with drug-related violence are also substantial (UNODC, 2014). Within this context, it can be inferred that people in SM population, with the aforementioned accumulated vulnerabilities throughout their lives, are even more vulnerable to the consumption of this drug, which, in turns, leads to further marginalisation and social impoverishment.

With regards to the findings of this study that members of the Brazilian SM being more likely to be victims of violence, it is not hard to imagine that they are victims of double stigma, both homo/trans phobia and the stigma against substance users. A national population study conducted in 2009, published in 2011, on homophobia found that 41% of the Brazilian population reported repulsion, hate or antipathy towards living with drug users. Additionally, around a quarter of people

said they also have the same feelings towards SM people (Venturi & Bokany, 2011). Although Brazil has used legislation to promote the provision of comprehensive healthcare services for transgender and other SM persons, there is still strong resistance to the implementation of such laws and policies (Diehl et al., 2017). The existence of laws does not guarantee that provision will be implemented and it is vital that governments intervene to ensure that rights which have been formally secured can, in practice, be exercised. The rights guarantee is neither an isolated issue nor a quarrel confined to trans militants, but intrinsic to the struggle for human rights, in line with the Declaration of Human Rights which states that 'all human beings are born free and equal in dignity and rights' (United Nations Human Rights Office of the High Commissioner, 2012). A society's respect for sexual diversity reflects its level of education and political maturity. Brazil faces a huge challenge to become a country where human rights are respected (Diehl et al., 2017; United Nations Human Rights Office of the High Commissioner, 2012).

Many studies have shown that suicide and suicide attempts are increased among the sexual minorities, as well as CSA and child prostitution which contribute to the vulnerabilities of this population. The odds of SM youths attempting suicide are approximately two to seven times greater than the odds for heterosexuals or their cisgender peers. Half of young transgender people have thought about suicide. Over 40% of young transgender people report having attempted suicide (Grossman & D'Augelli, 2007; Spirito & Esposito-Smythers, 2006). Studies with SM adults have also shown that the issue of suicide is a theme that remains important (King et al., 2008). Adults with substance use disorders have reported higher rates of CSA and neglect when compared to adults without substance use disorder (Banducci, Hoffman, Lejuez, & Koenen, 2014a; Darke & Torok, 2014). About 40–90% of substance users report a history of childhood abuse. Individuals who experience childhood abuse are twice as likely to have substance use disorders in adulthood when compared to the general population (Banducci et al., 2014a). Physical, sexual, and emotional abuse or neglect, were evaluated as predictors of persistent alcohol (odds 1.50 higher and 1.37 higher to nicotine dependence) (Elliott et al., 2014). It has been estimated that 30% of psychiatric disorders diagnosed in adults might be directly linked to childhood experiences. Child abuse increases the likelihood of substance use and doubles psychopathological comorbidity incidence (Banducci, Hoffman, Lejuez, & Koenen, 2014b). This condition seems to be associated with earlier drug use initiation (Moran & Vuchinich, 2004; Garner, Hunter, Smith, Smith, & Godley, 2014); and may play a significant role in alcohol, nicotine and other drug dependence severity and development, through an internalising pathway involving negative effects. Suicide and CSA are major public health problems worldwide. Identifying populations that are at highest risk of suicidal ideation, suicide attempts, self-assaulting behaviours and victimisation, as seen in the sexual minorities group are important strategies in the prevention of suicide and mistreatment, and the consequent reduction of these rates (Minh et al., 2013; Schwandt, Hommer, George, & Ramchandani, 2013; Smith et al., 2015).

Strengths

For the first time in Brazil, nationally representative prevalence rates of alcohol and drug problems in the SM population were estimated using a methodology that ensures participants' confidentiality. Additionally, as Brazil is a large country, this probabilistic sample allowed for the inclusion of people from both rural areas, urban cities and people also from the Amazon region, these latter two being under-represented in national studies. It is worth mentioning that the present study, by being a transversal populational study and its 92.4% response rate, tended to reduce selection bias.

Limitations

The number of people identifying as SM in this probabilistic sample seems to be underestimated, since previous national studies using different methodologies have found a higher prevalence rate of individuals. A study developed by Abdo (2004) had a non-census sample of 7103 volunteers, older than 18 years, which revealed that among women, 96.7% defined themselves as heterosexual, 2.4% as homosexual and 0.9% as bisexual. Among men, 92% defined themselves as heterosexual, 6.1% as homosexual and 1.8% as bisexual. However, participants were recruited from squares, parks, beaches and shopping malls in 13 Brazilian states, suggesting possible selection bias (Abdo, 2004). Another national study with a different methodological design by Berquó and Barbosa (2008) on Brazilian sexual behaviour did not investigate sexual orientation and gender identity, only sexual behaviour. On the one hand, the question about sexual orientation (which inaccurately included gender identity as being a dimension of sexual orientation) in this current study was made privately in an envelope in order to guarantee greater privacy and try to reduce information bias and consequently greater reliability of the response. However, on the other, the low level of education of the population and even fear of prejudice may have hindered the understanding of the issue and the omission of true sexual orientation and gender identity respectively, since 8.8% did not answer the question. However, the Brazilian SM sample size is quite similar to the US National Survey on Drug Use and Health (NSDUH), which identified 4.3% of adults aged 18 years or older as a SM, including 1.8% who identified as being gay or lesbian and 2.5% who identified as being bisexual (NSDUH, 2015).

Another limitation of this study is that the question about condom use was phrased as the use and non-use of condom and the frequency of use. This tends to limit the respondent to male to male (or male to female) sexual behavior and could exclude responses from others such as Lesbians - a neutral phrase such as "protected sex" would have been more inclusive.

Implications for clinical practice and public policies

The data from this study reinforces that SM individuals should be considered as a priority population in mental health care services, preventive interventions and in the treatment of alcohol and other drug dependencies (SAMHSA, 2012). The skills in recognising these relevant issues are crucial elements in health promotion, prevention, access facilitation and the availability of health care for this group of people (Talley, 2013). In this context, the increasing substance use and violence in the SM has important implications in public health policy planning, for research development and professional training in health services (Green & Feinstein, 2012).

Health and social institutional services need to be sensitive to individuals who may be sexually variant. Those providing services need to work towards banning negative attitudes and prejudices, ensuring that services are friendly and accessible (Diehl et al., 2017; Kalra, Ventriglio, & Bhugra, 2015). Training for healthcare workers should be expanded to helping them to welcome people from the sexual minorities into health services, to deliver sex education programmes and promote awareness of sexual orientation and gender variations among the general population to achieve a cultural shift towards greater tolerance of gender diversity (Diehl et al., 2017; Muller & Knauth, 2008). Such initiatives would contribute to a reduction in the stigma associated with non-standard gender identities, sexual orientation variance, and the active promotion of the human rights of individuals with such identities (Diehl et al., 2017).

Implications for future study

As the international literature shows that there are higher rates of substance use in bisexuals, compared with homosexuals, among both

genders and larger differences between female groups, it is important for future studies try to differentiate between SM identities in substance use research (Demant et al., 2016). In the BNADS (2012) data the number of lesbians, gay men and transsexuals included is too small in order to draw significant conclusions. Therefore we recommend that future studies examine the difference in substance use patterns in these populations.

Conclusion

The data reinforces that violence directed towards the Brazilian sexual minorities begins early in life and persists in adulthood when compared to the heterosexual and cisgender populations, corroborating the hypothesis of the study. Additionally, there is a greater prevalence of crack and hallucinogen use in the SM group, compared to heterosexual and cisgender peers.

Funding

The study received financial support from the National Council for Scientific and Technological Development (CNPq), Ministry of Science and Technology, Brazil.

Declaration of competing interest

The author(s) declare no potential conflicts of interest with respect to the research authorship and/or publication of this article.

References

- Abdalla, R. R., Madruga, C. S., Ribeiro, M., Pinsky, I., Caetano, R., & Laranjeira, R. (2014). Prevalence of cocaine use in Brazil: Data from the II Brazilian national alcohol and drugs survey (BNADS). *Journal of Addictive Behaviors*, 39(1), 297–301.
- Abdo, C. H. N. (2004). [Estudo da vida sexual do Brasileiro (EVSB)]. *Brazilian sexual life study*. São Paulo: Editora Bregantini.
- American Lung Association (ALA). (2010). Smoking out a deadly threat: Tobacco use in the LGBT community. Available from: <http://www.lungusa.org/about-us/our-impact/top-stories/smoking-out.html> (accessed June 31, 2017).
- American Psychiatric Association (APA) (2013). *Diagnostic and Statistical Manual Of Mental Disorders: DSM-5*. Washington, D.C: American Psychiatric Association.
- Banducci, A. N., Hoffman, E. M., Lejuez, C. W., & Koenen, K. (2014b). The impact of childhood abuse on inpatient substance users: Specific links with risky sex, aggression, and emotion dysregulation. *Child Abuse and Neglect*, 38(5), 928–938. <https://doi.org/10.1016/j.chiabu.2013.12.007>.
- Banducci, A. N., Hoffman, E. M., Lejuez, C. W., & Koenen, K. C. (2014a). The relationship between child abuse and negative outcomes among substance users: Psychopathology, health, and comorbidities. *Addictive Behaviour*, 39(10), 1522–1527. <https://doi.org/10.1016/j.addbeh.2014.05.023>.
- Basch, C. E. (2011). Aggression and violence and the achievement gap among urban minority youth. *Journal of School Health*, 81(10), 619–625. <https://doi.org/10.1111/j.1746-1561.2011.00636.x>.
- Beek, T. F., Cohen-Kettenis, P. T., & Kreukels, B. P. (2016). Gender incongruence/gender dysphoria and its classification history. *International Review of Psychiatry*, 28(1), 5–12. <https://doi.org/10.3109/09540261.2015.1091293>.
- Berger, I., & Mooney-Somers, J. (2016). Smoking cessation programs for lesbian, gay, bisexual, transgender, and intersex people: A content-based systematic review. *Nicotine Tobacco Research*. <https://doi.org/10.1093/ntr/ntw216> pii: ntw216.
- Berquó, E., & Barbosa, R. M. (2008). Grupo de estudos em população sexualidade e AIDS [The survey sexual behavior and perceptions of the Brazilian population regarding HIV/AIDS]. *Revista de Saúde Pública*, 42(Suppl. 1), 7–11.
- Blondeel, K., Say, L., Chou, D., Toskin, I., Khosla, R., ... Temmerman, M. (2016). Evidence and knowledge gaps on the disease burden in sexual and gender minorities: A review of systematic reviews. *International Journal of Equity Health*, 15, 16. <https://doi.org/10.1186/s12939-016-0304-1>.
- Blosnich, J. R., & Horn, K. (2011). Associations of discrimination and violence with smoking among emerging adults: Differences by gender and sexual orientation. *Nicotine Tobacco Research*, 13(12), 1284–1295. <https://doi.org/10.1093/ntr/ntn183>.
- Bouris, A., Everett, B. G., Heath, R. D., Elsaesser, C. E., & Neillands, T. B. (2016). Effects of victimization and violence on suicidal ideation and behaviors among sexual minority and heterosexual adolescents. *Journal of LGBT Health*, 3(2), 153–161. <https://doi.org/10.1089/lgbt.2015.0037>.
- Chaves, T. V., Sanchez, Z. M., Ribeiro, L. A., & Nappo, S. A. (2011). Crack cocaine craving: Behaviors and coping strategies among current and former users. *Revista Saude Publica*, 45(6), 1168–1175. <https://doi.org/10.1590/S0034-89102011005000066>.
- Clements-Nolle, K., Marx, R., Guzman, R., & Katz, M. (2001). HIV prevalence, risk behaviors, health care use, and mental health status of transgender persons: Implications for public health intervention. *American Journal of Public Health*, 91(6), 915–921.
- Darke, S., & Torok, M. (2014). The association of childhood physical abuse with the onset and extent of drug use among regular injecting drug users. *Addiction*, 109(4), 610–616. <https://doi.org/10.1111/add.12428>.
- Demant, D., Hides, L., Kavanagh, D. J., White, K. M., Winstock, A. R., & Ferris, J. (2016). Differences in substance use between sexual orientations in a multi-country sample: Findings from the Global Drug Survey 2015. *Journal of Public Health (Oxf)*. <https://doi.org/10.1093/pubmed/fdw069>.
- D'haese, L., Dewaele, A., & Houtte, M. V. (2016). Homophobic violence, coping styles, visibility management, and mental health: A survey of Flemish lesbian, gay, and bisexual individuals. *Journal of Homosexuality*, 63(9), 1211–1235. <https://doi.org/10.1080/00918369.2016.1150057>.
- Dias, A. C., Araújo, M. R., Dunn, J., Sesso, R. C., de Castro, V., & Laranjeira, R. (2011). Mortality rate among crack/cocaine-dependent patients: A 12-year prospective cohort study conducted in Brazil. *Journal of Substance Abuse Treatment*, 41(3), 273–278. <https://doi.org/10.1016/j.josat.2011.03.008>.
- Diehl, A., Vieira, D. L., Zaneti, M. M., Fanganiello, A., Sharan, P., & de Jesus Mari, J. (2017). Social stigma, legal and public health barriers faced by the third gender phenomena in Brazil, India and Mexico: Travestis, hijras and muxes. *International Journal of Social Psychiatry*, 20764017706989. <https://doi.org/10.1177/0020764017706989>.
- DiStefano, A. S. (2009). Intimate partner violence among sexual minorities in Japan: Exploring perceptions and experiences. *Journal of Homosexuality*, 56(2), 121–146. <https://doi.org/10.1080/00918360802623123>.
- Drescher, J. (2010). Queer diagnoses: Parallels and contrasts in the history of homosexuality, gender variance, and the diagnostic and statistical manual. *Archives of Sexual Behaviour*, 39(2), 427–460. <https://doi.org/10.1007/s10508-009-9531-5>.
- Duncan, D. T., Hatzenbuehler, M. L., & Johnson, R. M. (2014). Neighborhood-level LGBT hate crimes and current illicit drug use among sexual minority youth. *Journal of Drug and Alcohol Dependence*, 135, 65–70. <https://doi.org/10.1016/j.drugalcdep.2013.11.001>.
- Elliott, J. C., Stohl, M., Wall, M. M., Keyes, K. M., Goodwin, R. D., Skodol, A. E., & Hasin, D. (2014). The risk for persistent adult alcohol and nicotine dependence: The role of childhood maltreatment. *Addiction*, 109(5), 842–850. <https://doi.org/10.1111/add.12477>.
- Fagan, J. (1993). Interactions among drugs, alcohol, and violence. *Health Affairs (Millwood)*, 12, 56–79.
- Fernandes, F. B. M. (2013). Murder of transvestites and “pais de santo” in Brazil: Homophobia, transphobia and religious intolerance. [Assassinatos de travestis e “pais de santo” no Brasil: Homofobia, transfobia e intolerância religiosa]. *Saúde em Debate*, 37(98), 485–492.
- Flentje, A., Leon, A., Carrico, A., Zheng, D., & Dilley, J. (2016). Mental and physical health among homeless sexual and gender minorities in a major urban US City. *Journal of Urban Health*, 93(6), 997–1009. <https://doi.org/10.1007/s11524-016-0084-3>.
- Garner, B. R., Hunter, B. D., Smith, D. C., Smith, J. E., & Godley, M. D. (2014). The relationship between child maltreatment and substance abuse treatment outcomes among emerging adults and adolescents. *Child Maltreatment*, 19(3–4), 261–269. <https://doi.org/10.1177/1077559514547264>.
- Green, K. E., & Feinstein, B. A. (2012). Substance use in lesbian, gay, and bisexual populations: An update on empirical research and implications for treatment. *Psychology of Addictive Behaviors*, 26, 265–278. <https://doi.org/10.1037/a0025424>.
- Gross, L., Aurand, S., & Addressa, R. (2000). The 1999–2000 study of discrimination and violence against lesbian and gay men in Philadelphia and the commonwealth of Pennsylvania. Philadelphia: Philadelphia Gay and Lesbian Task Force. Available from <http://www.plgtf.org/cr2kstudy.pdf>, Accessed date: 21 June 2017.
- Grossman, A. H., & D'Augelli, A. R. (2007). Transgender youth and life-threatening behaviors. *Suicide Life Threat Behaviour*, 37(5), 527–537. <https://doi.org/10.1521/suli.2007.37.5.527>.
- Grupo Gay da Bahia (2013). Relatório Anual de Assassinato de Homossexuais no Brasil. Available from: <https://homofobiamata.files.wordpress.com/2014/03/relatc3b3rio-homicidios-2013.pdf>.
- Guedes, S. C. (2015). Aprendendo yorubá nas redes educativas dos terreiros: História, culturas africanas e enfrentamento da intolerância nas escolas. *Revista Brasileira de Educação*, 20(62), 773–796. <https://doi.org/10.1590/S1413-24782015206211>.
- Halkitis, P. N., & Jerome, R. C. (2008). A comparative analysis of methamphetamine use: Black gay and bisexual men in relation to men of other races. *Addictive Behavior*, 33(1), 83–93. <https://doi.org/10.1016/j.addbeh.2007.07.015>.
- Hasselmann, M. H., & Reichenheim, M. E. (2003). Cross-cultural adaptation of the Portuguese version of the Conflict Tactics Scales Form R (CTS-1) used to assess marital violence: Semantic and measurement equivalence. *Cadernos Saúde Pública*, 19(4), 1083–1093.
- Hequembourg, A. L., & Brallier, S. A. (2009). An exploration of sexual minority stress across the lines of gender sexual identity. *Journal of Homosexuality*, 56(3), 273–298. <https://doi.org/10.1080/00918360902728517>.
- Hequembourg, A. L., & Dearing, R. L. (2013). Exploring shame, guilt, and risky substance use among sexual minority men and women. *Journal of Homosexuality*, 60(4), 615–638. <https://doi.org/10.1080/00918369.2013.760365>.
- Hughes, T. L., Wiltsnack, S. C., & Kantor, L. (2016). The influence of gender and sexual orientation on alcohol use and alcohol-related problems: Toward a global perspective. *Journal of Alcohol Research*, 38(1), 121–132.
- Kalra, G., Ventriglio, A., & Bhugra, D. (2015). Sexuality and mental health: Issues and what next? *International Review of Psychiatry*, 27(5), 463–469. <https://doi.org/10.3109/09540261.2015.1094032>.
- Kecojevic, A., Wong, C. F., Schrage, S. M., Silva, K., Bloom, J. J., Iverson, E., & Lankenau,

- S. E. (2012). Initiation into prescription drug misuse: Differences between lesbian, gay, bisexual, transgender (LGBT) and heterosexual high-risk young adults in Los Angeles and New York. *Addictive Behaviors*, 37(11), 1289–1293. <https://doi.org/10.1016/j.addbeh.2012.06.006>.
- Kerridge, B. T., Pickering, R. P., Saha, T. D., Ruan, W. J., Chou, S. P., Zhang, H., & Hasin, D. S. (2017). Prevalence, sociodemographic correlates and DSM-5 substance use disorders and other psychiatric disorders among sexual minorities in the United States. *Journal of Drug and Alcohol Dependence*, 170, 82–92. <https://doi.org/10.1016/j.drugalcdep.2016.10.038>.
- King, M., Semlyen, J., See Tai, S., Killaspy, H., Osborn, D., ... Nazareth, I. (2008). A systematic review of mental disorder, suicide and deliberate self-harm in lesbian, gay and bisexual people. *BMC Psychiatry*, 8, 70. <https://doi.org/10.1186/1471-244X-8-70>.
- Lea, T., de Wit, J., & Reynolds, R. (2014). Minority stress in lesbian, gay, and bisexual young adults in Australia: Associations with psychological distress, suicidality, and substance use. *Archives of Sexual Behaviour*, 43(8), 1571–1578. <https://doi.org/10.1007/s10508-014-0266-6>.
- Lui, J. A. (2008). Os rumos da intolerância religiosa no Brasil. *Religião & Sociedade*, 28(1), 211–214. <https://doi.org/10.1590/S0100-85872008000100011>.
- Lyons, T., Krüsi, A., Pierre, L., Kerr, T., Small, W., & Shannon, K. (2017). Negotiating violence in the context of transphobia and criminalization: The experiences of trans sex workers in Vancouver, Canada. *Qualitative Health Research*, 27(2), 182–190. <https://doi.org/10.1177/1049732315613311>.
- Mahomed, F., & Trangoš, G. (2016). An exploration of public attitudes toward LGBTI rights in the Gauteng city-region of South Africa. *Journal of Homosexuality*, 63(10), 1400–1421. <https://doi.org/10.1080/00918369.2016.1157999>.
- Mereish, E. H., & Bradford, J. B. (2014). Intersecting identities and substance use problems: Sexual orientation, gender, race, and lifetime substance use problems. *Journal of Studies on Alcohol and Drugs*, 75(1), 179–188.
- Minh, A., Matheson, F. I., Daoud, N., Hamilton-Wright, S., Pedersen, C., & O'Campo, P. (2013). Linking childhood and adult criminality: Using a life course framework to examine childhood abuse and neglect, substance use and adult partner violence. *International Journal Environment Research Public Health*, 10(11), 5470–5489. <https://doi.org/10.3390/ijerph10115470>.
- Mizock, L. (2017). Transgender and gender diverse clients with mental disorders: Treatment issues and challenges. *Psychiatric Clinics of North America*, 40(1), 29–39. <https://doi.org/10.1016/j.psc.2016.10.008>.
- Moran, P. B., & Vuchinich, H. (2004). Associations between types of maltreatment and substance use during adolescence. *Journal of Child Abuse Negligence*, 28(5), 565–574.
- Moreira, M. M., Barbosa, G. L., & Mitsushiro, S. S. (2014). Alcohol and crack cocaine use in women: A 14-year cross-sectional study. *Journal of Addiction Disease*, 33(1), 9–14. <https://doi.org/10.1080/10550887.2014.882726>.
- Muller, M. I., & Knauth, D. V. (2008). Inequalities in the public health system: The case of care for travestis is “babado”! [Desigualdades no SUS: o caso do atendimento às travestis é “babado”!]. *Cadernos EBAP.BR*, 6(2), 1–14.
- National Institute on Alcohol Abuse and Alcoholism (2004–2005). Alcohol development and youth: a multi-disciplinary overview. *Alcohol Research Health*, 28(3) (175).
- National Survey on Drug Use and Health (NSDUH) (2015). Available at: <https://www.samhsa.gov/samhsa-data-outcomes-quality/major-data-collections/reports-detailed-tables-2015-NSDUH>.
- Parks, C. A., Hughes, T. L., & Kinnison, K. E. (2007). The relationship between early drinking contexts “coming out” as lesbians and current alcohol use. *Journal of LGBT Health Research*, 3(3), 73–90.
- Quintana, M. I., Andreoli, S. B., Jorge, M. R., Gastal, F. L., & Miranda, C. T. (2004). The reliability of the Brazilian version of the Composite International Diagnostic Interview (CIDI 2.1). *Brazilian Journal of Medical and Biological Research*, 37(11), 1739–1745.
- Reisner, S. L., Falb, K. L., Wagenen, A. V., Grasso, C., & Bradford, J. (2013). Sexual orientation disparities in substance misuse: The role of childhood abuse and intimate partner violence among patients in care at an urban community health center. *Journal of Substance Use and Misuse*, 48(3), 274–289. <https://doi.org/10.3109/10826084.2012.755702>.
- Rosario, M. (2008). Elevated substance use among lesbian and bisexual women: Possible explanations and interventions implications for an urgent public health concern. *Journal of Substance Use and Misuse*, 43(8–9), 1268–1270.
- Rosario, M., Schrimshaw, E. W., Hunter, J., & Levy-Warren, A. (2009). The coming out process of young lesbian and bisexual women: Are there butch/femme different in sexual identity development? *Archives of Sexual Behavior*, 38(1), 34–49.
- Ross, L. E., Bauer, G. R., MacLeod, M. A., Robinson, M., MacKay, J., & Dobinson, C. (2014). Mental health and substance use among bisexual youth and non-youth in Ontario, Canada. *PLoS One*, 9(8), e101604. <https://doi.org/10.1371/journal.pone.0101604>.
- Schwandt, M. L. M., Hommer, D. W., George, D. T., & Ramchandani, V. A. (2013). Childhood trauma exposure and alcohol dependence severity in adulthood: Mediation by emotional abuse severity and neuroticism. *Alcohol Clinical and Experimental Research*, 37(6), 984–992. <https://doi.org/10.1111/acer.12053>.
- Sell, R. L., & Dunn, P. M. (2008). Inclusion of lesbian, gay, bisexual and transgender people in tobacco use-related surveillance and epidemiological research. *Journal of LGBT Health Res*, 4(1), 27–42. <https://doi.org/10.1080/15574090802615703>.
- Skerrett, D. M., & Mars, M. (2014). Addressing the social determinants of suicidal behaviors and poor mental health in LGBTI populations in Australia. *LGBT Health*, 1(3), 212–217. <https://doi.org/10.1089/lgbt.2013.0051>.
- Smith, P. H., Saddleson, M. L., Homish, G. G., McKee, S. A., Kozlowski, L. T., & Giovino, G. A. (2015). The relationship between childhood physical and emotional abuse and smoking cessation among U.S. women and men. *Psychology of Addictive Behaviors*, 29(2), 338–346. <https://doi.org/10.1037/adb0000033>.
- Spirito, A., & Esposito-Smythers, C. (2006). Attempted and completed suicide in adolescence. *Annual Review Clinical Psychology*, 2, 237–266.
- Straus, M. A. (1979). Measuring intrafamily conflict and violence: The Conflict Tactics (CT) Scales. *Journal of Marriage and Family*, 41, 75–88. <https://doi.org/10.2307/351733>.
- Substance Abuse and Mental Health Services Administration SAMHSA (2012). *Building bridges: LGBT populations: A dialogue on advancing opportunities for recovery from addictions and mental health problems*. HHS pub. no. (SMA 13-4774). Rockville, MD: Substance Abuse and Mental Health Services Administration.
- Talley, A. E. (2013). Recommendations for improving substance abuse treatment interventions for sexual minority substance abusers. *Drug Alcohol Review*, 32(5), 539–540. <https://doi.org/10.1111/dar.12052>.
- United Nations Human Rights Office of the High Commissioner. (2012). Born free and equal. Sexual orientation and gender identity in International Human Rights Law. New York and Geneva. Available in: <http://www.ohchr.org/Documents/Publications/BornFreeAndEqualLowRes.pdf>.
- United Nations Office on Drugs and Crime (UNODC) (2014). *World Drug Report 2014 [Internet]*. New York: United Nations. [cited in 27 jun. 2017]. Available in: www.unodc.org/documents/wdr2014/World_Drug_Report_2014_web.pdf.
- van Anders, S. M. (2015). Beyond sexual orientation: Integrating gender/sex and diverse sexualities via sexual configurations. *Theory Archives of Sexual Behavior*, 44(5), 1177–1213. <https://doi.org/10.1007/s10508-015-0490-8>.
- VanKim, N. A., & Padilla, J. L. (2010). *New Mexico's progress in collecting lesbian, gay, bisexual, and transgender health data and its implications for addressing health disparities*. Albuquerque, NM: New Mexico Department of Health, Chronic Disease.
- Venturi, G., & Bokany, V. (2011). *Sexual diversity and homophobia in Brazil. (Diversidade Sexual e Homofobia no Brasil)*. Editora Fundação Perseu Abramo: São Paulo (256 pages).
- Walsh, C. F. (2016). It really is not just gay, but African American gay: The impact of community and church on the experiences of black lesbians living in North Central Florida. *Journal of Homosexuality*, 63(9), 1236–1252. <https://doi.org/10.1080/00918369.2016.1151694>.
- Wilsnack, S. C., Hughes, T. L., Johnson, T. P., Bostwick, W. B., Szalacha, L. A., Benson, P., & Kinnison, K. E. (2008). Drinking and drinking-related problems among heterosexual and sexual minority women. *Journal of Studies on Alcohol and Drugs*, 69(2), 129–130.
- Woodhead, C., Gazard, B., Hotopf, M., Rahman, Q., Rimes, K. A., & Hatch, S. L. (2016). Mental health among UK inner city non-heterosexuals: The role of risk factors, protective factors and place. *Journal of Epidemiology Psychiatric Sciences*, 25(5), 450–461. <https://doi.org/10.1017/S2045796015000645>.
- Zians, J. (2006). *The San Diego County transgender assessment report*. San Diego: Family Health Centers of San Diego, CA.