

Prevalence and risk factors for alcohol use disorders, substance use disorders, and depression anxiety and stress among users of sexual health services in Singapore: a cross-sectional survey study

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ABSTRACT

Syndemics of poor mental health also drive poorer sexual health outcomes. This study used three scales, the Alcohol Use Disorders Identification Test (AUDIT), the Drug Abuse Screening Test (DAST-10), and the Depression Anxiety Stress Scale (DASS-21) among beneficiaries of sexual health services in Singapore ($n = 975$), respectively. We found that a prevalence of 20.4% and 18.6% of hazardous and moderate-severe alcohol use disorders and substance use risks, respectively. About 13.7%, 18.1% and 10.5% of participants reported severe to extremely severe symptoms of depression, anxiety, and stress, respectively. Further investigation and integrated interventions for mental health in sexual health settings are warranted.

Keywords: alcohol use disorder, anxiety, depression, mental health, sexual health services, Singapore, stress, substance use disorder.

Substantial efforts have been made across the world towards the control of sexually transmitted infections (STI) and improvement of sexual health. An established risk factor for poorer sexual health outcomes is the presence of alcohol and substance use disorders in individuals.^{1,2} Poorer mental health outcomes are in turn associated with alcohol and substance use disorders. Studies have found that measures of mental health disorders, such as depression and anxiety, are common among individuals with alcohol and substance use disorders.³ The presence of poorer mental health outcomes have also been found to be associated with poorer sexual health outcomes, including the incidence of sexually transmitted diseases.⁴ In Singapore, sexual health remains an area of major concern, but few studies have sought to assess the prevalence of mental health risks among sexual health services users.

The ICARUS Project is an anonymous, community-based survey initiated by Action for Aids Singapore in order to explore the prevalence of alcohol and substance use disorders, as well as affective states using validated scales among their beneficiaries in Singapore in order to plan community-based education and prevention campaigns in the context of such issues. In order to be eligible for this study, individuals had to be aged >18 years. Ethics approval was obtained from the institutional review board at the National University of Singapore (NUS-IRB S-20-014) prior to data collection. Recruitment took place from February 2020 to February 2021 through a community-based anonymous STI testing site, as well as promotional posters by a network of community-based organisations in Singapore who are engaged in sexual health advocacy-related activities.

The survey collected sociodemographic information from the participants and also included three scales, the Alcohol Use Disorders Identification Test (AUDIT), the Drug Abuse Screening Test (DAST-10), and the Depression Anxiety Stress Scale (DASS-21). AUDIT is designed as a 10-item screening scale to identify patients with alcohol problems and helps to distinguish between those who are ‘hazardous’ drinkers and ‘harmful’ drinkers.⁵ The DAST-10 is a 10-item scale that screens for abuse and dependence of a

Table 1. Distribution of AUDIT, DAST-10 and DASS-21 scores by cut-offs.

Variables	n/mean	%/s.d.
Audit		
No risk (0)	165	16.9
Low risk consumption (1–7)	611	62.7
Hazardous or harmful consumption (8–15) and moderate-severe alcohol use disorder (16+)	199	20.4
DAST-10		
No problem reported (0)	794	81.4
Low (1–2)/moderate (3–5)/substantial (5–8)/severe (9–10) level	149	18.6
DASS-21 depression subscale		
Normal (0–9)	543	55.7
Mild (10–13)	134	13.7
Moderate (14–20)	165	16.9
Severe (21–27) and extremely severe (28+)	133	13.7
DASS-21 anxiety subscale		
Normal (0–7)	568	58.3
Mild (8–9)	73	7.5
Moderate (10–14)	158	16.2
Severe (15–19) and extremely severe (20+)	176	18.1
DASS-21 stress subscale		
Normal (0–14)	699	71.7
Mild (15–18)	92	9.4
Moderate (19–25)	82	8.4
Severe (26–33) and extremely severe (34+)	102	10.5

AUDIT, Alcohol Use Disorders Identification Test; DAST-10, Drug Abuse Screening Test; DASS-21, Depression Anxiety Stress Scale.

wide variety of substances.⁶ The DASS-21 is a self-report 21-item scale that contains three subscales: depression, anxiety, and stress.⁷ We used descriptive statistics to summarise the prevalence of these scales in our sample.

We recruited a total of 975 participants in this study. Most participants were between the ages of 18 and 35 years old ($n = 747$, 76.6%), were male ($n = 768$, 78.8%), were gay or lesbian ($n = 580$, 59.5%), and HIV-negative ($n = 479$, 73.1%). Table 1 summarises participants' scores with cut-offs for AUDIT, DAST-10 and DASS-21 subscales. A total of 199 (20.4%) participants reported AUDIT scores reflecting hazardous consumption or moderate-severe alcohol use disorder. A total of 149 (18.6%) of participants reported DAST-10 scores reflecting low, moderate, substantial or severe levels of potential problems with substance use.

About 13.7%, 18.1% and 10.5% of participants reported severe to extremely severe symptoms of depression, anxiety, and stress on the DASS-21 subscales, respectively.

In summary, our study found that about one-fifth of the sample reported hazardous consumption or moderate-severe alcohol use disorder or substance use risks. Given the sexual health risks associated with poorer mental health outcomes, sexual health clinics should consider integrating mental health screening services or provide referrals and resources for individuals seeking care at these premises to address such syndemics. Such approaches are aligned with calls by experts and the World Health Organization to integrate mental health screening in the HIV care cascade,⁸ and the use of brief screening tools have been shown to be effective and feasible in both specialist and primary care settings for sexual and reproductive health.^{9,10}

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Data availability. The data supporting this study's findings are available on request from the corresponding author, RKJT.

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