



2023 VIETNAM LGBTIQ+ HEALTH SURVEY REPORT

Lighthouse Social Enterprise
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Contents



I.	Introduction.....	1
II.	Survey purposes	2
III.	Methods.....	4
1.	Survey design.....	4
2.	Survey Participant.....	4
3.	Sample size	4
4.	Procedures.....	4
5.	Measurement.....	5
6.	Statistical Analysis.....	6
IV.	Results.....	8
1.	Socio-demographic characteristics of survey participants.....	8
2.	Health-related risk behaviors	10
2.1.	Sexual behaviors	10
2.2.	Substance Use Behaviors.....	12
3.	Health condition.....	14
3.1.	Hepatitis C / Hepatitis B prevalence, diagnosis, and treatment access.....	14
3.2.	Mental Health Problems	15
4.	Alcohol abuse.....	20
5.	Quality of Life.....	21
6.	Access to medical care, health service use	24
7.	Socio-demographic factors associated with health-related risk behaviors, health conditions, alcohol problems, quality of life, and access to medical and service use	28
7.1.	Health-related risk behaviors	28
7.2.	Health condition.....	35
7.3.	Alcohol abuse problem	38
7.4.	Quality of Life.....	39
V.	Discussion	42
VI.	Recommendations.....	48
VII.	Limitations	51
VIII.	References.....	53



List of tables

<i>Table 1.1 Socio-demographic characteristics of survey participants</i>	8
<i>Table 2.1. Sexual behaviors</i>	10
<i>Table 2.2 Health risk behaviors</i>	11
<i>Table 2.3. Substance use behaviors</i>	12
<i>Table 3.1. Hepatitis C / Hepatitis B prevalence, diagnosis, and treatment access</i>	14
<i>Table 3.2 The prevalence of anxiety</i>	15
<i>Table 3.3 The prevalence of anxiety by gender identity</i>	15
<i>Table 3.4 The prevalence of anxiety by sexual orientation</i>	16
<i>Table 3.5 The prevalence of depression</i>	17
<i>Table 3.6 The prevalence of depression by gender identity</i>	17
<i>Table 3.7 The prevalence of depression by sexual orientation</i>	18
<i>Table 4.1 Alcohol abuse</i>	20
<i>Table 4.2 The prevalence of alcohol abuse by gender identity</i>	20
<i>Table 4.3 The prevalence of alcohol problem by sexual orientation</i>	21
<i>Table 5.1 Quality of life by gender identity</i>	21
<i>Table 5.2 Quality of life by sexual orientation</i>	22
<i>Table 5.3 Quality of life by health state</i>	23
<i>Table 6.1 Challenges in medical care access and service use</i>	24
<i>Table 6.2 Participants' awareness on HPV</i>	27
<i>Table 7.1 Association between the number of sexual partners and socio-demographic characteristics</i>	28
<i>Table 7.2 Association between protection use in the last sexual encounter and socio-demographic characteristics</i>	29
<i>Table 7.3 Association between condom or protection used in the past 6 months and socio-demographic characteristics</i>	30
<i>Table 7.4 Association between Sex work involvement and socio-demographic characteristics</i>	30
<i>Table 7.5 Association between sexual activeness while under drug or alcohol and socio-demographic characteristics</i>	31
<i>Table 7.6 Association between alcohol use and socio-demographic characteristics</i>	32
<i>Table 7.7 Association between Nicotine product use and socio-demographic characteristics</i>	33
<i>Table 7.8 Association between stimulant drug use and socio-demographic characteristics</i>	34
<i>Table 7.9 Association between Hepatitis C diagnosis history and socio-demographic characteristics</i>	35
<i>Table 7.10 Association between Hepatitis B diagnosis history and socio-demographic characteristics</i>	36
<i>Table 7.11 Association between anxiety and socio-demographic characteristics</i>	36
<i>Table 7.12 Association between Depression and socio-demographic characteristics</i>	37
<i>Table 7.13 Association between Alcohol abuse problem and socio-demographic characteristics</i>	38
<i>Table 7.14 Association between Quality of life and socio-demographic characteristics</i>	39

List of abbreviations

No.	Abbreviations	Meaning
1	LGBTIQ+	Lesbian, gay, bisexual, transgender, queer or questioning, intersex, and more
2	SOGI	Sexual orientation and gender identity
3	MSM	Men have sex with men
4	HIV	Human immunodeficiency virus
5	HPV	Human papillomavirus
6	GAD-7	Generalized Anxiety Disorder Screener
7	PHQ-9	Patient Health Questionnaire





I. Introduction

The LGBTIQ+ community, including lesbian, gay, bisexual, transgender, and other gender and sexual diverse groups, represents a vulnerable population that often confronts numerous health-related issues and exhibits higher healthcare service utilization needs compared to the general population.^{1,2} However, they also encounter significant challenges and barriers when accessing healthcare services. In 2011, the Washington Health Institute established the objective of eliminating disparities in healthcare quality and access to healthcare services for the LGBTIQ+ community.³ LGBTIQ+ people are more likely to experience health inequalities due to heteronormativity or heterosexism, minority stress, experiences of victimization, and discrimination, compounded by stigma, which frequently root in judgments and discriminatory practices, including within their own families.^{4,5}

The LGBTIQ+ community is often more susceptible to health-related issues. The prevalence of HIV infection within this community is of significant concern, particularly among gay and bisexual men.⁶ Several studies in the United States have also found that lesbian and bisexual women tend to have higher rates of chronic illnesses and poorer overall health,⁶ commonly experience psychological problems such as anxiety, stress, and alcohol and tobacco abuse.^{7,8}

Furthermore, numerous studies have indicated that individuals within the LGBTIQ+ community are at a higher risk of experiencing mental disorders compared to the general population. The prevalence of mental health conditions, such as depression, anxiety, and even suicidal tendencies, is elevated among sexual and gender minority individuals.⁹ A quantitative survey in the United Kingdom has shown that gay and lesbian individuals seek psychological counseling more frequently than heterosexual people and tend to engage in self-harming behaviors or substance abuse. Additionally, lesbian individuals are more verbal threats or physical impact and exhibit a higher frequency of alcohol consumption when compared to cisgender women.¹⁰ Despite encountering numerous health-related challenges, individuals within the gender and sexually diverse community still face significant barriers when accessing healthcare services. Transgender adolescents, in particular, must grapple with gender dysphoria, fear, and vulnerability during their utilization of healthcare services due to various legal and economic barriers and societal prejudice and discrimination.^{2,11}

The barriers and challenges faced by the LGBTIQ+ community can lead to various consequences, such as forgoing healthcare and resorting to risky and unsafe interventions.

Transgender and non-binary individuals (those who do not identify strictly as male or female) encounter numerous difficulties when engaging with healthcare services for several reasons, including discrimination in healthcare policies and medical insurance, lack of recognition, or inadequate awareness from healthcare professionals regarding transgender-related health issues.¹² Both transgender women and transgender men have reported using hormone therapy without medical supervision from physicians or healthcare staff¹³ resulting in significant potential health risks, particularly concerning sexually transmitted diseases.

In Vietnam, the aforementioned injustices faced by the LGBTIQ+ community are increasingly garnering attention from the broader social community and relevant stakeholders within the public healthcare sector. However, there remains a paucity of surveys on the LGBTIQ+ community in Vietnam, particularly studies assessing their health status and healthcare service utilization from various perspectives. The lack of comprehensive data contributes to a scarcity of suitable health interventions and services tailored to the needs of the LGBTIQ+ community and a limited legal framework to address the health disparities they encounter. To supplement data regarding the health realities and access to healthcare services for the LGBTIQ+ community in Vietnam, the research team at Lighthouse Social Enterprise conducted a survey titled: “**Health outcomes and related factors among the LGBTIQ+ community in Vietnam**”.

II. Survey purposes

1. Determine the prevalence of health risk behaviors and common health conditions via self-reported symptomology and medical history
2. Understand diverse experiences in accessing health care services and current quality of life
3. Investigate the relationships between above variables and sociodemographic variables



III. Methods

1. Survey design

This cross-sectional survey was conducted throughout Vietnam from July 2023 to August 2023.

2. Survey participant

To participate in the survey, participants were assessed via the following inclusion criteria: (1) Self-identify as LGBTIQ+ (e.g. gays, lesbians, bisexual, transgender, queer, etc.); (2) Be Vietnamese and live in Vietnam; (3) Be 16 years old or above. (4) Having the capacity and availability to read and write in Vietnamese; (5) Accept to participate in the survey.

3. Sample size

The sampling size was calculated with the expected prevalence of 30%, a type 1 error rate of 0.05, a width of 95% confidence interval of 0.10, and a design effect of 2, at least 322 participants were needed.

A total of 324 participants who met the inclusion criteria were recruited from across Vietnam through the online recruitment method. Participants answered a questionnaire including sociodemographics, health risk behaviors, self-reported health problems, access to medical care, and well-being.

4. Procedures

The questionnaire was performed on Google Forms and distributed to the LGBTIQ+ community through the media social platform (Facebook, Zalo, and so on). Before completing the questionnaire, participants had been given basic information about this survey, its target, and the potential risks and risk-reduction strategies. Then, the participants could choose whether or not to join the survey by ticking the “Agree” or “Disagree” box on the permission form. Participants could enter our fortunate draw for a mobile card worth 100,000 VND (up to 225 chances) once their responses been registered at the end of the survey. For acceptance, they were required provide their contact information such as phone number, and email address so that we could inform them of the award results. When the number of respondents met the requirement, we closed the online survey and eliminate the responses that did not meet the inclusion criteria. Following that, we announced the winner of the fortunate draw and contacted them to give their awards.

5. Measurement

The descriptive analysis was conducted to describe the socio-demographic characteristics of participants as covariates, and the health-related risk behaviors, health conditions, alcohol problems, and quality of life as outcomes.

Socio-demographic characteristics were composed of age, gender assigned at birth, gender identity, sexual orientation, current relationship status, ethnicity, education, current employment status, and average monthly income.

Health-related risk behaviors included sexual behaviors and substance use behaviors. Regarding sexual behaviors, there were questions on the number of sexual partners, protection use and frequency of protection use, sex work involvement, and sexual activeness status. Regarding substance use, questions on alcohol use, Nicotine product use, and stimulant drug use were applied.

For the gender identity, all the respondents were required to report their gender at birth and their current gender in the following category: Man, woman, transman, transwoman, non-binary, or other specified answer.

The implementing team created or adapted items evaluating healthcare access, utilization, and experiences from multiple public health surveys.^{14,15} Several questions aimed to assess whether the participants had negative experiences while assessing healthcare systems with three options: "yes", "no", or "not sure". Health insurance was reduced to two categories: insured (which included private and public coverage) and uninsured.

Participants were required to provide information on their medical history for Hepatitis B and Hepatitis C, as well as the human papillomavirus (HPV) vaccination status along with an assessment of their knowledge and attitude regarding the HPV vaccine. Following that, the participants had to respond to a series of questions on potential barriers to accessing medical care. The Generalized Anxiety Disorder Screener (GAD-7) tool was used to measure the prevalence of anxiety. The cutoff point recommended for this tool is 7 (0-7: none; 8+ probable anxiety disorder).¹⁶ Additionally, the Patient Health Questionnaire (PHQ-9) was applied to assess the frequency of experiences with depressive symptoms in the past two weeks.¹⁷ This is a self-reported questionnaire to diagnose depressive disorders. Depression severity is categorized as minimal (1-4), mild (5-9), moderate (10-14), moderately severe (15-19), and severe (20-27). PHQ-9 and GAD-7 responses are offered on a 4-point Likert scale, with 0 = "not at all" and 3 = "nearly every day". To measure alcohol abuse problems, the CAGE substance abuse screening tool was applied.¹⁸ This included 4 questions. Item responses on the

CAGE questions are scored 0 for "no" and 1 for "yes" answers, with a higher score being an indication of alcohol problems. A total score of two or greater is considered clinically significant. The Consensus Panel recommends that primary care clinicians lower the threshold to one positive answer to cast a wider net and identify more patients who may have substance abuse disorders. In this survey, we used 1 as the cutoff point. EQ-5D instrument was used to investigate the quality of life of participants. The EQ-5D tool was initially developed simultaneously in Dutch, English, Finnish, Norwegian, and Swedish. It is now widely used around the world and has been localized in many countries.¹⁹ It also has been verified to apply in Vietnam.²⁰ This tool encompasses 5 health states (mobility, self-care, usual activities, pain/discomfort, anxiety/depression), using a 5-point Likert scale to measure the level of the problem. The index table was used to determine the quality-of-life index. In this survey, the value of 1 was no problem, any other values rather than 1 in any health state were categorized as having a problem.

6. Statistical Analysis

The dataset was saved and managed in an Excel file, then imported into STATA software version 16.0 for analysis.

Frequencies and percentages were used to demonstrate the distribution of each categorical variable. For continuous variables, mean/median and standard deviation was be calculated to show distributions.

Log-binomial regression modeling was performed to investigate the association between the outcomes and socio-demographic characteristics. Univariate regression was first conducted to select covariates. Then, only variables with p-value <0.05 were included in the multivariate model. The prevalence ratio, 95% CI, and p-value were calculated to describe the precision.



IV. Results

1. Socio-demographic characteristics of survey participants

Table 1.1 Socio-demographic characteristics of survey participants

Characteristic	Total (n)	Percent (%)
Age		
16-24	213	65.74
≥25	111	34.26
Gender Identity		
Man	132	40.74
Woman	102	31.48
Trans man	28	8.64
Trans woman	5	1.54
Non-binary	46	14.2
Others	11	3.4
Sexual orientation		
Gay	125	38.58
Lesbian	49	15.12
Straight	20	6.17
Bisexual	63	19.44
Pansexual	30	9.26
Asexual	19	5.86
Others	4	1.23
Not sure	14	4.32
Relationship status		
Single	204	62.96
In a relationship	108	33.33
Married	9	2.78
Divorced	2	0.62
Widowed	1	0.31
Ethnic		

Characteristic	Total (n)	Percent (%)
Kinh	312	96.3
Others	12	3.7
Education		
Below high school	31	9.57
High school	61	18.83
Undergraduate	215	66.36
Postgraduate	17	5.25
Current Employment		
Unemployed	37	11.42
Employed	102	31.48
Self-employed	126	38.89
Not yet	59	18.21
Others		
Average monthly income		
Under 3 million VND	140	43.21
3-5 million VND	46	14.2
Over 5 million VND	138	42.59

The data in Table 1.1 presents the distribution by the socio-demographic characteristics of the participants. The total number of individuals surveyed was 324. The participants were divided into two age groups: those aged 16 to 24 and those aged 25 or older. Notably, the younger age group (16-24) comprised the majority, with 65.74% of the total participants falling within this category. On the other hand, the older age group (≥ 25) constituted the remaining 34.26% of the participants.

Regarding gender identity, the largest identified gender group was men, accounting for 40.74% of the participants, while woman-identified participants represented 31.48% of the total. Beyond the binary categories, the survey included a substantial number of participants we identified as non-binary, comprising 14.2% of the total. Additionally, 8.64% identified as trans men, and 1.54% as trans women. Notably, 3.4% of the participants identified with other gender identities.

The participants exhibited diverse sexual orientations, with gay being the most prevalent at 38.58%. Additionally, 15.12% identified as lesbian, and 19.44% identified as bisexual. Pansexual individuals accounted for 9.26%, while asexual participants represented 5.86%. There were also small percentages of individuals who identified as having other sexual orientations (1.23%) or were unsure about their sexual orientation (4.32%).

Regarding the relationship status, most of the participants were single, comprising 62.96% of the total. Around 33.33% of the participants reported being in a relationship, while a small percentage were married (2.78%). Additionally, some participants indicated being divorced (0.62%) or widowed (0.31%).

The participants demonstrated a varied level of educational attainment. A small percentage had education below high school (9.57%), while 18.83% completed high school. Most of the participants (66.36%) held undergraduate degrees, and 5.25% had pursued postgraduate studies.

Data have found that among participants, about 38.89% were self-employed, while 31.48% were employed. A significant proportion of the participants (18.21%) were not yet employed, and 11.42% reported being unemployed.

The data shows a variety of income levels among the participants. The largest group, comprising 43.21%, had an average monthly income under 3 million VND. About 14.2% reported an income between 3 to 5 million VND, and 42.59% had an income over 5 million VND.

2. Health-related risk behaviors

2.1. Sexual behaviors

Table 2.1. Sexual behaviors

Behavior		Total (n)	Percent (%)
Being sexually active in the last 6 months (including non-penetrative and penetrative sex)			
	No	152	46.91
	Yes	172	53.09
Types of sexual activity			
Oral sex	Yes	143	83.14
Anal sex	Yes	96	55.81
Vaginal sex	Yes	62	36.05
Others:...	Yes	4	2.33

The data reveals that 53.09% of the participants engaged in some form of sexual activity over the last 6 months. Within the group of participants who reported engaging in sexual activity, the most prevalent form of sexual activity was oral sex, with 83.14% of sexually active participants indicating that they had engaged in this activity. Additionally, 55.81% reported having had anal sex, while 36.05% engaged in vaginal sex. Furthermore, a small percentage of participants (2.33%) mentioned engaging in other types of sexual activities.

Table 2.2 Health risk behaviors

Behavior	Total	Percent
Number of sexual partners in the last 6 months (penetrative or non-penetrating sex) (n=172)		
Mean=2.47		
Min=1; Max=18		
1	93	54.07
2-4	53	30.81
≥5	26	15.12
Protection use in the last sexual encounter		
No	71	41.28
Yes	101	58.72
Frequency of condom use or other protective measures in the last 6 months		
Never	49	28.49
< 25%	21	12.21
25% - 50%	21	12.21
50% - 75%	11	6.4
75% - 100%	70	40.7
Sex work involvement in their lifetime		
No	157	91.28
Yes	15	8.72
Frequency of sexual behaviors while under drugs (e.g popper, methamphetamine, amphetamines, and cocaine...) or alcohol		
Never	86	50
Rarely	41	23.84
Sometimes	21	12.21

Behavior	Total	Percent
Often	22	12.79
Always	2	1.16

The data for this section was based on a sample size of 172 participants who were sexually active in the last 6 months. The mean number of sexual partners was calculated to be 2.47, indicating an average of approximately 2 to 3 partners per participant during the specified period. The minimum reported number of partners was one, while the maximum reached up to 18. Most of the participants (54.07%) reported having one sexual partner in the last six months, 30.81% of participants indicated having 2 to 4 sexual partners, and 15.12% of participants reported having five or more sexual partners within the last six months.

Up to 41.28% reported not using any form of protection in their last sexual encounters. Moreover, findings on the frequency of condom use or contraceptive methods indicate that one-third of participants always used condoms or contraceptives (40.7%) in their sexual encounters. Notably, the prevalence of condom or contraceptive use is less than 50% reached at 24.42%.

The survey inquired about participants' involvement in sex work. The data indicates that 91.28% of participants reported not being engaged in sex work, while 8.72% disclosed their involvement in sex work activities.

Participants were asked about their frequency of engaging in sexual behaviors while under the drugs such as popper, methamphetamine, amphetamines, cocaine, or alcohol. The result shows that half of the participants (50%) reported never engaging in sexual behaviors under drugs or alcohol. Notably, 25% of participants said that they often or sometimes engage in such behaviors. Only 1.16% reported always engaging in sexual behaviors under drugs or alcohol.

2.2. Substance Use Behaviors

Table 2.3. Substance use behaviors

Behavior	Total (n)	Percent (%)
Frequency of alcohol use		
Never	55	16.98
Rarely	153	47.22
Monthly or less	69	21.3

Behavior	Total (n)	Percent (%)
2-4 times per month	34	10.49
2-3 times per week	10	3.09
Daily	3	0.93
Frequency of Nicotine product use		
Never	218	67.28
Rarely	54	16.67
Monthly or less	11	3.4
2-4 times per month	11	3.4
2-3 times per week	6	1.85
Daily	24	7.41
Frequency of stimulant drug use		
Never	272	83.95
Rarely	27	8.33
Monthly or less	13	4.01
2-4 times per month	3	0.93
2-3 times per week	2	0.62
Daily	7	2.16

Findings indicate a significant portion of the participants reported not using these substances at all. Approximately 16.98% stated that they never used alcohol, while an even larger proportion, accounting for 67.28%, reported never using nicotine products. Similarly, 83.95% of participants reported never using stimulant drugs.

For those who did engage in substance use, it was evident that the majority practiced moderate to infrequent usage. For alcohol, 47.22% reported rare usage, 21.3% used it monthly or less frequently, and only 3.09% reported using alcohol 2-3 times per week or daily. For nicotine products, 16.67% used them rarely, and 3.4% used them monthly or less often, while daily usage was reported by 7.41%. Regarding stimulant drugs, 8.33% reported rare usage, and only 2.16% used them daily.

3. Health condition

3.1. Hepatitis C / Hepatitis B prevalence, diagnosis, and treatment access

Table 3.1. Hepatitis C / Hepatitis B prevalence, diagnosis, and treatment access

Condition	Total (n)	Percent (%)
Diagnosed with Hepatitis C by a physician or other health professional in the past		
Not sure	46	14.2
No	273	84.26
Yes	5	1.54
Treated for Hepatitis C in the past		
Not sure		
No	4	80
Yes	1	20
Currently having Hepatitis C		
Not sure	2	40
No	3	60
Yes	0	0
Diagnosed with Hepatitis B by a physician or other health professional in the past		
Not sure	36	11.11
No	274	84.57
Yes	14	4.32
Treated for Hepatitis B in the past		
Not sure	1	7.14
No	9	64.29
Yes	4	28.57

Table 3.1 presents findings on the prevalence of Hepatitis C and Hepatitis B diagnosis and treatment among the participants surveyed. Out of the participants, a very small percentage (1.54%) reported having been diagnosed with Hepatitis C in the past by a physician or other health professional. The majority (84.26%) stated that they had not been diagnosed with Hepatitis C, while a significant portion (14.2%) were uncertain about their previous diagnosis.

Regarding Hepatitis C treatment, 20% of those diagnosed (01 participant) reported having received treatment for the condition in the past. However, the majority (80%) of those diagnosed with Hepatitis C were unsure if they had received any treatment.

The survey also investigated the current Hepatitis C status. Results reveal that none reported currently having Hepatitis C. However, 60% were unsure about their current Hepatitis C status, and 40% confirmed that they did not have Hepatitis C.

With regards to Hepatitis B, a small percentage (4.32%) of participants reported having been diagnosed with Hepatitis B in the past by a physician or other health professional. The majority (84.57%) stated that they had not been diagnosed with Hepatitis B, while 11.11% were uncertain about their previous diagnosis. Among those diagnosed with Hepatitis B, 28.57% (4 participants) reported having received treatment for the condition in the past. However, a significant proportion (64.29%) were unsure if they had received any treatment for Hepatitis B. Additionally, a smaller percentage (7.14%) reported not receiving any treatment.

3.2. Mental Health Problems

3.2.1. Anxiety

Table 3.2 The prevalence of anxiety

	Score	n	%
None	0-7	150	46.3
Anxiety	≥8	174	53.7

According to the findings, 46.3% of the participants obtained scores ranging from 0 to 7, indicating that they experienced little to no symptoms of anxiety. On the other hand, a substantial proportion of participants, comprising 53.7% of the total, scored 8 or higher on the anxiety scale, revealing that they had signs of anxiety symptoms.

Table 3.3 The prevalence of anxiety by gender identity

		Man	Woman	Trans man	Trans woman	Non-binary	Total
None (0-7)	n	73	43	14	1	14	150
	%	55.3	42.16	50	20	30.43	46.3
Anxiety (≥8)	n	59	59	14	4	32	174
	%	44.7	57.84	50	80	69.57	53.7

The data provides a breakdown of anxiety levels based on gender identity among the participants surveyed. Among the man-identified participants, a significant proportion (44.7%) reported anxiety symptoms. In the group of woman-identified participants, a higher percentage

(57.84%) reported anxiety symptoms. In the trans man group, there was an equal distribution, with 50% experiencing "None" of anxiety and 50% experiencing "Anxiety." Within the trans woman group, the data shows a significant proportion (80%) of participants reported anxiety symptoms. Finally, in the non-binary group, findings also indicate a larger proportion (69.57%) reported experiencing symptoms of anxiety. Because some gender groups had drastically fewer participants, meaningful inference on which group endorses the highest rate of symptoms may rather be difficult.

Table 3.4 The prevalence of anxiety by sexual orientation

		Not sure	Gay	Lesbian	Straight	Bisexual	Pansexual	Asexual	Others	Total
None (0-7)	n	5	66	26	10	25	8	7	3	150
	%	35.71	52.8	53.06	50.0	39.68	26.67	36.84	75.0	46.3
Anxiety (≥8)	n	9	59	23	10	38	22	12	1	174
	%	64.29	47.2	46.94	50.0	60.32	73.33	63.16	25.0	53.7

Table 3.4 presents the analysis of anxiety levels by the sexual orientation of participants. The results suggest a high prevalence of anxiety disorders among participants, with 53.7% experiencing anxiety symptoms overall. Among participants who identified as "Not sure" about their sexual orientation, the rate of no anxiety was 35.71%, while a larger proportion (64.29%) reported experiencing anxiety. In comparison, 52.8% of participants who identified as gay have not suffered anxiety, whereas 47.2% reported anxiety. For the lesbian group, there was a relatively equal distribution of anxiety levels among individuals, with 53.06% reporting none and 46.94% reporting experiencing anxiety. Particularly in the straight group, the result shows an even split, indicating that anxiety levels are equally distributed among individuals who identify as straight. A large proportion (60.32%) of participants who identified as bisexual reported having anxiety symptoms. Additionally, a substantial majority (73.33%) of those who identified as pansexuals reported experiencing anxiety. Among Asexual participants, 63.16% reported experiencing anxiety. Finally, for individuals who identified as "Others" in terms of their sexual orientation, only one-fourth reported experiencing symptoms of anxiety. Because some sexual orientation groups had drastically fewer participants, making meaningful inferences about which group endorses the highest rate of symptoms may be rather difficult.

3.2.2. Depression

Table 3.5 The prevalence of depression

	Score	n	%
Minimal depression	0-4	60	18.52
Mild depression	5-9	86	26.54
Moderate depression	10-14	67	20.68
Moderately severe depression	15-19	50	15.43
Severe depression	20-27	61	18.83

The data provides findings on the participants' self-reported levels of depression. Data reveals that 18.52% of participants experienced minimal or no depressive symptoms. Those with mild or moderate symptoms of depression accounted for the largest proportion (47.22%) of participants. Particularly, 34.26% reported experiencing the highest level of depression (moderately severe and severe symptoms)

Table 3.6 The prevalence of depression by gender identity

		Man		Woman		Trans man		Trans woman		Non-binary		Others		Total	
		n	%	n	%	n	%	n	%	n	%	n	%	n	%
Minimal depression	0-4	37	28.03	10	9.8	9	32.14	1	20.0	1	2.17	2	18.18	60	18.52
Mild depression	5-9	43	32.58	25	24.51	6	21.43	0	0	8	17.39	4	36.36	86	26.54
Moderate depression	10-14	20	15.15	30	29.41	2	7.14	0	0	14	30.43	1	9.09	67	20.68
Moderately severe depression	15-19	22	16.67	16	15.69	4	14.29	1	20.0	6	13.04	1	9.09	50	15.43
Severe depression	20-27	10	7.58	21	20.59	7	25.0	3	60.0	17	36.96	3	27.27	61	18.83

The data presents a detailed analysis of depression levels based on gender identity among the participants surveyed. Among male participants, the data shows that 28.03% reported minimal depression, 32.58% reported mild depression, and 15.15% reported moderate

depression. Notably, the analysis reveals 16.67% reported moderately severe depression, while 7.58% reported severe depression. Among women, the data shows that 24.51% reported mild depression, while 29.41% reported moderate depression. A large proportion of participants (36.28%) reported moderately severe and severe depression. For transman participants, the data indicates that 32.14% reported minimal depression and 21.43% reported mild depression. Meanwhile, 7.14% reported moderate depression. and 14.29% reported moderately severe depression. Especially, the proportion of those with severe depression in these groups accounts for up to 25%. Among transwomen participants, the data reveals that 60% reported severe depression, representing a significant prevalence of severe depressive symptoms in this group. However, the total number of trans women is small. For non-binary participants, the data shows that 43.48% reported minimal depression, 17.39% reported mild depression, and 30.43% reported moderate depression. Additionally, 13.04% reported moderately severe depression, while 36.96% reported severe depression, showing a relatively higher prevalence of severe depressive symptoms in this group.

Table 3.7 The prevalence of depression by sexual orientation

		Not sure		Gay		Lesbian		Straight		Bisexual		Pansexual		Asexual		Others		Total	
		n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Minimal depression	0-4	0	0	34	27.2	7	14.3	4	20.0	10	15.87	1	3.33	2	10.53	2	50.0	60	18.52
Mild depression	5-9	4	28.57	42	33.6	14	28.57	6	30.0	11	17.46	8	26.67	1	5.26	0	0	86	26.54
Moderate depression	10-14	0	0	17	13.6	11	22.45	3	15.0	16	25.4	8	26.67	7	36.84	1	25	67	20.68
Moderately severe depression	15-19	0	0	23	18.4	6	12.24	3	15	10	15.87	5	16.67	3	15.79	0	0	50	15.43
Severe depression	20-27	6	42.86	9	7.2	11	22.45	4	20	16	25.4	8	26.67	6	31.58	1	25.0	61	18.83

Table 3.7 depicts the depression levels across various sexual orientations among the surveyed participants. Among those who identified as "Not sure" about their sexual orientation, there were no reports of minimal depression. However, a relatively high percentage (28.57%)

experienced mild depression. Furthermore, an alarming 42.86% of "Not sure" participants reported severe depression. Among gay participants, 27.2% reported minimal depression, and 33.6% reported mild depression. However, only 7.2% reported severe depression. Among lesbian participants, 14.29% reported minimal depression, while 28.57% reported mild depression. The proportion of people who reported moderate and moderately severe depression is 22.45% and 12.24% respectively, and 22.45% reported severe depression. For straight participants, 20% reported minimal depression, and 30% reported mild depression. Similarly, 15% reported moderate depression, and 20% reported severe depression.

The data shows that among bisexual participants, 15.87% reported minimal depression, and 17.46% reported mild depression. However, 25.4% reported moderate depression, and 15.87% reported moderately severe depression. Additionally, a considerable proportion of bisexual individuals (25.4%) reported severe depression. For pansexual participants, 3.33% reported minimal depression, 26.67% reported mild depression, and 26.67% reported moderate depression. Notably, up to 43.34% reported moderately severe (16.67%) and severe (26.67%) depression. Among asexual participants, 10.53% reported minimal depression, and 26.67% reported mild depression. Importantly, 36.84% reported moderate depression, and 15.79% reported moderately severe depression. Among participants who identified as others, 18.52% reported minimal depression, 5.26% reported mild depression, and 20.68% reported moderate depression. The proportions of reported moderately severe depression and severe depression are 15.43% and 18.83% respectively.

4. Alcohol abuse

Table 4.1 Alcohol abuse

Alcohol abuse	Total (N)	Percent (%)
No	233	71.91
Yes	91	28.09

According to the data, a large portion of the surveyed individuals (71.91%) of the participants did not report experiencing alcohol abuse problems and 28.09% of the participants reported having alcohol abuse problems.

Table 4.2 The prevalence of alcohol abuse by gender identity

Alcohol Problem		Men	Women	Trans man	Trans woman	Non-binary	Others	Total
0	n	84	80	19	2	39	9	233
	%	63.64	78.43	67.86	40	84.78	81.82	71.91
1	n	48	22	9	3	7	2	91
	%	36.36	21.57	32.14	60	15.22	18.18	28.09

The data provides a detailed breakdown of the prevalence of alcohol problems based on different gender identities among the participants surveyed. Among men, a significant majority of males surveyed (63.64%) did not report experiencing issues related to alcohol consumption, while 36.36% of males reported having alcohol problems. For women participants, a higher percentage of 78.43% responded "No" to alcohol problems, however, 21.57% of them reported experiencing alcohol problems. 32.14% of transman participants reported having alcohol-related issues, while the proportion of trans women having this issue is 60%. Among non-binary participants, the majority of non-binary individuals surveyed (84.78%) do not have issues with alcohol consumption. On the other hand, 15.22% of non-binary participants reported "Yes" to experiencing alcohol problems. The remaining 18.18% of participants reported facing alcohol-related concerns.

Table 4.3 The prevalence of alcohol problem by sexual orientation

Alcohol problem		Not sure	Gay	Lesbian	Straight	Bisexual	Pansexual	Asexual	Others	Total
0	n	11	79	34	13	51	25	18	2	233
	%	78.57	63.2	69.39	65.0	80.95	83.33	94.74	50	71.91
1	n	3	46	15	7	12	5	1	2	91
	%	21.43	36.8	30.61	35.00	19.05	16.67	5.26	50	28.09

Table 4.3 presents findings on the prevalence of alcohol problems by different sexual orientations among the participants surveyed. Among participants who identified as *not sure* about their sexual orientation, 78.57% reported "No" alcohol problems. Conversely, 21.43% of participants who were *not sure* reported "Yes" to having alcohol problems, representing a smaller but still noteworthy proportion facing challenges with their drinking habits. For *gay* participants, 36.8% reported experiencing alcohol problems. The proportion of lesbians who responded "Yes" to having alcohol problems is 30.61%. 35% of straight participants

also reported experiencing alcohol issues. Among *bisexual* participants, 19.05% responded "Yes" to having alcohol problems. For *pansexual* participants, 83.33% reported "No", while 16.67% responded "Yes" to experiencing alcohol problems. Only 5.26% of *asexual* participants reported experiencing alcohol problems. Notably, half of the rest of the participants reported experiencing alcohol problems.

5. Quality of Life

Table 5.1 Quality of life by gender identity

Quality of life index	Man	Woman	Trans man	Trans woman	Non-binary	Other	Total
Total index	117.99	85.05	24.44	4.14	35.99	8.41	276.01
Mean	0.89	0.83	0.87	0.83	0.78	0.76	0.85

The data presents the Quality of Life Index, as measured by the EQ-5D scale, among individuals with different gender identities. The Quality of Life Index is a measure of overall well-being and includes various dimensions of health, such as mobility, self-care, usual activities, pain/discomfort, and anxiety/depression.

Among the participants, the highest mean Quality of Life Index was observed in men, with a score of 0.89. Women also reported a relatively high mean Quality of Life Index of 0.83, indicating positive overall well-being among females. The Quality of Life Index for trans man individuals was 0.87, and for trans women, it was 0.83. Both groups reported relatively high scores, suggesting a positive level of overall well-being within these gender identity categories. Among *non-binary* participants, the mean Quality of Life Index was 0.78, while for others it was 0.76. These groups had slightly lower mean scores compared to other gender identities, indicating a slightly lower level of overall well-being in these categories.

The total index, which represents the sum of the Quality of Life Index scores across all gender identities, was 276.01. This total provides an overall assessment of the participant's quality of life based on the EQ-5D scale.

Table 5.2 Quality of life by sexual orientation

QoL	Not sure	Gay	Lesbian	Straight	Bisexual	Pansexual	Asexual	Others	Total
Total	11.79	111.44	41.64	17.27	52.19	14.80	15.44	3.41	276.01
Mean	0.84	0.89	0.85	0.86	0.83	0.49	0.81	0.85	0.85

Among the participants, the highest mean Quality of Life Index was observed in the gay group, with a score of 0.89. Lesbian individuals also reported a relatively high mean Quality of Life Index of 0.85, indicating positive well-being among lesbians. For straight individuals, the mean Quality of Life Index was 0.86. Bisexual individuals had a mean Quality of Life Index of 0.83, indicating a relatively high level of well-being in this category. Among individuals categorized as *Asexual*, the mean Quality of Life Index was 0.81, indicating a positive level of overall well-being in this group. For individuals in the *others* category, the mean Quality of Life Index was 0.85, suggesting a relatively high level of well-being among this diverse group. The *not-sure* group reported a mean Quality of Life Index of 0.84. However, it is important to note that the pansexual group had a comparatively lower mean Quality of Life Index of 0.49.

Table 5.3 Quality of life by health state

	1. No Problem		2. Slight problem		3. Moderate problem		4. Severe problem		5. Extreme problem	
	(n)	(%)	(n)	(%)	(n)	(%)	(n)	(%)	(n)	(%)
Mobility	288	88.89	27	8.33	4	1.23	4	1.23	1	0.31
Self-care	306	94.44	10	3.09	7	2.16	1	0.31	0	0
Usual activities	253	78.09	53	16.36	11	3.4	7	2.16	0	0
Pain/ Discomfort	178	54.94	120	37.04	20	6.17	5	1.54	1	0.31
Anxiety/ Depression	107	33.02	101	31.17	81	25	23	7.1	12	3.7

Table 5.3 provides information on the reported problems in different dimensions of health based on a 5-point scale. In the mobility dimension, the majority of participants, 88.89%, reported no problem, indicating that they did not face any mobility-related issues. A smaller percentage, 8.33%, reported slight problems while 1.23% reported moderate problems, and the same percentage, 1.23%, reported severe problems. A minimal 0.31% of participants reported experiencing an extreme problem with mobility.

For self-care dimensions, a significant majority of participants, 94.44%, reported no problem indicating that they could manage self-care without any significant difficulties. A

smaller percentage, 3.09%, reported slight problems while 2.16% reported moderate problems. A negligible 0.31% of participants reported experiencing a severe problem with self-care, and no participants reported an extreme problem in this dimension.

In the usual activities dimension, 78.09% of participants reported no problem, suggesting that they could carry out their usual activities without any significant difficulties. A notable 16.36% reported slight problems, while 3.4% reported moderate problems and 2.16% reported severe problems. No participants reported an extreme problem with usual activities.

Regarding Pain/Discomfort, 54.94% of participants reported no problem, indicating that they did not experience significant pain or discomfort. However, a substantial 37.04% reported slight problems, while 6.17% reported moderate problems, and 1.54% reported severe problems. A minimal 0.31% of participants reported an extreme problem with pain or discomfort.

In the anxiety/depression dimension, 33.02% of participants reported no problem, suggesting that they did not experience significant anxiety or depression. However, 31.17% reported slight problems, 25% reported moderate problems, and 7.1% reported severe problems. A small 3.7% of participants reported experiencing an extreme problem with anxiety or depression.

Overall, the data highlights that most participants did not report significant problems in the various dimensions of health, with no problem being the dominant response.

6. Access to medical care, health service use

Table 6.1 Challenges in medical care access and service use

Item		Total (n)	Percent (%)
Health Insurance			
	No	49	15.12
	Yes	275	84.88
Finding healthcare services unaffordable			
	No	226	69.75
	Yes	98	30.25
Fear of stigma and discrimination in healthcare settings			
	No	267	82.41

Item		Total (n)	Percent (%)
	Yes	57	17.59
Disclosure of LGBT identities to the healthcare provider			
	No	266	82.1
	Yes	58	17.9
Refusal of treatment because of LGBT identities			
	No	316	97.53
	Yes	8	2.47
Poor quality of care because of your LGBT identity? (e.g., discharged early, dismissing health concerns, ...)			
	No	315	97.22
	Yes	9	2.78
Harsh or abusive language by a doctor or healthcare provider due to LGBT identities?			
	No	316	97.53
	Yes	8	2.47
Unwanted physical contact from a doctor or other health care provider due to LGBT identities?			
	No	320	98.77
	Yes	4	1.23
How much does this statement apply to you: “Even though I have issues with the current medical facility due to my LGBTIQ+ identities, I find it difficult to find alternative care of the same quality/expertise.”			
	Strongly disagree	75	23.15
	Disagree	81	25
	Neutral	130	40.12
	Agree	29	8.95
	Strongly agree	9	2.78
Cervical screening test? (<i>for participants assigned at birth as female only</i>)			
	Not applicable	132	40.74

Item		Total (n)	Percent (%)
	No	175	54.01
	Yes	17	5.25
If you had a cervical screening test, have you ever received instructions or guidelines that are inclusive of your LGBT identity? (<i>for participants assigned at birth as female only</i>)			
	No	14	82.35
	Yes	3	17.65
Are you currently receiving hormone therapy?			
	I do not want to take Hormone therapy.	276	85.19
	I plan to take it later.	30	9.26
	I used to receive hormone therapy in the past.	4	1.23
	I am currently receiving hormone therapy	14	4.32
Reasons for not taking hormone therapy yet?			
I can't afford it.			
	No	279	91.18
	Yes	27	8.82
I can't seem to discover any clinics that offer hormone therapy			
	No	284	92.81
	Yes	22	7.19
The hormone therapy provider was too far away from where I reside			
	No	302	98.69
	Yes	4	1.31
I have no need.			
	No	30	9.8
	Yes	276	90.2
Other...		3	

Table 6.1 provides crucial findings on the healthcare experiences of individuals with LGBTIQ+ identities, shedding light on their challenges in access to and use of essential medical services.

The majority of participants reported having health insurance (84.88%). However, a significant proportion of respondents (30.25%) expressed that they encountered financial barriers when they wanted to see a doctor.

Fear of stigma and discrimination continues to be a concern, with 17.59% of participants avoiding seeking medical care due to these apprehensions. Additionally, the analysis reveals that 17.9% of participants did not disclose their LGBTIQ+ identities to healthcare providers during medical visits.

Data indicates that the majority of respondents did not encounter refusal of treatment (2.47%) or experience poor quality of care (2.78%) due to their LGBTIQ identities. However, the data also reveals that a small percentage of individuals (2.47%) reported experiencing harsh or abusive language from healthcare providers, while an even smaller percentage (1.23%) reported unwanted physical contact.

Regarding the difficulty in finding alternative care of the same quality/expertise, nearly half of the participants (48.15%) reported their disagreement or strong disagreement, 40.12% were neutral and only 2.78% strongly agreed.

Regarding the cervical screening test, data shows 54.01% of participants assigned female at birth had not received a cervical screening test and 5.25% had received a cervical screening test.

A significant proportion of respondents (85.19%) expressed that they did not want to take hormone therapy, while 9.26% planned to take it later. The proportion of those who were receiving hormone therapy was 4.32%. Participants provided various reasons for not taking hormone therapy, including affordability, inability to find clinics offering hormone therapy, the proximity of hormone therapy providers to their residences, and not feeling the need for hormone therapy.

Table 6.2 Participants' awareness on HPV

Statement		N	Percent (%)
Have you ever heard of <i>Human papillomavirus(HPV)</i>			
	No	50	15.43
	Yes	274	84.57
How do you think someone gets HPV?			
By having sex with someone who has HPV	Yes	317	97.84

Statement		N	Percent (%)
From blood transfusion	Yes	234	72.22
By being coughed on by someone who has HPV	Yes	27	8.33
By eating something that might contain HPV	Yes	67	20.68
Poor hygiene	Yes	120	37.04
From Toilet seat	Yes	179	55.25
Have you had the HPV vaccine?			
	No	262	80.86
	Yes	62	19.14
Are you willing to receive the HPV vaccine?			
	No = 0	32	12.21
	Considered	88	33.59
	Yes	142	54.2

Table 6.2 presents the results on participants' awareness on HPV. Data shows high level of awareness among study participants with 84.57% of respondents having heard of Human papillomavirus (HPV).

There's significant awareness about the role of sexual transmission in HPV. However, there are also some misconceptions, such as the belief that HPV can be transmitted through blood transfusion, poor hygiene, and even from a toilet seat (72.22%, 37.04% and 55.25% respectively).

Regarding vaccination, only one-fourth of participants had had HPV vaccination. Additionally, larger number of participants are willing to receive it.

7. Socio-demographic factors associated with health-related risk behaviors, health conditions, alcohol problems, quality of life, and access to medical and service use

7.1. Health-related risk behaviors

7.1.1. Sexual behaviors

Table 7.1 Association between the number of sexual partners and socio-demographic characteristics

Characteristic	OR	p	95% CI	
Age				
16-24				
≥25	0.63	0.35	0.24	1.66

Characteristic	OR	p	95% CI	
Gender assigned at birth				
Male				
Female	0.06	0.000*	0.03	0.15
Average monthly income				
Under 3 million VND				
3-5 million VND	6.83	0.003*	1.90	24.58
Over 5 million VND	2.58	0.09	1.43	7.69

Findings reveal that gender assigned at birth and income from 3-5 million VND was significantly associated with the number of sexual partners. Participants assigned female at birth are 0.06 less likely to have more partners compared to those assigned male at birth, with 95% CI ranges from 0.03 to 0.15 and a p-value of 0.003. Participants with an average monthly income in the range of 3-5 million VND were 6.83 times higher likely compared to those with incomes below 3 million VND (95%CI: 1.90 - 24.58, and p-value of 0.003).

Table 7.2 Association between protection use in the last sexual encounter and socio-demographic characteristics

Characteristics	OR	p	95% CI	
Gender assigned at birth				
Male	1			
Female	0.06	0.02*	0.006	0.62
Gender identity				
Man	1			
Woman	4.06	0.26	0.36	46.03
Trans man	5.85	0.17	0.47	73.65
Trans woman	0.77	0.83	0.07	8.19
Non-binary	1.98	0.56	0.20	19.48
Others	17.95	0.09	0.65	497.91
Relationship status				
Single	1			
In a relationship	0.41	0.02*	0.20	0.86
Married	0.26	0.12	0.05	1.43
Divorced	1			

Characteristics	OR	p	95% CI	
Widowed	1			
Average monthly income				
Under 3 million VND				
3-5 million VND	0.42	0.13	0.04	1.21
Over 5 million VND	0.88	0.76	0.39	2.01

Survey's results indicate no significant association was found between protection use in the last sexual encounter and gender identity or average monthly income. In contrast, gender assigned at birth and relationship status were factors associated with protection use in the last sexual encounter. Participants assigned female at birth had an odds ratio of 0.06 compared to those assigned male at birth. The p-value of 0.02 indicates that this association is statistically significant. Regarding relationship status, participants in a relationship had an odds ratio of 0.41 compared to those who were single. The p-value of 0.02 indicates that this association is statistically significant.

Table 7.3 Association between condom or protection used in the past 6 months and socio-demographic characteristics

Characteristics	OR	p	95 % CI	
Gender assigned at birth				
Male				
Woman	0.05	0.01*	0.004	0.50
Gender identity				
Male				
Woman	3.01	0.39	0.25	36.80
Trans man	3.43	0.35	0.25	46.29
Trans woman				
Non-binary	0.95	0.96	0.10	8.98
Others	6.17	0.29	0.21	177.27
Relationship status				
Single				
In a relationship	1.08	0.85	0.47	2.49
Married	0.11	0.02*	0.02	0.72

Divorced	1	1		
Widowed	1	1		

The data above presents the results of an analysis of the associations between condom or protection used in the past 6 months and various socio-demographic characteristics. Findings reveal that gender assigned at birth and relationship status were significantly associated with condom or protection use in the past 6 months of participants. Participants assigned female at birth had an odds ratio of 0.05 compared to those assigned male at birth. 95% CI ranges from 0.004 to 0.50 and the p-value of 0.01 indicates that this association is statistically significant. Additionally, participants who were married had an odds ratio of 0.11 compared to those who were single. The 95% CI ranges from 0.02 to 0.72 and the p-value of 0.02* indicates that this association is statistically significant.

Table 7.4 Association between Sex work involvement and socio-demographic characteristics

Characteristics	OR	p	95% CI	
Gender assigned at birth				
Man				
Woman	0.08	0.02*	0.01	0.67
Relationship status				
Single				
In a relationship	4.18	0.04*	1.09	16.01
Married	1			
Divorced	1			
Widowed	1			

Gender assigned at birth and relationship status were found associated with sex work involvement. Participants assigned female at birth have an odds ratio of 0.08 compared to those assigned male at birth. 95% CI ranges from 0.01 to 0.67 and the p-value of 0.02* indicates that this association is statistically significant. Regarding relationship status, participants who were in a relationship had an odds ratio of 4.18 compared to those who are single and the association is statistically significant with 95%CI ranges from 1.09 to 16.01, p-value of 0.04.

Table 7.5 Association between sexual activeness while under drug or alcohol and socio-demographic characteristics

Characteristics	OR	p	95% CI	
Gender assigned at birth				
Male				
Female	0.49	0.42	0.09	2.79
Gender identity				
Man				
Woman	0.73	0.74	0.11	4.70
Trans man	0.50	0.50	0.07	3.69
Trans woman	3.47	0.34	0.27	44.47
Non-binary	0.65	0.61	0.13	3.31
Others	1			
Education				
Below high school	1			
High school	6.84	0.02*	1.39	33.71
Undergraduate	3.11	0.12	0.75	12.95
Postgraduate	6.53	0.07	0.88	48.53
Average monthly income				
Under 3 million VND	1			
3-5 million VND	3.22	0.04*	1.08	9.55
Over 5 million VND	1.88	0.12	0.85	4.18

Table 7.5 describes the result of the analysis on the association between sexual activeness while under drugs or alcohol and socio-demographic characteristics. Participants with education levels of high school had an odds ratio of 6.84 compared to those with education below high school. However, with a p-value of 0.04 but 95% CI-wide, ranging from 0.39-33.71, the association is not statistical. On the other hand, results indicate that income was associated with sexual activity while under the influence of drugs or alcohol of participants. Participants with an average monthly income of 3-5 million VND have an odds ratio of 3.22 compared to those with an income under 3 million VND. The 95% CI ranges from 1.08 to 9.55 and a p-value of 0.04* indicates that this association is statistically significant.

7.1.2. Substance use behaviors

Table 7.6 Association between alcohol use and socio-demographic characteristics

Characteristic	OR	p	95% CI	
Education				
Below high school				
High school	1.14	0.79	0.41	3.26
Undergraduate	1.84	0.21	0.72	4.73
Postgraduate	4.15	0.22	0.44	39.49
Current Employment				
Unemployed				
Employed	2.18	0.15	0.76	6.27
Self-employed	2.69	0.05	1	7.25
Not yet	2.57	0.06	0.97	6.80
Others				
Average monthly income				
Under 3 million VND				
3-5 million VND	1.81	0.29	0.60	5.50
Over 5 million VND	1.77	0.18	0.76	4.14

Table 7.6 presents the results of an analysis of the associations between alcohol use and various socio-demographic characteristics. Findings do not show statistically significant associations between alcohol use and socio-demographic characteristics, including education level, current employment status, and average monthly income because of p-values and wide confidence intervals.

Table 7.7 Association between Nicotine product use and socio-demographic characteristics

Characteristic	OR	p	95% CI	
Gender Identity				
Male				
Female	0.78	0.46	0.41	1.49
Trans man	1.24	0.63	0.51	3.01
Trans woman	0.60	0.66	0.006	5.83
Non-binary	2.06	0.08	0.92	4.58

Characteristic	OR	p	95% CI	
Others	2.40	0.21	0.61	9.59
Relationship status				
Single				
In a relationship	1.44	0.22	0.80	2.61
Married	0.84	0.82	0.19	3.67
Divorced	1.94	0.68	0.87	43.49
Widowed	1			
Current Employment				
Unemployed				
Employed	1.88	0.27	0.61	5.79
Self-employed	2.21	0.15	0.75	6.51
Not yet	1.40	0.55	0.46	4.25
Others				
Average monthly income				
Under 3 million VND				
3-5 million VND	1.65	0.23	0.72	3.79
Over 5 million VND	1.29	0.47	0.64	2.63
Sexual activeness status in the last 6 months (including non-penetrative and penetrative sex)				
No				
Yes	2.21	0.01*	1.18	4.12

Findings do not show statistically significant associations between nicotine product use and most of the socio-demographic characteristics examined, including gender identity, relationship status, current employment status, and average monthly income.

However, there was a statistically significant association between nicotine product use and sexual activeness status in the last 6 months, indicating that individuals who reported being sexually active were more likely to use nicotine products. Participants who reported being sexually active in the last 6 months had an odds ratio of 2.21 compared to those who reported being not sexually active. 95% CI ranges from 1.18 to 4.12 and a p-value of 0.01 indicates a significant association.

Table 7.8 Association between stimulant drug use and socio-demographic characteristics

Characteristic	OR	p	95% CI	
Gender assigned at birth				
Male				
Female	0.55	0.42	0.13	2.37
Gender Identity				
Man				
Woman	1.29	0.76	0.26	6.40
Trans man	0.81	0.83	0.12	5.39
Trans woman	0.96	0.10	0.10	9.64
Non-binary	1.43	0.61	0.36	5.73
Others	0.94	0.96	0.09	10.36
Education				
Below high school				
High school	1.85	0.39	0.45	7.58
Undergraduate	1.35	0.67	0.37	4.93
Postgraduate	5.71	0.04*	1.09	29.84
Average monthly income				
Under 3 million VND				
3-5 million VND	1.04	0.94	0.37	2.89
Over 5 million VND	1.25	0.55	0.59	2.68
Sexual activeness status in the last 6 months (including non-penetrative and penetrative sex)				
No				
Yes	3.50	0.002*	1.59	7.71

Findings reveal the significant associations between stimulant drug use and education level as well as sexual activeness status in the last 6 months. Participants with postgraduate education were more likely to use stimulant drugs (95%CI: 1.09-29.84, p-value of 0.04), and those who reported being sexually active in the last 6 months were also more likely to use stimulant drugs (95%CI: 1.59-7.71, p-value of 0.002). Most of the socio-demographic characteristics examined, including gender assigned at birth, gender identity, Average monthly income, and sexual activeness status are not significantly associated with the stimulant drug use of participants.

7.2. Health condition

7.2.1. Hepatitis B, Hepatitis C

Table 7.9 Association between Hepatitis C diagnosis history and socio-demographic characteristics

Characteristic	OR	p	95% CI	
Gender assigned at birth				
Male	1			
Female	0.57	0.10	0.29	1.11
Current Employment				
Unemployed	1			
Employed	1.83	0.20	0.72	4.65
Self-employed	2.22	0.09	0.87	5.65
Not yet	3.00	0.06	0.96	9.38
Others				

Table 7.9 presents the results of an analysis of the associations between Hepatitis C diagnosis history and various socio-demographic characteristics. Results indicate no statistically significant association between Hepatitis C diagnosis history and socio-demographic characteristics had been found in this survey.

Table 7.10 Association between Hepatitis B diagnosis history and socio-demographic characteristics

Characteristic	OR	p	95% CI	
Gender assigned at birth				
Male	1			
Female	0.56	0.13	0.26	1.18
Current Employment				
Unemployed	1			
Employed	2.20	0.12	0.81	5.96
Self-employed	3.00	0.04*	1.07	8.31
Not yet	2.58	0.12	0.81	8.23
Others				

Findings on the association between Hepatitis B diagnosis history and socio-demographic characteristics reveal that current employment was associated with the Hepatitis B diagnosis history. Self-employed participants had an odds ratio of 3.00 compared to those

who are unemployed. The p-value of 0.04* indicates that this association is statistically significant at the conventional significance level of 0.05.

7.2.2. *Mental Health Problems*

Table 7.11 Association between anxiety and socio-demographic characteristics

Characteristic	OR	p	95% CI	
Age				
16-24	1			
≥25	0.83	0.52	0.46	1.48
Gender assigned at birth				
Male				
Female	1.20	0.74	0.41	3.51
Gender Identity				
Man	1			
Woman	1.28	0.68	0.40	4.07
Trans man	1.13	0.86	0.30	4.19
Trans woman	5.60	0.13	0.59	52.78
Non-binary	2.05	0.19	0.70	6.03
Others	1.23	0.79	0.27	5.64
Average monthly income				
Under 3 million VND	1			
3-5 million VND	1.02	0.96	0.50	2.06
Over 5 million VND	0.56	0.06	0.30	1.02
Sexual activeness in the last 6 months (including non-penetrative and penetrative sex)				
No	1			
Yes	0.92	0.74	0.55	1.52

Table 7.11 presents the result of the analysis of the association between anxiety and socio-demographic characteristics. Results reveal that none of the socio-demographic factors are found significantly associated with the anxiety of participants.

Table 7.12 Association between Depression and socio-demographic characteristics

Characteristic	OR	p	95% CI	
Age				
16-24				
≥25	0.870	0.724	0.402	1.883
Gender assigned at birth				
Male				
Female	3.490	0.174	0.575	21.190
Gender Identity				
Man				
Woman	0.998	0.998	0.154	6.454
Trans man	0.269	0.185	0.039	1.873
Trans woman	1.302	0.821	0.132	12.818
Non-binary	7.953	0.093	0.710	89.120
Others	0.539	0.565	0.065	4.434
Relationship status				
Single				
In a relationship	0.842	0.642	0.408	1.739
Married	0.341	0.172	0.073	1.597
Divorced	0.032	0.056	0.001	1.088
Widowed	1.000			
Current Employment				
Unemployed				
Employed	1.526	0.564	0.363	6.415
Self-employed	0.869	0.838	0.226	3.346
Not yet	1.165	0.832	0.285	4.764
Others				
Average monthly income				

Characteristic	OR	p	95% CI	
Under 3 million VND				
3-5 million VND	0.565	0.296	0.194	1.647
Over 5 million VND	0.512	0.198	0.185	1.418
Sexual activeness status in the last 6 months (including non-penetrative and penetrative sex)				
No				
Yes	1.108	0.793	0.514	2.391

In addition to anxiety, the survey investigated the association between depression and socio-demographic characteristics. However, none of the socio-demographic factors are significantly associated with the depression of participants.

7.3. Alcohol abuse problem

Table 7.13 Association between Alcohol abuse problem and socio-demographic characteristics

Characteristic	OR	p	95% CI	
Gender assigned at birth				
Male				
Female	0.18	0.01*	0.05	0.65
Gender Identity				
Man				
Woman	2.78	0.15	0.69	11.23
Trans man	4.13	0.07	0.90	19.05
Trans woman	4.35	0.15	0.58	32.70
Non-binary	1.21	0.76	0.36	4.07
Others	1.63	0.61	0.25	10.76
Current Employment				
Unemployed				
Employed	2.90	0.12	0.77	10.87
Self-employed	3.43	0.06	0.96	12.33
Not yet	4.08	0.03 *	1.15	14.51
Others				
Average monthly income				
Under 3 million VND				

Characteristic	OR	p	95% CI	
3-5 million VND	1.29	0.57	0.54	3.08
Over 5 million VND	1.51	0.26	0.74	3.08

Findings reveal the significant associations between gender assigned at birth and current employment with alcohol problems of participants. Female-assigned-at-birth participants were less likely to have abused alcohol than their male counterparts (95% CI: 0.05-0.65, the p-value of 0.1). Besides, those who had not yet been employed were a 4.08 times higher likelihood of having alcohol abuse problems (95% CI: 1.15-14.51, the p-value of 0.03).

7.4. Quality of Life

Table 7.14 Association between Quality of life and socio-demographic characteristics

Characteristic	OR	p	95% CI	
Age				
16-24				
≥25	0.84	0.61	0.43	1.65
Gender assigned at birth				
Male				
Female	2.92	0.000*	1.64	5.22
Current Employment				
Unemployed				
Employed	0.34	0.13	0.08	1.39
Self-employed	0.25	0.05*	0.06	0.99
Not yet	0.37	0.16	0.09	1.48
Others				
Average monthly income				
Under 3 million VND				
3-5 million VND	1.24	0.66	0.48	3.21
Over 5 million VND	0.64	0.29	0.27	1.48
Sexual status in the last 6 months (including non-penetrative and penetrative sex)				
No				

Characteristic	OR	p	95% CI	
Yes	0.69	0.23	0.37	1.27

Table 7.14 shows significant associations between quality of life and gender assigned at birth and self-employment status. Specifically, participants assigned female at birth have a 2.92 times higher probability of having a problem in any health state. 95% CI ranges from 1.64 to 5.22 and a p-value of 0.000* indicates that this association is statistically significant. Regarding self-employment status, self-employed participants had a 0.25 times higher probability of having a problem in any health state compared to those who were unemployed. 95% CI: 0.06 to 0.99 and a p-value of 0.05 indicates that this association is statistically significant. However, there are no statistically significant associations between quality of life and age, Average monthly income, and sexual status in the last 6 months.

V. Discussion

This is the first survey in Vietnam with the purpose to provide an overview of the LGBTIQ+ community's health-related behaviors, health outcomes, experiences with healthcare services, and quality of life. Our sample exhibited concerning sexual risk behaviors in various domains: not using any protective measures during the most recent sexual encounter; using protective measures less than 75% of sexual encounters in the past 6 months; having two or more sexual partners in the past 6 months. Generally, sexual and gender minorities in our survey used alcohol, nicotine, and stimulant drugs in moderation. In terms of physical health, the majority did not claim any diagnosis of Hepatitis C and Hepatitis B. However, 11-14% of participants claimed to be unsure of the status of such communicable diseases, which implies no prior screening or testing. We observed significant concerns over anxiety and depression but not alcohol abuse. In particular, over half of the sample showed symptoms of anxiety, which were most pronounced among trans women, non-binary, pansexual individuals, and those unsure of their sexual orientation. Also, the vast majority showed mild to severe depressive symptoms. The highest severity for depression was reported among people identifying as/with non-binary, other gender diverse identities, asexual, and unsure of their sexual orientation. While two-thirds of the sample did not meet the criteria for alcohol abuse, it is important to note that cisgender men and gay-identifying participants demonstrated greater self-reported symptoms for this disorder. In terms of quality of life, sexual and gender minorities in our survey struggled most with anxiety/depression followed by pain/discomfort. Also, non-binary and pansexual-identifying participants reported the lowest average index of quality of life. Another purpose of this survey was to understand how sociodemographics are related to the above variables and the relationships among variables if applicable. One of the notable associations was between the history of sex work and relationship status: participants who are currently in a committed relationship were more than 4 times likely to report having engaged in some capacity of sex work in their lifetime. We also found that there was a higher frequency of sexual activities under the influence of drugs or alcohol among participants whose highest educational attainment was high school and who earned middle-level income (3-5 million VND/month). In addition, in our sample, participants who reported having been sexually active in the past 6 months were more likely to endorse increased nicotine and stimulant drug use. Interestingly, we observed that the odds for LGBTIQ+ people who claimed to be self-employed were 3 times higher than those for unemployed participants to have been

diagnosed with Hepatitis B. And while being female-assigned at birth increases the odds for a person to experience greater quality of life by almost 3 times, being self-employed may reduce equivalent odds by 0.25 times.

While roughly the rate for sexual risk behaviors hovers around 50% across domains, frequency variations show great insights. Approximately 46% of the individuals had more than two sexual partners, and 41% did not use a protection approach during intercourse, indicating an elevated risk of STIs exposure in this group. Previous findings revealed that alcohol abuse was more prevalent in lesbian, gay, and bisexual populations²¹ and they were more likely to use tobacco compared to those who are not LGBT.²² However, our survey shows a low rate of daily alcohol use and smoking (under 8%). In addition, the estimated percentage of participants reporting that they had never used tobacco, alcohol, or drugs was 67%, 17%, and 84%, respectively. This disparity may be related to variances in the survey population. Additional surveys may be required to validate the incidence of alcohol, cigarette, or drug usage among LGBTIQ individuals in Vietnam.

Our survey found that gender-diverse individuals were more likely to report symptoms of anxiety and depression than their cisgender counterparts. This finding supports robust evidence of the greater likelihood of experiencing anxiety and depressive symptoms among gender minorities in various contexts before the sweeping effects of the COVID-19 global pandemic.²³⁻²⁵ Notably, the literature suggests that such a disparity increased exponentially during the pandemic due to unique social challenges, gender dissonance, and reduced social support.^{26,27} According to a study in 2020, trans women in Vietnam reported the greatest perceived impacts of COVID-19 on their mental health, compared with other groups.²⁸ Also, in the same study, over 70% of surveyed LGBTIQ+ people rated psychological support as the highest demand post-pandemic.²⁶ Perhaps, the higher rate of anxiety and depressive symptoms among Vietnamese gender-diverse people can be explained by the intertwining of pre-existing increased mental health problems and enduring adverse effects of COVID-19. In addition, studies highlight the relationship between challenging political climate (e.g., anti-trans legislative efforts, outwardly transphobic government leadership) and mental health outcomes for gender minorities.^{29,30} Even though the Vietnam General Assembly legally allowed sexual reassignment surgery in 2015, there has been an immense delay in the momentum toward the Gender Affirmation Law. In the past 8 years, diplomats, civil-led society actors, and even governmental officials have come together to lobby for such a law with close consultation with the transgender

community. However, it was only this year that the Vietnam General Assembly finally agreed to include the Gender Affirmation Law draft in the next official hearing in 2024 with the outcome to be decided in 2025. In reality, the long-withstanding lack of lawful gender recognition has perpetuated social stigma and discrimination, which can exacerbate non-cisgender people's risks of developing mental health conditions.

Our survey's findings both supported and contradicted evidence in the literature on substance abuse risks among sexual minority groups. We found that gay men followed by lesbian women reported the highest prevalence rate of alcohol abuse. Extant literature suggests mixed findings on this phenomenon, yielding difficulty to conclude which sexual orientation group would be of the highest risk.³¹⁻³³ Perhaps, the study of alcohol abuse among sexual minorities should rather be focused on identifying which factors predict vulnerability to such. One study highlights that gay and bisexual men aged 18–45 years demonstrate the highest prevalence rates of alcohol use disorder, whereas lesbian, gay, and bisexual women participants were most likely to meet the criteria for alcohol use disorder between ages 45 and 55 years.³⁴ It appears that age as a factor may determine risk levels for certain sexual minority groups but not others. Another study indicated that, while both stressful life events and LGBTIQ+ discrimination explain substance abuse differences among sexual minority groups, stronger explanatory effects of the former exist for bisexual people and those of the latter for gay and lesbian people.³⁵ Perhaps, the reason why it is difficult to uniformly compare substance abuse risks among sexual minority groups is the complex experiences of stressful life events and LGBTIQ+ discrimination that each group may face. Also, poor emotional dysregulation of discrimination experiences may increase the prevalence of substance abuse. One study found that bi women who have experienced subtle discrimination and have lower alcohol demand often face the most deleterious impacts of alcohol use.³⁶ Another study pointed out that both emotion dysregulation and experiences of heterosexist discrimination explain the relationship between low sexual identity outness and harmful alcohol use among lesbian, gay, and bisexual people. Therefore, attempts to understand differential vulnerability to alcohol abuse among sexual minority groups must account for age, stressful life events, discrimination experiences, and emotional dysregulation.

In addition, our survey provided interesting findings on quality of life concerning gender identity. We found that participants identifying as non-binary and of other gender-diverse identities reported the lowest indices for overall quality of life. Interestingly, among

domains of quality of life, anxiety/depression was generally rated the lowest for the entire sample. Our survey's findings strongly reaffirm the importance of understanding the differences in quality of life among people with diverse gender identification. The majority of existing data only allow for relevant comparison via a binary lens (i.e., cisgender vs. non-cisgender),³⁷ which limits investigation of within-group variability in the broad gender diverse spectrum. While scarce, available evidence on within-group variability is considerably mixed. One study shows that non-binary transgender youth had a better quality of life when compared with binary transgender youth.³⁸ Another study found that, though there were no significant differences in quality of life between non-binary and binary transgender participants assigned male at birth and transgender females, non-binary assigned males at birth had better scores on the psychological and social domains of quality of life than transgender males.³⁹ A national survey in the United Kingdom otherwise emphasized that transgender men had the lowest quality of life scores, followed by non-binary transgender people and then transgender women.⁴⁰ Because there exists much inconclusiveness in the extant literature, more research ought to address factors that determine within-group variability in the quality of life among gender-diverse people in Vietnam. Our findings further suggest that greater efforts should be focused on understanding how and why anxiety/depression is perceived to be the poorest areas of quality of life.

Only about 18% of participants disclosed their LGBTIQ+ identities in healthcare settings, which can explain this sample's low rates of experienced discrimination for various medical purposes. Besides that, SOGI data collecting has not yet been formally applied in clinical settings which was a challenge for medical providers to explore patient sexuality. Despite that, they were open to speaking about their sexual orientation and gender identity but are unlikely to take the initiative to come out.⁴¹ Our Survey indicated that more participants reported having healthcare insurance, and fewer negative experiences with healthcare providers than previous studies.⁴² This finding suggests the gaining recognition and acceptability among the LGBTIQ+ community within the healthcare system. However, the disclose rate is lower than similar studies in Asia⁴³ which is widely considered to have a positive impact on their health.⁴⁴ Many lesbian women choose to reveal their sexual orientation in prior research to create open and trustworthy relationships with healthcare professionals.⁴⁴ Other research has found that disclosure leads to increased satisfaction with health care providers as well as more regular preventative checkups, whereas non-disclosure

has been linked to worse psychological well-being.⁴⁵ As a result, further activities and research are required to raise the number of LGBTIQ+ community members who disclose this sensitive information to healthcare practitioners.

Among notable relationships between variables, the correlation between being sexually active in the past 6 months and using nicotine and stimulant drugs may deserve the most lengthy discourse. In Asia, men who have sex with men (MSM) practice sexualized drug use (or ‘chemsex’) (engaging in sexual acts under the influence of illicit drugs) at a far higher prevalence rate compared to other key populations and sexual minorities.⁴⁶ A recent meta-analysis shows that MSM with greater patterns of transactional sex demonstrates a higher frequency of chemsex activities compared to the general MSM population.⁴⁶ Particularly, MSM living with HIV were more likely to engage in such practices than those living without HIV.⁴⁶ It should be noted that the health implications for the link between sexual behaviors and illicit drug use extend beyond HIV. A study in Singapore found that young MSM who practice chemsex report a greater rate of unprotected anal sex with casual partners, depression severity, and a history of suicide ideation.⁴⁷ At the same time, to mitigate such health impacts, researchers ought to identify possible sociodemographic, sociocultural, and psychosocial factors that give rise to how sexual behaviors are related to increased drug use among MSM in Vietnam. Hidaka and colleagues highlighted that, for Japanese MSM, unprotected anal intercourse, having had 6 or more sexual partners, visiting a sex club/gay venue in the previous 6 months, a lower education level, and being 30 to 39 years of age were together associated with both lifetime single and lifetime multiple substance use.⁴⁸ These results imply that the synergy between participation in MSM culture, education, and age may increase certain MSM populations’ odds of using substances in tandem with having more sexual risk behaviors. Also, as a sexual minority group, MSM faces unique minority distal stressors (e.g., structural and interpersonal discrimination) and proximal stressors (e.g., anticipated rejection, internalized stigma) and substance use is often employed as a means of coping.⁴⁹ Additionally, the abundant availability of substances in MSM social settings (e.g., gay clubs) is claimed to be a large contributor to increased drug use and the development of substance use disorders.⁴⁹ Given the high prevalence of chemsex practices and transactional sex among MSM in Asia, future surveys in the context of Vietnam should endeavor to elucidate related health consequences and culturally relevant factors specific to the local MSM population.

VI. Recommendations

The above findings suggest that addressing LGBTIQ+ health in Vietnam demands a multi-dimensional and intersectional approach. Our survey emphasizes the diversity in health risks and needs in the LGBTIQ+ community. Each sub-population demonstrates unique vulnerabilities that require targeted interventions and advocacy. With the goal of inclusive LGBTIQ+ health equity, we propose the following key recommendations.

1. Raise awareness of emerging health issues: There exists an urgency to extend community outreach to promote knowledge for well-being concerns that currently garner increasing attention. In essence, future mass communication campaigns targeted to the LGBTIQ+ community in Vietnam should focus on the comparison of consistent and inconsistent use of protective measures for sexual activities. Also, awareness-raising activities should instill motivation for testing for Hepatitis C and Hepatitis B.

2. Implement sub-population-specific community intervention programs: Underrepresented LGBTIQ+ subgroups that face greater risks would benefit from tailored interventions that meet their positionality and particular needs. Literature shows ample evidence of the low effectiveness of clinical interventions that use a catch-all approach to address the diversity of health needs in the vast LGBTIQ+ community. As a result, future programs should center on the role of the community in intervention design, validation, implementation, monitoring, and evaluation. Such components are crucial to the success in meeting the health needs of more vulnerable LGBTIQ+ subgroups (e.g., former or current sex workers who are currently in a committed relationship, high schoolers, and university students who earn middle-level income and practice chemsex).

3. Study the relationship between mental health and quality of life: Our survey suggests escalated concerns for anxiety and depression in terms of symptomatology and an indication of quality of life. Future surveys ought to further cast light on the mechanisms of symptomological progression and maintenance for the mentioned mental disorders and how they moderate self-reported life satisfaction. In particular, researchers should prioritize investigation in LGBTIQ+ sub-groups that experience greater disorder severity such as non-binary or those unsure about their sexual orientation.

4. Advocate for more inclusive healthcare policies: Our data suggest that a large number of the LGBTIQ+ community in Vietnam still struggle with access to health insurance, stigma and discrimination in healthcare settings, and gender-affirming care. As these barriers largely are structural, stakeholders should concentrate efforts on strategic

political opportunities that may produce more inclusive healthcare laws and policies. Some promising avenues include the draft for a national guideline on prohibiting stigma, discrimination, and conversion therapy based on SOGI and the Gender Affirmation Law draft.

VII. Limitations

Several limitations were identified in this survey. Firstly, potential errors could arise from selection bias. This survey was conducted online and although there was a thorough data cleaning process it is possible that some of the participants took the survey multiple times. It is also possible that internet bots completed the survey despite our attempts to prevent bots from accessing the survey and identifying their responses if they were able to access the survey. Additionally, the nature of voluntary participation could limit the diversity of the target population. Those who chose to participate in the survey might possess different characteristics from those who did not. That could lead to inaccurate results. Secondly, recall bias could occur due to questions about behaviors and experiences in the past. That could affect the strength of the observed population. Third, social desirability bias is likely to emerge when the survey tool collects information about sexual behavior and number of sexual partners. The number of sexual partners or information about sexual activities may be lower than it is. In the future, surveys should be conducted to promote more particular gender minorities, as well as further information on the region in which they dwell. Because most LGBTIQ+ research has focused on males in sexual minorities, an additional survey is needed to better understand the special needs of female counterparts. Finally, longitudinal studies are also required to investigate the relationships between sexual risk and its impact on mental health.



VIII. References

1. Baptiste-Roberts K., Oranuba E., et al. Addressing Health Care Disparities Among Sexual Minorities. *Obstetrics and gynecology clinics of North America*. Mar 2017;44(1):71-80. doi:10.1016/j.ogc.2016.11.003
2. Alencar Albuquerque G., de Lima Garcia C., et al. Access to health services by lesbian, gay, bisexual, and transgender persons: a systematic literature review. *BMC international health and human rights*. Jan 14 2016;16:2. doi:10.1186/s12914-015-0072-9
3. Garofalo Robert. *The health of lesbian, gay, bisexual, and transgender people: Building a foundation for better understanding*. The National Academies Press; 2011.
4. Reisner S. L., Hughto J. M., et al. Legal Protections in Public Accommodations Settings: A Critical Public Health Issue for Transgender and Gender-Nonconforming People. *The Milbank quarterly*. Sep 2015;93(3):484-515. doi:10.1111/1468-0009.12127
5. Laetitia Zeeman., et al. A review of lesbian, gay, bisexual, trans, and intersex (LGBTI) health and healthcare inequalities. *European Journal of Public Health*. Oct 2019; 29 (5): 974–980. <https://doi.org/10.1093/eurpub/cky226>
6. Cochran S. D., Mays V. M. Physical health complaints among lesbians, gay men, and bisexual and homosexually experienced heterosexual individuals: results from the California Quality of Life Survey. *American journal of public health*. Nov 2007;97(11):2048-55. doi:10.2105/ajph.2006.087254
7. Gonzales G., Przedworski J., et al. Comparison of Health and Health Risk Factors Between Lesbian, Gay, and Bisexual Adults and Heterosexual Adults in the United States: Results From the National Health Interview Survey. *JAMA internal medicine*. Sep 1 2016;176(9):1344-51. doi:10.1001/jamainternmed.2016.3432
8. Simoni J. M., Smith L., et al. Disparities in Physical Health Conditions Among Lesbian and Bisexual Women: A Systematic Review of Population-Based Studies. *Journal of homosexuality*. 2017;64(1):32-44. doi:10.1080/00918369.2016.1174021
9. King M., Semlyen J., et al. A systematic review of mental disorder, suicide, and deliberate self harm in lesbian, gay and bisexual people. *BMC psychiatry*. Aug 18 2008;8:70. doi:10.1186/1471-244x-8-70
10. King M., McKeown E., et al. Mental health and quality of life of gay men and lesbians in England and Wales: controlled, cross-sectional study. *The British journal*

- of psychiatry : the journal of mental science. Dec 2003;183:552-8.
doi:10.1192/bjp.183.6.552
11. Chong L. S. H., Kerklaan J., et al. Experiences and Perspectives of Transgender Youths in Accessing Health Care: A Systematic Review. *JAMA pediatrics*. Nov 1 2021;175(11):1159-1173. doi:10.1001/jamapediatrics.2021.2061
 12. Gonzales G., Henning-Smith C. Barriers to Care Among Transgender and Gender Nonconforming Adults. *The Milbank quarterly*. Dec 2017;95(4):726-748. doi:10.1111/1468-0009.12297
 13. Clements-Nolle K., Marx R., et al. HIV prevalence, risk behaviors, health care use, and mental health status of transgender persons: implications for public health intervention. *American journal of public health*. Jun 2001;91(6):915-21. doi:10.2105/ajph.91.6.915
 14. Ross, J. (2018, January 18). Discrimination Prevents LGBTQ People From Accessing Health Care. Center for American Progress. <https://www.americanprogress.org/article/discrimination-prevents-lgbtq-people-accessing-health-care/>
 15. 2021 BRFSS Questionnaire. (2022, June 8). CDC. <https://www.cdc.gov/brfss/questionnaires/pdf-ques/2021-BRFSS-Questionnaire-1-19-2022-508.pdf>
 16. Spitzer RL, Kroenke K, Williams JB, Lowe B. A brief measure for assessing generalized anxiety disorder: the GAD-7. *Archives of internal medicine*. May 22 2006;166(10):1092-1097. PMID: 16717171
[https://www.tbh.org/sites/default/files/Generalized Anxiety Disorder Screener GAD7.pdf](https://www.tbh.org/sites/default/files/Generalized_Anxiety_Disorder_Screener_GAD7.pdf)
 17. Patel, J. S., Oh, Y., Rand, K. L., Wu, W., Cyders, M. A., Kroenke, K., & Stewart, J. C. (2019). Measurement invariance of the patient health questionnaire-9 (PHQ-9) depression screener in U.S. adults across sex, race/ethnicity, and education level: NHANES 2005-2016. *Depression and anxiety*, 36(9), 813–823. <https://doi.org/10.1002/da.22940>
 18. Allen, J. P., Maisto, S. A., & Connors, G. J. (1995). Self-report screening tests for alcohol problems in primary care. *Archives of internal medicine*, 155(16), 1726–1730.

19. Balestroni G, Bertolotti G. L'EuroQol-5D (EQ-5D): uno strumento per la misura della qualità della vita [EuroQol-5D (EQ-5D): an instrument for measuring quality of life]. *Monaldi Arch Chest Dis.* 2012;78(3):155-159. doi:10.4081/monaldi.2012.121
20. Vu Quynh Mai, Hoang Van Minh, Sun Sun, Kim Bao Giang, Klas Goran Sahlen. *Valuing Health - Related Quality of Life: An EQ-5D-5L Value Set for Vietnam.* 2018.
21. Hughes TL, Wilsnack SC, Kantor LW. The Influence of Gender and Sexual Orientation on Alcohol Use and Alcohol-Related Problems: Toward a Global Perspective. *Alcohol Res.* 2016;38(1):121-132.
22. Hoffman L, Delahanty J, Johnson SE, Zhao X. Sexual and gender minority cigarette smoking disparities: An analysis of 2016 Behavioral Risk Factor Surveillance System data. *Prev Med.* 2018;113:109-115. doi:10.1016/j.ypmed.2018.05.014
23. Stanton AM, Batchelder AW, Kirakosian N, et al. Differences in mental health symptom severity and care engagement among transgender and gender diverse individuals: Findings from a large community health center. *PLoS One.* 2021;16(1):e0245872. Published 2021 Jan 25. doi:10.1371/journal.pone.0245872
24. Millet N, Longworth J, Arcelus J. Prevalence of anxiety symptoms and disorders in the transgender population: A systematic review of the literature. *International Journal of Transgenderism.* 2017 Jan 2;18(1):27-38.
25. Wang Y, Yu H, Yang Y, Drescher J, Li R, Yin W, Yu R, Wang S, Deng W, Jia Q, Zucker KJ. Mental health status of cisgender and gender-diverse secondary school students in China. *JAMA network open.* 2020 Oct 1;3(10):e2022796-.
26. Jones BA, Bowe M, McNamara N, Guerin E, Carter T. Exploring the mental health experiences of young trans and gender diverse people during the Covid-19 pandemic. *International Journal of Transgender Health.* 2021 Feb 16:1-3.
27. Jacmin-Park S, Rossi M, Dumont L, Lupien SJ, Juster RP. Mental health and social support of sexual and gender diverse people from Québec, Canada during the COVID-19 crisis. *LGBT health.* 2022 Apr 1;9(3):151-60.
28. Vu Thanh Long, Dang Thuy Duong, Luong The Huy, Vuong Kha Phong. Survey on the impact of the COVID-19 on the LGBTI+ community on Vietnam. *The Institute for Studies of Society, Economy and Environment (iSEE).*2020.

29. Tebbe, E. A., Simone, M., Wilson, E., & Hunsicker, M. (2022). A dangerous visibility: Moderating effects of antitrans legislative efforts on trans and gender-diverse mental health. *Psychology of Sexual Orientation and Gender Diversity*, 9(3), 259–271. <https://doi.org/10.1037/sgd0000481>
30. Price, S.F., Puckett, J. & Mocarski, R. The Impact of the 2016 US Presidential Elections on Transgender and Gender Diverse People. *Sex Res Soc Policy* 18, 1094–1103 (2021). <https://doi.org/10.1007/s13178-020-00513-2>
31. Chaudhry AB, Reisner SL. Disparities by sexual orientation persist for major depressive episode and substance abuse or dependence: findings from a national probability study of adults in the United States. *LGBT health*. 2019 Jul 1;6(5):261-6.
32. McCabe SE, Hughes TL, West BT, Veliz P, Boyd CJ. DSM-5 alcohol use disorder severity as a function of sexual orientation discrimination: A national study. *Alcoholism: Clinical and Experimental Research*. 2019 Mar;43(3):497-508.
33. Schuler MS, Collins RL. Sexual minority substance use disparities: Bisexual women at elevated risk relative to other sexual minority groups. *Drug and Alcohol Dependence*. 2020 Jan 1;206:107755.
34. Fish JN, Exten C. Sexual orientation differences in alcohol use disorder across the adult life course. *American journal of preventive medicine*. 2020 Sep 1;59(3):428-36.
35. Krueger EA, Fish JN, Upchurch DM. Sexual orientation disparities in substance use: Investigating social stress mechanisms in a national sample. *American journal of preventive medicine*. 2020 Jan 1;58(1):59-68.
36. Ehlke, S. J., Kelley, M. L., Lewis, R. J., & Braitman, A. L. (2022). The role of alcohol demand on daily microaggressions and alcohol use among emerging adult bisexual+ women. *Psychology of Addictive Behaviors*, 36(2), 209–219. <https://doi.org/10.1037/adb0000754>
37. Zeluf G., Dhejne C., Orre C., Mannheimer L. N., Deogan C., Höijer J., & Thorson A. E (2016). Health, disability and quality of life among trans people in Sweden – A web-based survey. *BMC Public Health*, 16(1), 903. doi: 10.1186/s12889-016-3560-5
38. Rimes K. A., Goodship N., Ussher G., Baker D., & West E (2017). Non-binary and binary transgender youth: Comparison of mental health, self-harm, suicidality,

- substance use and victimization experiences. *International Journal of Transgenderism*, 1–11. doi: 10.1080/15532739.2017.1370627
39. Jones BA, Pierre Bouman W, Haycraft E, Arcelus J. Mental health and quality of life in non-binary transgender adults: a case control study. *Int J Transgend*. 2019;20(2-3):251-262. Published 2019 Jun 27. doi:10.1080/15532739.2019.1630346
 40. Government Equalities Office. (2018). National LGBT survey: Research report. Retrieved from https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/722314/GEO-LGBT-Survey-Report.pdf
 41. Arbeit, M. R., Fisher, C. B., Macapagal, K., & Mustanski, B. (2016). Bisexual Invisibility and the Sexual Health Needs of Adolescent Girls. *LGBT Health*, 3(5), 342-349. <https://doi.org/10.1089/lgbt.2016.0035>
 42. Nugroho, A., Erasmus, V., S. Coulter, R. W., Koirala, S., Nampaisan, O., Pamungkas, W., & Richardus, J. H. (2018). Driving factors of retention in care among HIV-positive MSM and transwomen in Indonesia: A cross-sectional study. *PLoS ONE*, 13(1). <https://doi.org/10.1371/journal.pone.0191255>
 43. Wang Y, Hu Z, Peng K, et al. Mapping out a spectrum of the Chinese public's discrimination toward the LGBT community: results from a national survey. *BMC Public Health*. 2020;20(1):669. Published 2020 May 12. doi:10.1186/s12889-020-08834-y
 44. Austin EL. Sexual orientation disclosure to health care providers among urban and non-urban southern lesbians. *Women Health*. 2013;53(1):41-55. doi:10.1080/03630242.2012.743497
 45. Durso LE, Meyer IH. Patterns and Predictors of Disclosure of Sexual Orientation to Healthcare Providers among Lesbians, Gay Men, and Bisexuals. *Sex Res Social Policy*. 2013;10(1):35-42. doi:10.1007/s13178-012-0105-2
 46. Wang H, Jonas KJ, Guadamuz TE. Chemsex and chemsex associated substance use among men who have sex with men in Asia: A systematic review and meta-analysis. *Drug and Alcohol Dependence*. 2022 Dec 20:109741.
 47. Tan, R.K.J., O'Hara, C.A., Koh, W.L. et al. Delineating patterns of sexualized substance use and its association with sexual and mental health outcomes among young gay, bisexual and other men who have sex with men in Singapore: a latent

- class analysis. BMC Public Health 21, 1026 (2021). <https://doi.org/10.1186/s12889-021-11056-5>
48. Hidaka, Y., Ichikawa, S., Koyano, J. et al. Substance use and sexual behaviours of Japanese men who have sex with men: A nationwide internet survey conducted in Japan. BMC Public Health 6, 239 (2006). <https://doi.org/10.1186/1471-2458-6-239>
49. Felner JK, Wisdom JP, Williams T, Katuska L, Haley SJ, Jun HJ, Corliss HL. Stress, coping, and context: Examining substance use among LGBTQ young adults with probable substance use disorders. Psychiatric Services. 2020 Feb 1;71(2):112-20.

