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Patterns and Levels of Illicit Drug Use among Men Who Have Sex with Men in Asia

Chongyi Wei^a, Thomas E. Guadamuz^{a,b}, Sin How Lim^c, Yongxu Huang^a, and Stuart Koe^d

^aGraduate School of Public Health, University of Pittsburgh, Pittsburgh, PA, USA, 15261

^bCenter for Health Policy Studies, Mahidol University, Bangkok, Thailand, 10400

^cDepartment of Epidemiology and Public Health, National University of Singapore, Singapore, 119074

^dAsia Pacific Coalition on Male Sexual Health (APCOM), Lucknow, India, 226001

Abstract

Background—The emergence of gay communities in Asia may predispose men who have sex with men (MSM) to drug use. We describe patterns and levels of illicit drug use, and characteristics of stimulant drug users among MSM in Asia.

Methods—A cross-sectional Internet-based survey was conducted among 10,861 participants recruited through online methods. Pearson's chi-square tests were used to compare patterns of drug use by participants' HIV status. Multivariable logistic regression analysis was conducted to identify significant correlates of stimulant drug use.

Results—Overall, 16.7% of participants reported recreational drug use in the past 6 months. Ecstasy (8.1%) and Viagra (7.9%) were the most prevalent drugs being used. HIV-positive MSM reported significantly higher levels of individual drug use and polydrug use compared to HIV-negative/unknown MSM. Being gay (AOR = 1.62, 95% CI: 1.28–2.05), having casual male partners only or having both casual and regular partners (AOR = 2.05, 95% CI: 1.66, 2.53; AOR = 2.97, 95% CI: 2.39, 3.69), HIV-positive status (AOR = 4.54, 95% CI: 3.63, 5.69), sex work (AOR = 1.52, 95% CI: 1.19, 1.93), and having more gay friends (“Some” vs. “A few/None” AOR = 1.98, 95% CI: 1.62, 2.43; “Most/All” vs. “A few/None” AOR = 4.59, 95% CI: 3.77, 5.59) were independently associated with stimulant drug use.

Conclusions—Our findings point to the urgency of incorporating substance use prevention and treatment into current HIV prevention activities in Asia, which must use a harm reduction approach and galvanize dignity.

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Correspondence: Chongyi Wei, 219 Parran Hall, 130 DeSoto Street, Pittsburgh, PA 15261, U.S., Phone: 412-624-3613; Fax: 412-383-5846; chw57@pitt.edu.

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Author's contributions

CW conducted the analyses and led the writing of this paper. SK designed and implemented the parent study. All authors contributed to the conceptualization and writing of this paper.

Conflict of interest

None

Keywords

Men who have sex with men; substance use; stimulant drug; Asia

1. Introduction

HIV prevention among men who have sex with men (MSM) has become a major focus in current prevention efforts in Asia. Surveillance and epidemiological data from major cities throughout Asia has shown high and rising HIV prevalence and incidence among MSM (Ma et al., 2007; van Griensven and de Lind van Wijngaarden, 2010; van Griensven et al., 2010). Against this backdrop of growing public health concern, physical and virtual gay communities are gradually forming in Asia (Guadamuz et al., 2009). Young gay men are migrating to urban areas where homosexuality is more tolerated; entertainment and sex venues for gay men and community-based gay organizations are emerging in almost every major city; and hundreds of gay-oriented websites are accessible and allow gay men to connect with each other locally and globally. While these emerging gay communities may potentially reduce gay-related social stigma and enhance health information sharing, they can also predispose gay men to certain risk behaviors. One such example is illicit drug use. Studies of MSM in the West have found that higher level of gay community involvement or greater attachment to the gay community is associated with increased use of illicit drugs (Stall et al., 2001).

A handful of studies conducted among MSM in Asia have documented high rates of drug use. An online survey conducted among MSM in Japan found that 45% of participants reported ever using one type of drugs, and 19.6% ever using more than one type of drugs (Hidaka et al., 2006). Among “money boys” (male sex workers) in China, about 12% reported ever using illicit drugs with ecstasy and methamphetamine being the most popular (Wong et al., 2010). Lower levels of drug use have been reported among MSM in China (Guo et al., 2011), however, most of these studies were limited by interviewer-administered face-to-face interviews and strict drug use laws might have led to under-reporting.

In this article, we describe patterns and levels of recent illicit drug use, and demographic and social characteristics of stimulant drug users among a sample of MSM recruited through online methods in Asia.

2. Methods

2.1 Recruitment

In collaboration with 40 community partners from 12 different countries throughout Asia, a gay-oriented website (www.Fridae.com) launched a multi-country online survey (Asian Internet MSM Sex Survey, www.2010aimss.com) between January and February 2010. Participants were recruited exclusively through online methods. Banner advertisements (“No Names, No Faces, Only the Solid Details: 2010 Asia Internet MSM Sex Survey”) were posted on the website and emails were sent to listserv members by the community partners to recruit participants. Participants over the age of 18 were invited to complete the survey after agreeing to the online informed consent. To ensure the diversity of participants, the survey was available in English and 9 Asian languages and dialects. Participation in the study was anonymous (personal information was not collected), voluntary and no incentives were offered. During the two-month period, 24,742 participants entered the survey and 13,883 (56.1%) completed the entire online questionnaire. Of these, 10,861 were 18 or older, biologically male, and have had one or more male sex partners in the past 6 months. The study was exempted from IRB but followed all IRB guidelines.

2.2 Measures

Participants were asked if and how often they consumed recreational drugs in the past 6 months (“Never,” “Once or a few times,” “Monthly,” and “Every week”). For those who replied affirmatively, they were further asked the types of drugs used, including poppers (amyl nitrite), ecstasy, crystal meth, marijuana, Viagra, cocaine, GHB (Gama hydroxybutyrate), and ketamine. Socio-demographic information including country of residence, age, employment status, educational attainment, and sexual orientation were collected. Participants also self-reported their HIV status, current relationship status, whether they have sold sex to a man in the past 6 months, and number of gay friends (as a proxy to gay community connectedness).

2.3 Statistical analysis

Pearson’s chi-square tests were used to compare patterns and levels of different types of drug use by participants’ HIV status because it is well-documented in the literature that prevalence of drug use is higher among HIV-positive MSM. Multivariable logistic regression analysis was conducted to identify significant correlates of stimulant drug use after controlling for participants’ age, employment status, and educational attainment. The data analysis was reviewed and approved by the University of Pittsburgh IRB.

3. Results

Of the 10,861 participants, about a third (32.5%) were from mainland China, 15.0% from Singapore, 11.4% from Malaysia, 10.1% from Taiwan, 9.4% from Hongkong, 7.0% from Thailand, and 14.6% mainly from Japan, Indonesia, the Philippines, Korea, and Vietnam. The mean age of participants was 31.9 (Standard Deviation [SD] = 9.38). Almost half (48.1%) were between the ages of 18 and 29, 34.2% were between the ages of 30 and 39, and 17.7% were over the age of 40. A majority of them (88.6%) were employed full-time or were students. Well over half (67.5%) had at least a college degree, and most (83.8%) self-identified as gay. Many reported having only casual male partners (49.9%) or having both regular and casual partners (28.9%) in the past 6 months. Among this sample of MSM, 3.8% self-reported being HIV-positive.

Overall, 1,809 (16.7%) participants reported any recreational drug use in the past 6 months. Across participants of different HIV status, ecstasy (8.1%) was the most prevalent stimulant drug being used followed by crystal meth (4.0%); while Viagra (7.9%), poppers (6.1%), and Ketamine (5.3%) were the most prevalent non-stimulant drugs being used (Table 1). Levels of different types of stimulant drug use were significantly higher among HIV-positive participants than among HIV-negative/unknown participants. The same patterns were observed for non-stimulant drug use. Furthermore, compared to HIV-negative/unknown men, HIV-positive men reported significantly higher frequency of drug use and were more likely to use 2 or more drugs.

In the multivariable analysis (Table 2), being gay (adjusted odds ratio [AOR] = 1.62, 95% confidence interval [CI]: 1.28–2.05), relationship status (“Casual male partners only” vs. “Regular male partners only” AOR = 2.05, 95% CI: 1.66, 2.53; “Both regular and casual partners” vs. “Regular male partners only” AOR = 2.97, 95% CI: 2.39, 3.69), HIV-positive status (AOR = 4.54, 95% CI: 3.63, 5.69), sex work (AOR = 1.52, 95% CI: 1.19, 1.93), and having more gay friends (“Some” vs. “A few/None” AOR = 1.98, 95% CI: 1.62, 2.43; “Most/All” vs. “A few/None” AOR = 4.59, 95% CI: 3.77, 5.59) were independently associated with any stimulant drug use.

4. Discussion

In this report, we described patterns and levels of illicit drug use among a large sample of MSM in Asia. HIV-positive MSM reported much higher levels of individual drug use and polydrug use compared to HIV-negative/unknown MSM, particularly stimulant drugs. This finding is consistent with those found among MSM in the West that stimulant drug use, notably methamphetamine, is more prevalent among HIV-positive men and is associated with HIV seroconversion (Colfax et al., 2005; Plankey et al., 2007). Beyrer et al. (2005) also found high HIV prevalence among Thai MSM in drug treatment facilities (Beyrer et al., 2005).

Moreover, Viagra was the most consumed non-stimulant drug by this sample of men. This could be explained by three possible reasons. First, Viagra is more accessible than other drugs (e.g., sold over the counter) in most Asian countries. Second, illicit drug use is harshly punished by laws in many Asian countries. Third, Viagra use is usually concomitant with other stimulant drugs to counter the effects of stimulant drugs on erection as indicated by the high level of polydrug use among participants. Our findings that being gay and having more gay friends are significantly associated with stimulant drug use imply that these men may be more connected to gay communities and hence are more likely to be predisposed to drug use. Furthermore, participants reported relatively high levels of club drug use (8.1% for ecstasy and 5.3% for Ketamine), which are popular among gay men attending circuit parties (Colfax et al., 2001; Ross et al., 2003).

Several limitations should be noted. First, this was a sample of participants recruited on the Internet. Hence, our findings may not be generalizable to MSM who do not use the Internet. Second, participants might have underreported drug use. The overall 16.7% prevalence of drug use is lower than that among MSM in the West. However, the anonymity nature of the survey and its mode of administration (i.e., self-administered online) might have mitigated this bias. Third, we did not implement a system to check for multiple survey entries. But we believe that duplicate participation was minimal as the study did not offer any incentives. Limited by our data, we were also not able to examine other possible factors that might be associated with drug use such as depression and gay-related stress.

Our findings not only confirmed similar findings among MSM in the West, but point to the urgency of incorporating substance use prevention and treatment into current HIV prevention activities in Asia. Moreover, HIV preventionists must have a broader understanding of HIV risks that ultimately involve more upstream and developmental issues that are culturally and socially specific. Finally, HIV prevention that incorporates substance use prevention must use a harm reduction approach and galvanize dignity.

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Table 1

Patterns and levels of illicit drug use in the past 6 months by participants' HIV status among MSM in Asia (N = 10,861)

	All N = 10,861 % (n)	HIV-negative/unknown N = 10,451 % (n)	HIV-positive N = 410 % (n)	χ^2
Stimulant drugs				
Crystal meth	4.0% (433)	3.4% (350)	20.2% (83)	294.19**
Ecstasy	8.1% (874)	7.1% (738)	33.2% (136)	363.46**
Cocaine	1.8% (197)	1.6% (171)	6.3% (26)	49.04**
Any stimulant drug	9.5% (1,028)	8.4% (877)	36.8% (151)	372.32**
Non-stimulant drugs				
Poppers	6.1% (657)	5.7% (599)	14.2% (58)	49.15**
Marijuana	3.6% (394)	3.4% (355)	9.5% (39)	42.20**
Viagra	7.9% (860)	6.9% (723)	33.4% (137)	379.88**
GHB	2.3% (248)	1.8% (186)	15.1% (62)	314.76**
Ketamine	5.3% (577)	4.6% (475)	24.9% (102)	324.25**
Any non-stimulant drug	12.8% (1,391)	11.7% (1,225)	40.5% (166)	292.35**
Frequency of use				
Never	83.3% (9,052)	84.4% (8,823)	55.9% (229)	284.18**
Once or a few times	12.2% (1,315)	11.6% (1,208)	26.1% (107)	
Monthly	2.9% (314)	2.5% (262)	12.7% (52)	
Weekly	1.7% (180)	1.5% (158)	5.4% (22)	
Polydrug use (>=2)	10.6% (1,152)	9.5% (995)	38.3% (157)	344.45**

Note:

**
 $p < .01$.

Table 2

Bivariate and multivariable correlates of stimulant drug use in the past 6 months among MSM in Asia (N = 10,861)

	Any Stimulant Drug Use % (n/N)	Any Stimulant Drug use Odds ratio (95% CI)	Any Stimulant Drug Use Adjusted odds ratio (95% CI)
Age			
18–29	7.7% (401/5,222)	1	1
30–39	11.0% (409/3,712)	1.49 (1.29–1.72)**	1.21 (1.04–1.41)*
40+	11.3% (218/1,927)	1.53 (1.29–1.82)**	1.11 (0.92–1.33)
Employment			
Fulltime/Student	9.3% (899/9,622)	1	1
Unemployed/Social Security/other	10.4% (129/1,239)	1.13 (0.93–1.37)	0.92 (0.74–1.13)
Education			
College/post graduate	9.4% (690/7,329)	1	1
Tech/some college	9.6% (246/2,553)	1.03 (0.88–1.20)	1.00 (0.86–1.18)
High school or less	9.4% (92/979)	1.00 (0.79–1.25)	0.95 (0.74–1.20)
Sexual orientation			
Bisexual/Heterosexual/other	4.9% (87/1,746)	1	1
Gay	10.3% (941/9,097)	2.22 (1.77–2.79)**	1.62 (1.28–2.05)**
Current relationship status			
Regular male partner only	4.8% (111/2,308)	1	1
Casual male partners only	9.4% (508/5,416)	2.05 (1.66–2.53)**	1.79 (1.44–2.23)**
Both regular and casual	13.0% (409/3,137)	2.97 (2.39–3.69)**	2.41 (1.92–3.01)**
HIV status			
Negative/Unknown	8.4% (877/10,451)	1	1
Positive	36.8% (151/410)	6.36 (5.15–7.87)**	4.54 (3.63–5.69)**
Sold sex			
No	9.1% (930/10,245)	1	1
Yes	15.9% (98/616)	1.89 (1.51–2.38)**	1.52 (1.19–1.93)**
Gay friends			
A few/None	3.9% (144/3,742)	1	1
Some	8.1% (351/4,318)	2.21 (1.81–2.70)**	1.98 (1.62–2.43)**
Most/All	19.0% (533/2,801)	5.87 (4.85–7.11)**	4.59 (3.77–5.59)**

Note:

* $p < .05$;

** $p < .01$.