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Abstract | This study uses data from the Drug Use Monitoring in Australia program to investigate the prevalence of GHB and phenmetrazine use among police detainees.

Fifteen percent (*n*=75) of police detainees surveyed reported using GHB in the past 12 months. GHB use was also most prevalent among respondents in their 30s. Methamphetamine use (90%, *n*=27) and polydrug use (77%, *n*=23) were also common among those who had recently used GHB.

One percent of detainees (*n*=4) had used phenmetrazine in their lifetime and none tested positive to the drug.

GHB and phenmetrazine use by Australian police detainees

Merran McAlister, Tom Sullivan and Alexandra Voce

Law enforcement agencies in Australia have recently identified an increase in use of the depressant GHB (gamma-hydroxybutyrate). GHB use has been associated with rising levels of harm in Australia, with research suggesting men in their thirties are most likely to experience GHB-related harms (Arunogiri et al. 2019; Darke et al. 2020). National law enforcement officials have also expressed concern about the detection of phenmetrazine at the border, although evidence of its use in Australia is scarce.

GHB is frequently sold under the street name 'fantasy' or 'G'. It is a colourless, odourless liquid that often produces feelings of euphoria and relaxation but can also lead to unconsciousness, seizures and death (Nicholas 2010; Darke et al. 2020). GHB's effects are highly dose-dependent due to its potency (Darke et al. 2020). Gamma-butyrolactone (GBL) and 1,4-butanediol (1,4-BD) are precursors of GHB that rapidly convert to GHB on consumption and are also used as illicit drugs (Karlsson, Sutherland & Peacock 2021).

The prevalence of GHB use in Australia is low: less than one percent of the population aged 14 and over had used it in the past 12 months in 2019 (Australian Institute of Health and Welfare 2020). This proportion has remained consistent since the measurement of GHB use in Australia began in 2004 (Australian Institute of Health and Welfare 2020). However, evidence suggests GHB use is more prevalent in specific populations, such as those who use illicit stimulants, and has fluctuated over time among these groups (Ness & Payne 2011; Peacock et al. 2021a). In 2011, a survey of police detainees suggested three percent had used GHB at least once in the past 12 months (Ness & Payne 2011). More recently, 10 percent of adults who inject illicit drugs were found to have used GHB in the previous six months (Peacock et al. 2021b). Evidence also suggests people who use methamphetamine switched to GHB when methamphetamine availability declined during the COVID-19 pandemic (Voce, Sullivan & Doherty 2021).

Phenmetrazine was used as an appetite suppressant until its misuse led to its discontinuation as a medication (Ellefsen et al. 2017). Also known as 'prellies', phenmetrazine is now a prohibited import in many countries, including Australia (Ellefsen et al. 2017). The effects of phenmetrazine can include agitation, depressed consciousness and delirium. While research on phenmetrazine in Australia is scarce, 19 cases of intoxication involving the phenmetrazine analogue 3-fluorophenmetrazine were reported in Sweden between November 2014 and October 2015 (Bäckberg et al. 2016). Sixteen of the 19 cases involved men (84%) and the median age of the individuals was 30 years (Bäckberg et al. 2016).

This study seeks to improve knowledge about the use of GHB and phenmetrazine in Australia by analysing data collected from a specific population of police detainees. In particular, the study aims to measure the proportion of police detainees using GHB and phenmetrazine, to identify the characteristics of people who use GHB and phenmetrazine, and to measure how the use of GHB has changed over time.

Methodology

This study used data from the Australian Institute of Criminology's Drug Use Monitoring in Australia (DUMA) program collected in April, May and June 2021. DUMA collects drug use, criminal offending and sociodemographic information from police detainees at watch houses or police stations in several Australian cities (Voce & Sullivan 2021). Participation is voluntary, anonymous and confidential.

The study draws on survey and urinalysis data from 511 detainees in four DUMA sites (Adelaide, Sydney, Brisbane and Perth). Detainees were asked whether they had used GHB, GBL or 1,4-BD in their lifetime, the past 12 months, the past 30 days and the past 48 hours. For the sake of simplicity, the remainder of the bulletin refers to GHB only. Respondents were also asked the same questions about phenmetrazine use.

Urine samples from consenting and eligible participants (69%, *n*=353) were analysed to provide an objective and scientifically valid measure of the use of phenmetrazine and five other classes of drugs to measure polydrug use among the detainees (Voce & Sullivan 2021). Urine samples were not tested for the presence of GHB.

Overall, 81 percent of the survey sample were men (*n*=413) and the median age was 33 years (interquartile range=26–40). Seventy-six percent (*n*=387) identified as non-Indigenous.

Results

GHB

One-quarter of respondents (25%, *n*=129) reported using GHB in their lifetime. Fifteen percent (*n*=75) reported using GHB in the past 12 months and seven percent (*n*=38) reported using GHB in the past 30 days. Five percent (*n*=23) reported using GHB in the past 48 hours. Brisbane had the highest rates of lifetime (33%, *n*=56) and past-year (20%, *n*=34) GHB use (see Table 1).

Table 1: Reported GHB use among police detainees by site, 2021

	Lifetime GHB use		Past-year GHB use		Past-month GHB use		Past 48 hr GHB use	
	n	%	*n*	%	*n*	%	*n*	%
Adelaide (*n*=97)	30	31	12	12	8	8	7	7
Sydney (*n*=71)	10	14	10	14	7	10	4	6
Brisbane (*n*=168)	56	33	34	20	17	10	9	5
Perth (*n*=175)	33	19	19	11	6	3	3	2
Total	129	25	75	15	38	7	23	5

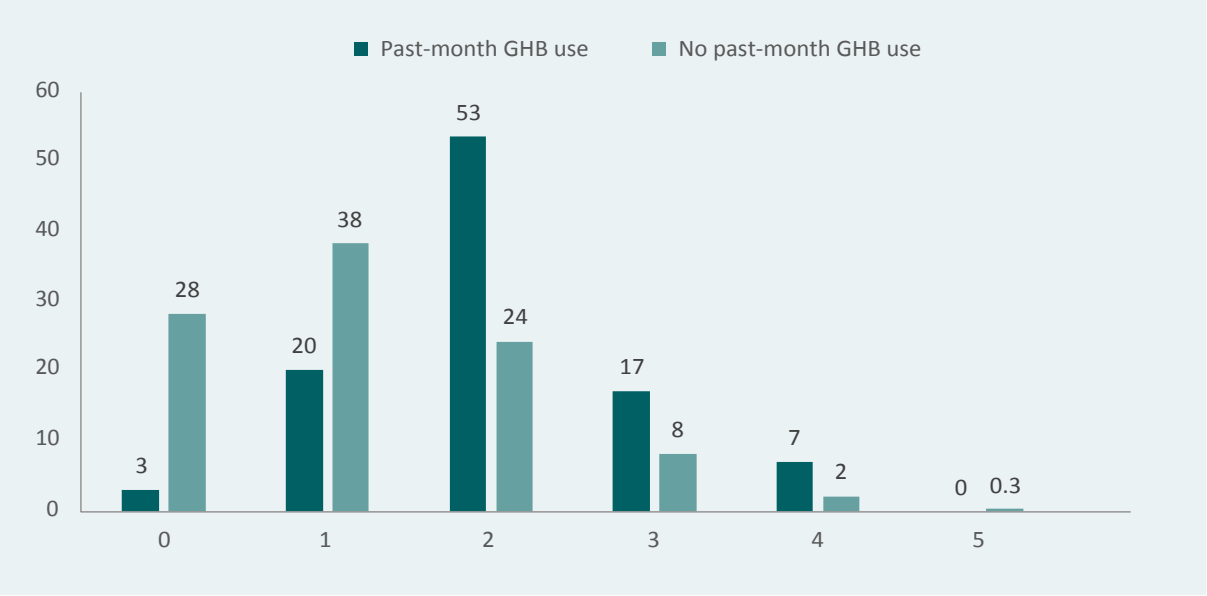
Source: AIC DUMA collection 2021 [computer file]

A re-analysis of 2010 DUMA data (Ness & Payne 2011) suggested past-year use of GHB in 2021 (15%, *n*=75) was greater than past-year use of GHB at comparable sites in 2010 (3%, *n*=14). In 2010, the highest past-year GHB use was in Adelaide (4%, *n*=6; compared with 12%, *n*=12 in 2021) and Brisbane (4%, *n*=5; compared with 20%, *n*=34 in 2021).

In 2021, there was no statistically significant difference in past-year use of GHB between women (19%, *n*=19) and men (14%, *n*=56). Of all age groups, detainees aged 31 to 35 years had the highest rate of GHB use in the past 12 months (18%, *n*=17). Past-year GHB use was reported by 16 percent of detainees who identified as non-Indigenous (*n*=60) and 12 percent (*n*=15) of those who identified as Aboriginal, Torres Strait Islander or both.

Respondents who had used GHB in the past 30 days were significantly more likely than those who had not used it to test positive for methamphetamine (90%, *n*=27 vs 45%, *n*=144; $\chi^2(1)=22.67$, *V*=0.25, *p*<0.01). Past-month GHB use was also associated with self-reported methamphetamine use in the past 30 days. Past-month GHB users were also significantly more likely than those reporting no recent GHB use to test positive for two or more drug types (77%, *n*=23 vs 34%, *n*=109; $\chi^2(1)=21.60$, *V*=0.25, *p*<0.01) (see Figure 1).

Figure 1: Number of drugs detected in urinalysis by past-month GHB use, 2021 (%)



Source: AIC DUMA collection 2021 [computer file]

There was no statistically significant difference in past-month alcohol consumption between those who had used GHB in the past 30 days (68%, *n*=26) and those who had not (55%, *n*=259). The most serious offence (MSO) for past-month GHB users were property (43%, *n*=9), violent (33%, *n*=7) or breach-related offences (24%, *n*=5). Among those detainees, there was no statistically significant difference between those who had used GHB in the past month and those who had not (property MSO: 22%, *n*=69; violent MSO: 41%, *n*=130; breach MSO: 17%, *n*=54).

Phenmetrazine

One percent of respondents (*n*=4) reported using phenmetrazine in their lifetime, but none reported using it in the past 12 months, 30 days or 48 hours. Furthermore, no respondents tested positive for phenmetrazine. The four respondents who reported using phenmetrazine were non-Indigenous men aged 31 or over and were in Brisbane (*n*=2) or Adelaide (*n*=2).

Discussion

Fifteen percent of police detainees had used GHB in the past 12 months and seven percent had used it in the past 30 days. These findings are comparable with the results of a recent survey of illicit drug users (Peacock et al. 2021b) and suggest an increase in GHB use among detainees in the past 10 years (Ness & Payne 2011). The results also suggest that, among people who have been arrested, GHB use may have become more prevalent than ecstasy and heroin use.

Detainees aged 31–35 years had the highest rate of GHB use in the past 12 months and the most common offence for detainees who had used GHB in the past 30 days was a property offence. Those who had used GHB in the past 30 days were also significantly more likely to test positive to methamphetamine and multiple drugs, supporting the findings of other research (Arunogiri et al.

2019; Griffiths & Hadley 2016; Darke et al. 2020; Peacock et al. 2021a, 2021b). These results highlight the prevalence of polydrug use among this group, which is relevant to health and law enforcement responses that aim to reduce harms. Previous research also suggests GHB is often used with alcohol (Darke et al. 2020). About two-thirds of the detainees in this study who had consumed GHB had also consumed alcohol in the same time period.

In contrast to a recent study identifying Adelaide as having the highest proportion of respondents using GHB (Karlsson, Sutherland & Peacock 2021), this study suggested Brisbane had the highest prevalence. It also found a larger change in the prevalence of GHB use over time than other research on specific populations who use illicit stimulants (Peacock et al. 2021a). These differences may be due to variations in the samples and changes to the DUMA questions asked in 2010 and 2021. In 2010, detainees were asked solely about their GHB use, instead of GHB, GBL or 1,4-BD use.

The study also found that no respondents had used phenmetrazine recently, but four detainees had used it in their lifetime. Consistent with the findings of overseas studies, lifetime use of phenmetrazine among police detainees was low and concentrated among men (Bäckberg et al. 2016; Ellefsen et al. 2017).

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Merran McAlister is a Research Analyst at the Australian Institute of Criminology.

Tom Sullivan is an acting Principal Research Analyst at the Australian Institute of Criminology.

Dr Alexandra Voce is a Research Analyst at the Australian Institute of Criminology.

General editor, Statistical Bulletin series: Dr Rick Brown, Deputy Director, Australian Institute of Criminology.
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GPO Box 1936
Canberra ACT 2601, Australia
Tel: 02 6268 7166