https://doi.org/10.48047/AFJBS.6.15.2024.4685-4705

African Journal of Biological Sciences

Journal homepage: http://www.afjbs.com

Research Paper Open Access

Alcoholism in Transgenders: Significant Concern

1 Binit Mamkoottathil Benny, 2 Greeshma Sai Sree N, 3 Maria Adil Khan, 4 Simran Trehan, 5 Praveen Mohadeb, Khayati Moudgil*

Pharmacy technician, Salhab Pharmacy, Land O Lakes, USA

University of Maryland, Baltimore, USA

Pharmacy advisor, Boots Pharmacy, Essex, United Kingdom

MBBS, Wadhwani Hospital, Gujarat, India

JSS Academy of Higher Education and Research, Mauritius

Faculty of Health Sciences, School of Pharmacy, JSS Academy of Higher Education and Research, Mauritius

First author: E-mail: bitu2benny@gmail.com

Second author: E-mail: greeshmasaisree.n@gmail.com

Third author: E-mail: lulu_maria21@yahoo.com

Fourth author: E-mail: Simrantrehan24@gmail.com

Fifth author: E-mail: praveenm713@gmail.com

Corresponding author: Dr. Khayati Moudgil Assistant Professor Faculty of Health Sciences, School of Pharmacy, JSS Academy of Higher Education and Research, Mauritius Email: khayatimoudgil@jssuni.edu.in khayatimoudgil18@gmail.com Mob. No: +230-57128527

Volume 6, Issue 15, Sep 2024

Received: 15 July 2024

Accepted: 25 Aug 2024

Published: 05 Sep 2024

doi: 10.48047/AFJBS.6.15.2024.4685-4705

Abstract

Owing to sexism, stigma, neglect, racism and sexual harassment within society, the sexual minority is vulnerable to harmful alcohol use. This review aims to identify the various factors influencing the use of heavy alcohol and to establish whether those factors are prevalent in the transgender community. This study is performed using PubMed, ResearchGate, Nature, and ScienceDirect databases in the 2011 to 2020 period. The dominant factors for risky consumption of alcohol are victimization and social isolation. However, a lack of data such as restricted data for Indian transgender alcohol consumption and limitations for the low-risk trend of alcohol consumption in transgender remain uncertain on several aspects.

Keywords: transgender, mental health, victimization

1. Introduction

Each birth is biologically classified as male or female out of the world's 7.8 billion population. The word *transgender* is used as a paragliding word whose gender identity, gender speech, and even their actions are not consistent with the sex they were assigned at birth [1]; The definitions that contain the umbrella term are as follows, such as *cisgender, gender binary, gender dysphoria, gender expression, gender identity, gender-nonconforming, genderqueer, trans affirmative, and transition* [2]. Gender identity refers to a person's underlying sense of being a male, a female, or indefinite sex. Gender expression refers to how the individual expresses his or her gender based on behavior and appearance.

Demographic data, victimization, mental health, alcohol-related issues point to the conclusion that transgender people consume alcohol to a greater extent than cisgender people [3].

Alcohol and drug abuse can be traced back to the transgender community's social isolation and marginalization. Transgender faces more victimization than cisgender in several reports. The different types of victimization include violence, physical abuse, and verbal attacks. One of the problems that

transgender face is unemployment, where they depend on their income for sex work. There is evidence that transgender involved in sex work, where alcohol is the risk factor, is more vulnerable to HIV risk. Excessive transgender alcohol consumption is done to tackle the challenges they face in society. Acute problems like blackouts, depression, and sexual attacks arising from heavy drinking lead to the deaths of many trans adults.

The purpose of this review article is to categorize various factors that affect alcohol consumption by the transgender and to consider which factor is more prevalent. This paper is an attempt to explore in greater depth the factors contributing to transgender alcohol consumption. The discussion and conclusion given in this paper are based on literature from the narrative review. The paper is broken down into seven sections.

2. Epidemiology

About 0.3 to 0.5 percent of the global population is transgender in the world population. In lowland middle-income countries, transgender is 49 percent likely to have HIV at their reproductive age than other heterosexual adults [4]. Compared to 12 percent of the heterosexual population, nearly one in five (18.7 percent) people who are identified as being transgender or bisexual reported daily tobacco smoking in 2016. Approximately 25.8 percent of bisexuals report drinking at levels beyond the lifetime risk guidelines compared to 17.2 percent of heterosexuals. Approximately 42 percent of bisexuals report drinking at levels above the single-occasion guidelines at least once a month, compared to 26 percent of the heterosexual population [5]. Around 25 percent of gay and transgender people misuse alcohol, compared with 5-10percent of the general population. A survey conducted by the U.S. Census Bureau in 2013 found that binge drinking was higher in transgender ages between eighteen and sixty-four years of age than in cisgender adults [6], and nearly 25 percent are moderate

alcohol users correlated to 5-10 percent of heterosexual users [7]. Currently, twenty-nine states have legally denied, fired, or discriminated against jobs because of their gender identity. The Center for American Progress has been harassed or discriminated against by about 90 percent of transgender people [employment, health care, and housing]. Approximately 40 percent of transgender commit / attempted suicide compared with 4.6 percent of the heterosexual population [8].

3. Methods

The narrative review was conducted based on various literature collected between 2011 and 2020 from the following databases: Pub med, PMC, Journal of Social Health, BMC International Health, and Human Rights academic. oup, oxford, springerlink.com, Journal of Internal Medicine, Journal of Studies on Alcohol and Drugs, Review of Drugs and Alcohol, Scientific World Journal, Science D. Thirty items were collected on the count, with ten omitted. The goal is to classify the related literature, which includes the consumption of alcohol in the transgender community and the associated factors.

The literature was collected using the phrases, alcohol consumption in transgender, alcohol and transgender wellbeing, the relationship between transgender unemployment and alcohol consumption, gender identity with alcohol consumption, comparison of transgender and non-transgender alcohol consumption, alcohol habits among transgender people.

The collected article was evaluated based on the defined eligibility criteria. The inclusion criteria were: articles published in scientific journals, articles providing information on transgender alcohol consumption and factors influencing transgender alcoholism. The criteria for exclusion were: Articles published in non-scientific journals, and articles that do not correlate the transgender population with alcohol consumption and its factors.

For the article further analysis was carried out by reading them thoroughly and categorizing them under the different categories of inclusion criteria.

Gender identity drinking patterns Alcohol misuse is the fifth leading cause of premature death and disability in the general population. According to the National Institute on Alcohol Abuse and Alcoholism, there are about fourteen grams of pure alcohol in one "Standard drink." Pure alcohol is found in twelve ounces of regular beer, which has about 5 percent alcohol, five ounces of wine, which is about 12 percent alcohol, and about forty ounces of distilled spirits.

It is possible to divide drinking patterns into three categories based on gender identity a) moderate drinking b) binge drinking c) heavy drinking. For women, moderate drinking is defined as drinking up to one drink/day, and for men, two drinks/day. Binge drinking defined by the Administration of Substance Abuse and Mental Health Services [SAMHSA] says drinking five or more for males and four or more for females in the past month is at least one day. Heavy alcohol use in the past month is described as five or more days of binge drinking.

NIAAA According to. Binge and heavy episodic drinking raise the risk of issues linked to the drug. As compared with cisgenders, transgender is at higher risk of alcohol consumption and alcohol dependence [9].

Transgender who endured childhood trauma such as physical violence, verbal abuse was significantly high in individuals who were binge drinking. In transgender, the rate of binge drinking was seen to be higher than in cisgender.

In transgender heavy drinking is two to four times greater than in non-transgender drinking. Frequently, transgender-related heavy drinking is due to social stigma, physical abuse, and verbal abuse. Research conducted between transmasculine and transfeminine consuming alcohol found that

heavy drinking was substantially greater in transmasculine, and this is mainly affected by socio-cultural values [i.e., masculinity] or dealing with stress. Age has no significant position among the trans population in high episodic drinking [10].

The variations in characteristics of drinking habits follow a bimodal nature in bisexuals as opposed to heterosexuals. Discrimination is an essential factor contributing to the high risk of alcohol consumption in lesbian as well as bisexual women.

In transgender, the reason for drinking may be attributed to sexism, physical or verbal violence, work loss, confidence to face society. Increased drinking is related to sexual identity based on victimization and psychological distress and additionally understood family support helps address drinking issues. Drinking gives them the ability to deal with society, to a greater extent [11]

In transgender adolescents, monthly alcohol consumption is reported to be higher than in young adults, whereas in transgender adults it is lower than in non-transgender. Strong associations have been developed between gender-related stigma and risky drinking; henceforth, improvising policies to reduce discrimination and provide better treatment options to manage coping strategies is crucial for decreasing risky drinking in individuals.

Alcohol-Related Problems

There are many alcohol-related issues associated with a transgender individual, including alcohol-related blackouts, alcohol-related consequences [violence, verbal threats], suicidal ideation, sexual assault, psychological disturbances [depression, stress, harm, trauma] among the most frequently seen. Alcohol misuse and alcohol disorders pose a higher risk for transgender [12]. Heavy drinking typically triggers blackouts, sexual harassment, and even the possibility of suicide. The prevalence of alcohol-related issues differs according to gender. Transgender is seen more in alcohol-related sexual assault

and suicidal risk than in non-transgender. It is also shown that the likelihood of sexual harassment due to heavy drinking is elevated in transgender. Thus, this suggests that there is a stress response feedback loop, where the response to a stressor that is sexual assault is heavy drinking; this increases exposure to other stressors. Some studies have shown that transgender has a higher risk of depression and a tendency to suicide.

Provided that transgender appears to drink more than cisgender to combat social anxiety, victimization, and stress reduction [13]. The mistreatment of children is another source of alcohol abuse by transgender people. Several studies have shown that job losses, especially in transmen, lead them to more extensive drinking. Sex and gender are key factors that determine risks associated with alcohol [14].

In trans women, blackouts related to alcohol are more pervasive than in cisgenders, and there was no difference between the trans male and the cisgender. Alcohol transmitted blackouts are closely correlated with alcohol-related effects such as driving while intoxicated, dissension with officials, etc. Because of such blackouts, particularly in college trans students, memory and cognitive processes are seen weakened. Research done extensively reveals that early drinking has a high chance of developing alcohol problems due to neurocognitive growth disturbance. Trans students were more prospective than the cisgender to delineate the negative effects of alcohol [negative effect on education, physical abuse, sexual effects, confrontational impact]. Transwomen were more likely than transmen to suffer adverse effects. In previous research, transgender is shown to be more vulnerable to psychological disorders due to transphobia, which is a cause for alcohol predisposition.

Socio-Demographics

Socio-demographic includes characters such as age, race/ethnicity, marital status of gender, employment, education, which were considered primarily in our study.

Age: Alcohol intake in transgender decreases as age rises, although this rate of reduction appears to be lower as compared with the heterosexual population. The findings revealed higher incidents of drinking behavior for younger adults than for older adults. The younger adults are susceptible to earlier and heightened drinking to cope with injustice and rejection. Young transgender people were associated with a greater risk of drinking compared with young transmen. Fifty-year-old sexual minority women who drink more than the straight competitor; this is comparable to gays and bisexuals. Higher levels of alcohol-related issues were identified more in homosexual men than heterosexual men in the forty-one-to-sixty-year age group [15].

Race/ethnicity: Different races were listed, including White, Black, Hispanic, American Indian, Asian, African American, and multiracial. Transwomen belonging to the reasonable minority are at higher risk of alcohol-related issues than black heterosexual women, whereas black homosexual men are at lower risk than black heterosexual men, or equivalent. Drinking rates in African American youth were lower as compared with others. In both cases, there was a link between sexual orientation excluding lesbians and gays and all races/ethnicity, excluding non-Hispanic whites, and low-risk drinking among women [16]. Black women of the sexual minority were four times more likely to report episodes of heavy drinking than white homosexual women. Asian sexual minorities showed higher levels of alcohol consumption than peers in heterosexual contexts. The first alcoholic drink was found to begin at the same age for both bisexual white and ethnic minorities, while in heterosexuals this trend varies as rational minorities started drinking at an early age than their white counterparts.

Gender: It has been estimated that those in single population partnership groups among the sexual minority, unable to have children, have a higher risk of alcohol dependence. Gender and sex play an important part in determining risks associated with alcohol. Transwomen are more likely to suffer negative impacts than transmen. Transmasculine people eat more alcohol than transwomen do.

Socioeconomic status: The population with better socioeconomic status should have a higher drinking frequency, and the population with lower drinking patterns should be denser. It also reported that higher socioeconomic status girls were associated with a higher risk of drinking alcohol. It has also been found that same-sex couples living together have fewer incomes compared to heterosexual couples due to discrimination at work. Bisexual couples exhibit income disadvantages over gay, lesbian, and heterosexual adults. Transmen tend to drink more, due to job loss.

Education: Excessive drinking patterns have been found among the male drinkers in men with the lowest levels of education. There was however no such relationship between education and women's prevalence of drinking. It was found that pairs of the same sex had more educational and income advantages than couples of the opposite sex. Lower educational rates have shown greater reliance on alcohol.

Victimization

The various types of victimization typically faced by transgender people are physical, emotional, and sexual attacks, which can result in disrupted well-being and maladaptive coping. Increased risk of childhood violence has been identified in sexual minorities as opposed to the heterosexual community; this makes them more likely to experience alcohol-related issues. Adverse childhood experiences, gender-based discrimination, and abuse are a few of the challenges that transgender women have experienced in both the past and the present, leading to binge drinking HIV infection, and mental

health problems [17]. There have been significant connections between alcohol abuse and victimization, which involves witnessing or perpetrating violence.

Birth sex was the prime mediator, which mainly influences sexual orientation – alcohol-based victimization, and women displayed significant positive connections between perceptions of drinking and victimization. Both race and self-reported sexual orientation have no interrelationship on the correlation between victimization and alcohol-dependent sexual orientation. Sexual minority youth experience higher levels of victimization, which may be attributed to the presence of gender and behavioral features. Reduced binge drinking was reflected in assessing the effects of the alcohol harm reduction on interpersonal abuse and sex work participation among the female sex workers. Psychological distress and sexual orientation-based victimization among the female transgender youth was associated with increased alcohol use [18].

All LGBT youth subgroups did not exhibit any association between psychosocial risk factors and alcohol consumption rates although women than men exhibited strong positive associations between variables and alcohol use. Earlier study findings on adult women's use of alcohol found that traumatic experiences in life have led to alcohol-related issues emerging. It has also been found that when drinking, women end up experiencing victimization.

Burgeoning research suggests transgender people experience more victimization than cisgender, which in effect leads them to drink alcohol as a means for dealing with it.

Studies carried out on victimization by removing the transgender community have shown that alcohol consumption has a different effect on different types of victimization. A longitudinal study done in adolescents showed, for example, that boys had high-risk conduct of sexual assault and physical violence, and the high risk of sexual assault for girls was reported. Such studies exemplify gender

disparity in the relation between victimization and alcohol. Hence, sexual harassment dovetails with ongoing studies in which sexual assault aggregates through drinking.

Victimization thus encourages drinking, and the drinking environment may encourage transgendered violent behavior. Gay men were more likely to be abused (i.e., four to seven experiences) than heterosexual men but this polarity gap did not increase the consumption of a substance by gay men. The prevalence of victimization encounters in both bisexuals and heterosexual males were comparable, but in bisexual men, there was a prevalence of amalgamation of victimization and drug use.

Social exclusion and Mental Health

Young transgender women typically experience a lack of support from the family, depression, low self-esteem, and low self-worth.

The risky drinking in the transgender population is associated with minority stress, trauma, anxiety, and genetic vulnerability. Other factors that can lead to elevations in alcohol use among members of minority groups are prejudice and discrimination [19]. The stress that transgender is feeling due to oppression, internalized stigma, and social inequality is known as minority stress. Stigma and perceived stigma are introduced as the two variables for calculating minority tension. The stigma enacted is associated with the high consumption of alcohol than stigma felt. Experience of prejudice, negligence in the expected prejudice, isolation, internalized homophobia, and decreased coping are the components of the stress process as described by inspective, minority stress. The watchfulness required on these components may vary depending on individual and environmental factors. Transgender suffering from psychosocial issues appears to drink more alcohol. Different social groups experience different levels of stress, based on their minority status. Given all of these sexual minorities,

they are supposed to be accepted into society, often after approaching homosexuals with a derogatory perspective.

The proximal stress includes internalized homophobia and social stigma according to the minority stress model. The concept of 'minority paradox' in mental health research refers to minority groups with lower rates of other psychiatric disorders consisting mainly of major depression which includes primarily black and Hispanics with low estimates of psychiatric and substance disorders despite increased vulnerability to institutional and interpersonal discrimination. To elaborate on the commonness of alcohol use and alcohol-related issues in the sexual minority, several likely risk factors have been put forward.

Based on these experiences, it is assumed that minority stressors are special, persistent, and socially dependent. There is little information about the association between older people with high alcohol consumption and sexual minorities.

Homosexual men who are engaged in sex work are exposed to violence and social stigma, with limited assistance in confronting abuse. This form of marginalization relates to risky sexual behavior. The National Epidemiological Survey on Alcohol and Related Conditions outlines that discrimination based on gender, race, and sexual orientation leads to an increase in alcohol consumption compared to discrimination based solely on gender.

Discrimination by healthcare professionals has also affected homosexuals' mental health. Several, in-group studies have consistently reported that perceived discrimination may be associated with results from alcohol.

Homosexual people have different approaches to reciprocating stress within the community than heterosexual men, primarily through finding social help. Drinking at high risk and day-to-day discrimination have been seen more in homosexual men than in homosexual women.

Binge drinking has also been related to increased dropouts from school due to transgender identity. Families suffer verbal and physical violence by binge drinkers more frequently during adolescence than non-binge drinkers do. The non-binge drinkers usually reported depressive symptoms than binge drinkers did. Depressive symptoms in transgender women were found to be negatively linked to binge drinking [20].

Issues that lead to heavy transgender drinking may involve alcohol-related [physiological, psychological, or social] effects. Some examples are disability in the short term, chronic conditions. Like exclusion from society, abuse of HIV, as we discussed earlier, drinking can be a transgender coping strategy in response to the social stigma, discrimination, stress, and even dealing with violent clients in the course of their sex work [21]. Recent research shows that discrimination is a risk factor for more alcohol consumption by LGBT individuals. The social stigma the social minorities experience causes chronic stress and negative health-related consequences. According to some research, the LGBT community is more vulnerable to substance misuse, illegal drug misuse, and mental illnesses caused by social stigma. Low rates of literacy and socio-economic status serve as an obstacle to accessing healthcare [22].

Adverse childhood experiences by gay men and lesbian sex workers have been identified as a possible risk factor for psychological distress. Sexual orientation-based prejudice associated with the alcohol use level was seen more in gay people but was also found significantly in lesbians and bisexuals. These shreds of evidence emphasize the primary importance of family and supportive peers to marginalized

populations' health and psychological well-being. Transgender reported higher rates of depression and an increased number of suicide attempts. It has been shown in some studies that while gays and bisexuals had stress, moderate drinking was found where drinking could not be driven to coping.

Institutional stressors such as [laws, policies on employment discrimination] go well beyond the authority of LGBT individuals. The relationship between external stress and the [alcohol use] LGBT safety is being examined. For example; a recent study conducted to study the pervasiveness of the ban of gay marriage at the state level on psychiatric and substance use disorders among the LGBT population, furthermore and inference proved that such bans lead to increases psychiatric and alcohol use among the LGBT population when compared to states that did not pass such bans. Thus, stigmatized laws and policies influence excessive drinking, which aggravates their stressful social conditions and decreases healthcare assistance. Transgender faces many issues like fear, manifest transphobia, fear of commitment, and limitations to their ambitions.

Many stigmatized are oppressed by society. It is linked with poor health, such as physical and mental. This also causes adverse behavioral issues, such as consuming alcohol [23]. Other types of discrimination faced by transgender people in healthcare are: Registering them in male wards when they are females, embarrassments while standing in a male queue, verbal harassment from the medical providers, and even denial of medical services. Health care providers typically lack adequate knowledge of sexual minorities and have not been given a chance to consider sexual diversity.

4. Discussion

The transgender community is the sexual minority, and internationally the community needed priority. This sexual minority population is at higher risk for problem alcohol consumption and consequences related to alcohol. Risky alcohol consumption or transgender alcohol abuse is an indicator of

behavioral health problems. The provocation among the transgender community to drink significant quantities of alcohol is due to unemployment, trust gain, social marginalization, and victimization [24].

Drinking patterns, such as binge drinking and heavy drinking episodes, among the transgender population, have been reported at higher rates. Due to social discrimination, stigma, childhood trauma, physical and verbal abuse, minority stress, psychological distress, and childhood neglect these higher rates of alcohol consumption patterns [25]. Alcohol-related problems such as alcohol blackouts, suicidal risk, and sexual assault are associated with long-term binge drinking and heavy alcohol use, and these alcohol-related problems are more prevalent among the transgender population.

The reduction in transgender alcohol consumption rates increases with an increase in age, but this rate is lower when compared with heterosexual populations [26]. Both homosexual women and homosexual men over fifty years of age are at higher risk of heavy alcohol use compared to heterosexual men and women, and there was also a higher rate of alcohol-related problems among them. Homosexual women of a racial minority are at higher risk for an alcohol-related problem than their heterosexual counterparts, while homosexual men of a racial minority are at lower risk or comparable risk than their heterosexual counterparts [27]. Homosexual teenagers often drink a comparatively high amount of alcohol in their schools or colleges than heterosexual peers because of the bigotry or neglect they face. Day-to-day discrimination against homosexual youth makes them drop out of schools and colleges, which is a leading low-income factor. The two contributing factors for job loss and low income among the transgender population are social stigma and gender identity.

Other than their heterosexual counterparts, the transgender community faces victimization. The various types of victimization experienced by the sexual minority include sexual assault on children,

physical abuse and negligence, sexual assault on adults, physical abuse, verbal abuse. Negligence in youth, sexual harassment, and physical or verbal violence lead to heavy alcohol use in the transgender community. Lesbian and bisexuals experiencing sexually-based victimization are twice as vulnerable as heterosexual women. Homosexual women who witness two or more cases of victimization are more likely to be dependent on alcohol two to four times as often than other homosexual peers. Trauma to children is a contributing factor in the use of heavy alcohol among homosexuals [28].

The stress the transgender experiences as a result of stigma is known as minority stress. Because of the minority stress, they have experienced, heavy alcohol use and mental disorder are common among transgenders, and low rates of literacy and low socioeconomic status are barriers to seeking health care in this regard. Compared with homosexual women, homosexual men experience more minority stress, as they have a very different way of reciprocating stress. Since alcohol is a CNS depressant, binge drinkers among transgender women experience fewer depressive symptoms due to stress than non-binge drinkers do. And depression is less prevalent among binge drinkers. Female transgender communities facing social marginalization are more vulnerable to heavy alcohol intake and negative issues associated with alcohol.

About transgender, further study is needed for the following areas: 1) Gender hormone levels play a vital role in alcohol metabolism. There is no information/research available about how transgender hormone levels differ as opposed to the general population. 2) Race data are limited only when linked to alcohol in transgender 3). The standards of low-risk alcohol intake are not being measured for transgender. 4) Insufficient evidence on the correlation between physical and verbal abuse/assault with transgender alcohol consumption; These are some of the areas where the focus should be given to further study.

5. Conclusion

In conclusion, although there was limited research data available for factors associated with transgender alcohol consumption, we analyzed that victimization and social exclusion were two prevalent factors that account for transgender heavy alcohol use. This would eliminate binge and heavy episodic drinking to a greater degree by reducing marginalization, social stigma, and fostering social support for these individuals. Strict laws and regulations should be enforced those benefit transgender people, such as providing for gay relationships, health policy, and equality in all ways comparable to that of the heterosexual community.

Contribution of authors

All the authors have contributed equally.

Conflict of interest

The authors declare none.

References

1. Albuquerque, Grayce Alencar, Cintia de Lima Garcia, Glauberto da Silva Quirino, Maria Juscinaide Henrique Alves, Jameson Moreira Belém, Francisco Winter dos Santos Figueiredo, Laércio da Silva Paiva, et al. "Access to Health Services by Lesbian, Gay, Bisexual, and Transgender Persons: Systematic Literature Review." *BMC International Health And Human Rights* 16, no. 2 (2016): 1–10.

2. Association, American Psychological. "A Glossary: Defining Transgender Terms." Monitor on Psychology. *American Psychological Association*, September 2018.

3. Balakrishnan, Vijay Shankar. "Growing Recognition of Transgender Health." *Bulletin of the World Health Organization* 94, no. 11 (November 1, 2016): 790–91.

4. Beight, Debra Carroll, and Markus Larsson. "Exploring the Needs, Expectations, and Realities of Mental Healthcare for Transgender Adults: A Grounded Theory Study on Experiences in Sweden." *Transgender Health* 3, no. 1 (May 1, 2018): 88–104.

5. Bello , Jennifer K., Catherine Hearing, Joanne Salas , Jeremiah Weinstock, and Donald Linhorst . *Journal of Forensic Science* 65, no. 1 (August 6, 2019): 97–102.

6. Bloomfield, Kim, Matthias Wicki, Cand Lic Phil, Sharon Wilsnack, Tonda Hughes, and Gerhard Gmel. "International Differences in Alcohol Use According to Sexual Orientation." *Substance Abuse* 32, no. 4 (2011): 210–19.

7. Blosnich, John R., Keren Lehavot, Joseph E. Glass, And Emily C. Williams. "Differences in Alcohol Use and Alcohol-Related Health Care Among Transgender and Nontransgender Adults: Findings From the 2014 Behavioral Risk Factor Surveillance System." *Journal of Studies on Alcohol and Drugs* 78, no. 6

8. Byran, Amanda E.B. *Factors Associated With High-Risk Alcohol Consumption Among LGB Older Adults: The Roles of Gender, Social Support, Perceived Stress, Discrimination, and Stigma* 57, no. 1 (May 17, 2016): 95–104.

9. Chakrapani, and Venkatesan. "Hijras/Transgender Women in India: HIV, Human Rights And ..." NYU. United Nations Development Programme (UNDP), India, December 2010. https://www.undp.org/content/dam/india/docs/hijras_transgender_in_india_hiv_human_rights_and_social_exclusion.pdf.

10. Coulter, Robert W.S, John R Blosnich, Leigh A Bukowski, A L Herrick, Daniel E Siconolfi, and Ron D Stall. "Differences in Alcohol Use and Alcohol-Related Problems between Transgender and Non-Transgender Identified Young Adults." *Drug and Alcohol Dependence* 154 (September 1, 2015): 251–59..

11. Du Bois, Steve N., Wren Yoder, Arryn A. Guy, Kelly Manser, and Stephen Ramos. "Examining Associations Between State-Level Transgender Policies and Transgender Health." *Transgender Health* 3, no. 1 (December 26, 2018).

12. Flentje , Annesa, Branden T. Barger, Matthew R. Capriotti, Micah E. Lubensky, Matthew Tierney, Juno Obedin Maliver, and Mitchell R. Lunn. “Screening Gender Minority People for Harmful Alcohol Use.” *PLOS ONE* 15 (March 13, 2020): 1–12.

13. Gilbert, Paul A., Lauren E Pass, Alex S. Keuroghlian, Tom K. Greenfield, and Sari L. Reisner. “Alcohol Research with Transgender Populations: A Systematic Review and Recommendations to Strengthen Future Studies.” *Drug and Alcohol Dependences* 186 (January 2018): 138–46.

14. Gonzales, Gilbert, and Carrie Henning-Smith. “Barriers to Care Among Transgender and Gender Nonconforming Adults.” *The Milbank Quarterly* 95, no. 4 (December 11, 2017): 726–48.

15. Haikerwal, Mukesh C, and Andrew Kettle. “Australia's Health 2016, Chapter 4 Determinants of Health.” Australian Institute of Health and Welfare. Australian health, 2016. https://www.aihw.gov.au/reports/australias-health/australias-health-2016/contents/chapter-4-determinants-of-health.

16. Hunt, Jerome. “Why the Gay and Transgender Population Experiences Higher Rates of Substance Use.” Center for American Progress. LGBTQ Rights, March 9, 2012. https://www.americanprogress.org/issues/lgbtq-rights/reports/2012/03/09/11228/why-the-gay-and-transgender-population-experiences-higher-rates-of-substance-use/.

17. Keyes, Katherine M., Mark L. Hatzenbuehler, and Deborah S. Hasin. “Stressful Life Experiences, Alcohol Consumption, and Alcohol Use Disorders: the Epidemiologic Evidence for Four Main Types of Stressors.” *Psychopharmacology* 218, no. 1 (March 5, 2011): 1–17.

18. Kidd, Jeremy D, Frances R. Levin, Curtis Doleza, Tonda L. Hughes, and Walter O. Bockting. “Understanding Predictors of Improvement in Risky Drinking in a U.S. Multi-Site, Longitudinal Cohort Study of Transgender Individuals: Implications for Culturally-Tailored Prevention and Treatment Efforts.” *Addictive Behaviors* 96 (May 3, 2019): 68–75.

19. Meyer, Ilan H. “Prejudice, Social Stress, and Mental Health in Lesbian, Gay, and Bisexual Populations: Conceptual Issues and Research Evidence.” *Psychological Bulletin* 129, no. 5 (November 9, 2003): 674–97.

20. Newcomb, Michael E., Adrienne J. Heinz, And Brian Mustanski. “Examining Risk and Protective Factors for Alcohol Use in Lesbian, Gay, Bisexual, and Transgender Youth: A Longitudinal Multilevel Analysis.” *Journal Of Studies On Alcohol And Drugs* 73, no. 5 (September 2012): 783–93.

21. Pedro, Kris Tunac De, Tamika D Gilreath, Christopher Jackson, and Monica Christina Esqueda. “Substance Use Among Transgender Students in California Public Middle and High Schools.” *Journal of School Health* 87, no. 5 (May 9, 2017): 303–9.

22. Peralta, Robert L., and Peter B Barr. “Heavy Episodic Drinking and Weight Control Behavior among College Students: Does Gender Matter?Robert L. Peralta.” *Alcohol and Drug Dependence* 171 (January 2017): e162.

23. Santos, Glenn Milo, Jenna Rapues , Erin C. Wilson, Oscar Macias , Tracey Packer , Grant Colfax, and Henry Fisher Raymond. “Alcohol and Substance Use among Transgender Women in San Francisco: Prevalence and Association with Human Immunodeficiency Virus Infection.” *Drug and Alcohol review* 33, no. 3 (March 14, 2014): 287–95.

24. Scheim, Ayden I, Greta R. Bauer R. Bauer, and Mostafa Shokoohi. “Heavy Episodic Drinking among Transgender Persons: Disparities and Predictors.” *Drug and Alcohol Dependence* 167 (August 2016): 156–62.

25. Staples, Jennifer M., Elizabeth C. Neilson, William H. George, Brian P. Flaherty, and Kelly Cue Davis. “A Descriptive Analysis of Alcohol Behaviors across Gender Subgroups within a Sample of Transgender Adults.” *Addictive Behaviors* 76 (2018): 355–62.

26. Tupler, Larry A., Daniel Zapp, William De Jong, Maryam Ali, Sarah O Rourke, John Looney, and H. Scott Swartzwelder. “Alcohol-Related Blackouts, Negative Alcohol-Related Consequences, and Motivations for Drinking Reported by Newly Matriculating Transgender

College Students." *Alcoholism: Clinical And Experimental Research* 41, no. 5 (2017): 1012–23.

27. Vagenas, Panagiotis, Shan Estelle Brown, Jesse L. Clark, Kelika A. Konda, Javier R. Lama, Jorge Sanchez, Ann C. Duerr, and Frederick L. Altice. "A Qualitative Assessment of Alcohol Consumption and Sexual Risk Behaviors Among Men Who Have Sex with Men and Transgender Women in Peru." *Substance Use and Misuse* 52, no. 7 (February 7, 2017): 831–39.

28. Yi, Siyan, Chann Chann, Pheak Chhoun, Sovannary Tuot, Phalkun Mun, and Carinne Brody. "Social Marginalization, Gender-Based Violence, and Binge Drinking among Transgender Women in Cambodia." *Drug and Alcohol dependence* 207 (December 2019): 1–8.