ADHD symptomology and associated drug use among a sample of people who regularly use illicit drugs in Australia

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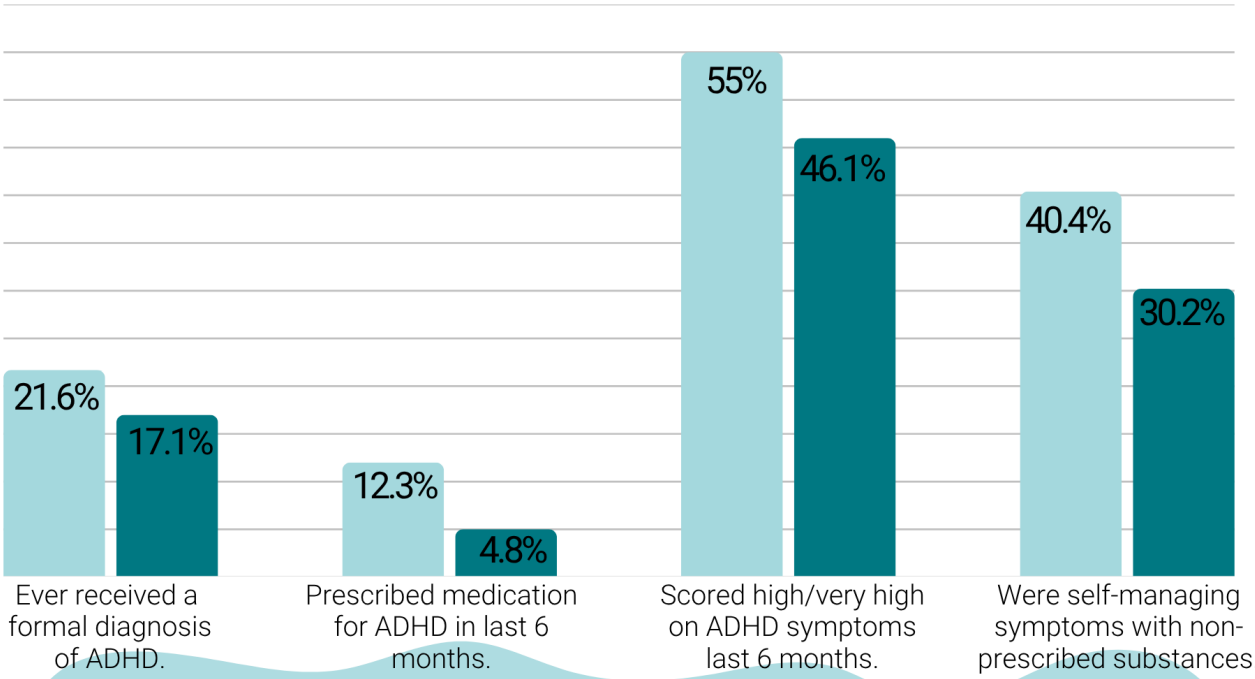
Key Findings



Non-prescribed substances used to self-manage symptoms (last 6 months):

EDRS: 22.7%
IDRS: 2.2%

EDRS: 5%
IDRS: 18%

EDRS: 14.2%
IDRS: 8%

Based on two national samples of people who use drugs in Australia and were interviewed as part of the Illicit Drug Reporting System (IDRS; N=884) and Ecstasy and Related Drugs Reporting System (EDRS; N=740) in 2024.

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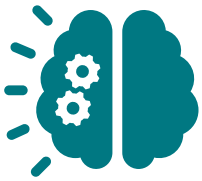
Introduction



Attention deficit/hyperactivity disorder (ADHD) is a neurodevelopmental condition estimated to affect up to 6% of adults (1). Adult ADHD, particularly when untreated, is associated with poorer outcomes and increased disadvantage over the life-course; including lower educational attainment and workforce participation, higher rates of criminal justice involvement and non-prescribed substance use, particularly co-occurring substance use disorder (SUD) (2, 3). Australian studies of adults seeking treatment for SUD found between 32% and 45% experience symptoms indicative of adult ADHD (4-6).

The relationship between ADHD and SUD is not completely understood, with a number of hypotheses relating to the predisposing influence of ADHD symptoms (7), including sensitisation resulting from the impact of substances, particularly psychostimulants, on the ADHD brain (8). Prescribed stimulants are currently considered the most effective treatment option for adult ADHD. The increasing awareness of adult ADHD in Australia has seen an increase in diagnosis and treatment (9), but also very recently of disruptions to the supply chain for these prescription medications (10). There are reports of people choosing to self-medicate symptoms of ADHD with illicitly obtained pharmaceutical stimulants, along with other substances, but the literature is not consistent on this matter (11-14).

In light of the potential use of non-prescribed stimulants to supplement available treatments and the risks associated with this practice, we aimed to examine ADHD symptoms, self-medication with non-prescribed substances and associated factors among two sentinel samples of people who regularly use illicit drugs in Australia.

Methods

Data were collected in 2024 as part of the Ecstasy and Related Drugs Reporting System (EDRS) and Illicit Drugs Reporting System (IDRS). Annual interviews were conducted with people residing in capital city areas of Australia who used ecstasy and/or other illicit stimulants (EDRS, n=740) or who injected illicit drugs (IDRS, n=884), on a monthly or more frequent basis, and were aged 18 or older. Further information regarding the detailed characteristics of the National EDRS and IDRS samples can be found elsewhere (15, 16).

In previous years, data relating to prevalence of ADHD within samples relied on participants' self-report when answering questions relating to mental health conditions and treatment. In 2024, additional data were collected to examine participant experiences of ADHD, including symptoms measured using the Adult ADHD Self-Report Scale (ASRS) Screener (v1.1). The instrument comprises six behavioural questions about the last 6 months, measured on a five-point Likert scale (17, 18). The ASRS Screener has been validated for identifying possible ADHD amongst adult populations seeking treatment for substance use disorders (SUD) (19) and is well suited to exploring ADHD among people who regularly use illicit substances.

The 2024 surveys also included the introduction of questions allowing us to better understand the experiences of participants who live with a disability. Some participants disclosed having ADHD when responding to these questions, but most of these participants also reported ADHD as a diagnosis or mental health condition. As such, we report the proportion of participants who disclosed ADHD as a disability descriptively but exclude this variable from our multivariate models.

Participant responses to the ASRS were coded and scored to identify four groups based on the likelihood of having adult ADHD: low (≤9), mild to moderate (10-13), high (14-17), and very high (18+) (18). Participants also reported on use of illicit substances to manage their ADHD symptoms in the last six month and whether they had ever received a formal diagnosis of ADHD. We used multivariate logistic regression to examine factors associated with self-medication for ADHD symptoms, including ASRS scores indicating high/very high ADHD symptoms, formal ADHD diagnoses, recognition of ADHD as a recent mental health condition, and demographic factors. Each non-prescribed substance was modelled separately, as participants could nominate using more than one substance to self-medicate.

Results

Table 1. ADHD symptoms, diagnoses, and self-management, EDRS and IDRS, 2024

		EDRS (n=740)	IDRS (n=884)
Median ASRS score (IQR[§])		14 (9-18)	12 (7-16)
ADHD symptoms low (score 0-9)	Last 6m	24.7%	34.6%
ADHD symptoms mild-moderate (score 10-13)	Last 6m	20.3%	19.3%
ADHD symptoms high (score 14-17)	Last 6m	**25.7%**	**20.5%**
ADHD symptoms very high (score 18+)	Last 6m	**29.3%**	**25.6%**
ADHD as self-reported mental health problem	Last 6m	**14.1%**	**6.9%**
ADHD as self-reported disability	Current	**4.3%**	**1.9%**
Formal ADHD diagnosis	Ever	**21.6%**	**17.1%**
Prescribed medication for ADHD	Last 6m	12.3%	4.8%
Non-prescribed substance used for ADHD symptoms[ᵀ]	None	59.6%	69.8%
	Pharmaceutical stimulants	22.7%	2.2%
	Methamphetamine	5.0%	18.0%
	Cannabis	14.2%	8.0%
	Other[δ]	4.9%	4.6%

[§]IQR =inter-quartile range; [ᵀ]Participants could nominate more than one substance; [δ]Other substances included alcohol, nicotine and benzodiazepines, and opioids for IDRS participants.

ASRS scores suggest ADHD is common but not always recognised

Fifty-five per cent of EDRS participants and 46% of IDRS participants showed high or very high symptoms of ADHD over the last 6 months, but only 14% and 7% of the samples respectively self-reported ADHD as a recent mental health problem, and only 22% and 17% respectively had ever received a formal diagnosis of ADHD (Table 1). Smaller proportions again (4% and 2%) identified living with ADHD as a disability. Overall, 26% of the EDRS group and 19% of the IDRS group recognised ADHD in some form (as a formal diagnosis, disability and/or a mental health problem).

Medication and self-medication

Few EDRS or IDRS participants (12% and 5%, respectively) reported receiving prescribed medications for ADHD, although this was higher among participants with a formal ADHD diagnosis (EDRS: 55%, IDRS: 24%). However, 40% and 30% respectively of participants reported having used non-prescribed substances to alleviate ADHD symptoms. Pharmaceutical stimulants were most commonly used by EDRS participants to self-manage symptoms (23%), while IDRS participants more commonly used methamphetamine (18%) (Table 1). EDRS participants with high/very high ASRS scores were more likely to self-manage with non-prescribed substances

(56%) than those with low or moderate scores (19%, $p<0.001$). Among IDRS participants, these proportions were 39% and 16%, respectively ($p<0.001$).

In our multivariate regression models (Table 2), people whose ASRS scores suggested high or very high ADHD symptoms were more likely to report having self-medicated with a non-prescribed substance, regardless of whether they had recognised ADHD as a recent mental health problem or received a formal diagnosis.

Among EDRS participants, older participants and those employed at least part-time or who had completed high school were less likely to self-medicate with methamphetamine; younger participants and those who had completed high school were more likely to self-medicate with non-prescribed pharmaceutical stimulants, as were transgender/non-binary people.

Among IDRS participants, self-medication with non-prescribed cannabis was less likely among older participants and cisgender women (compared to cisgender men).

Table 2. Multivariate model of factors associated with self-medication for ADHD symptoms with non-prescribed substances, EDRS and IDRS, 2024

Sample	**EDRS (n=722)**			**IDRS (n=843)**		
Model	Non-prescribed pharmaceutical stimulants	Non-prescribed meth-amphetamine	Non-prescribed cannabis	Non-prescribed pharma. stimulants[§]	Non-prescribed meth-amphetamine	Non-prescribed cannabis
	AOR (CI_{95})	**AOR (CI_{95})**	**AOR (CI_{95})**	**OR (CI_{95})**	**AOR (CI_{95})**	**AOR (CI_{95})**
ASRS symptoms high/very high[τ]	3.45 (2.23, 5.33)	3.53 (1.40, 8.92)	3.13 (1.74, 5.62)	—	2.45 (1.66, 3.64)	2.38 (1.37, 4.14)
ADHD diagnosis	0.62 (0.37, 1.04)	4.20 (1.78, 9.93)	1.89 (1.10, 3.25)	—	3.13 (1.62, 4.89)	1.96 (1.08, 3.56)
ADHD as self-reported mental health problem	1.37 (0.77, 2.42)	1.05 (0.41, 2.68)	1.64 (0.90, 2.98)	—	3.00 (1.62, 5.55)	2.24 (1.07, 4.69)
Gender (reference – cisgender male)						
Cisgender female	0.82 (0.55, 1.20)	1.24 (0.60, 2.55)	1.44 (0.91, 2.30)	—	1.32 (0.87, 1.99)	0.52 (0.28, 0.96)
TGNB[δ]	2.62 (1.19, 5.75)	—	2.85 (1.21, 6.72)	—	1.15 (0.42, 3.15)	0.25 (0.03, 1.94)
Age (years)	0.97 (0.95, 0.99)	1.08 (1.04, 1.12)	0.98 (0.95, 1.01)	—	0.98 (0.96, 1.00)	0.96 (0.93, 0.99)
Employed ≥part-time	0.88 (0.57, 1.35)	0.45 (0.17, 0.81)	0.95 (0.57, 1.58)	—	0.64 (0.29, 1.39)	0.67 (0.24, 1.88)
Education ≥Year 12	1.63 (1.02, 2.63)	0.45 (0.21, 0.97)	0.73 (0.44, 1.23)	—	1.10 (0.70, 1.74)	1.33 (0.73, 2.40)

AOR = adjusted odds ratio: models are adjusted for all factors shown; CI_{95} = 95% confidence interval; [τ]ASRS scores categorized into low/moderate (scores 0-13) and high/very high (scores 14+); [§]Numbers in the IDRS for this model were too small to be robust; [δ]TGNB = transgender, gender diverse and/or non-binary people; reference category for gender is cisgender male. Figures in bold indicate statistical significance.

Discussion

We found a relatively high proportion of potentially undiagnosed or unrecognised ADHD symptoms among two samples of people who regularly use illicit drugs. One in four (26%) EDRS participants, and one in five (19%) IDRS participants recognised ADHD in themselves in some form (i.e., formal diagnosis, disability or a mental health problem), but 55% and 46%, respectively, scored above the 'symptom threshold' on the ASRS. This compares unfavourably with global adult population estimates of approximately 3% pooled prevalence based on clinical measures (1, 20) and 6-8% based on self-reported symptoms (1, 21). Recognition and diagnosis of ADHD were both less common among participants who injected drugs than among those who used ecstasy and/or other illicit stimulants.

We found substantial proportions of both samples reported using non-prescribed substances to manage perceived symptoms of ADHD, regardless of formal diagnoses. This is congruent with previous research suggesting that some people may use non-prescribed substances, particularly illicit stimulants, to self-medicate or self-manage ADHD-related symptoms (11), but the literature is not clear on the prevalence of this behaviour (13-15). The choice to self-manage symptoms may reflect the lower rates of formal diagnosis, and thus receipt of prescribed ADHD medication, particularly among the IDRS participants for whom access to healthcare in general, and specialist psychiatric support in particular, may be limited. Of additional concern are the ongoing costs associated with ADHD care and medication, which may again disproportionately affect those with lower socio-economic capacity.

Gender differences in self-management of ADHD symptoms are worth noting. Our finding of some evidence of higher odds of self-management of ADHD symptoms among trans, gender diverse and/or non-binary EDRS participants (compared to cisgender men) is congruent with reports of higher prevalence of ADHD amongst this population (22). Among IDRS participants, cisgender men were more likely to self-manage their ADHD symptoms with non-prescribed cannabis compared to cisgender women, consistent with prior research that suggests gender-specific associations between ADHD symptoms and substance use (23).

This is a broader public health concern, in light of current shortages of ADHD medications in Australia (24), and particularly given the recent detections by drug-checking services of contaminants such as nitazenes in unregulated "pharmaceutical" substances and methamphetamines (25) to which some people are turning to alleviate ADHD symptoms.

Limitations

The EDRS and IDRS samples are not intended to be representative of the general population, of all people with ADHD, or of all people who use drugs, and so care must be taken in extrapolating our findings. Our findings rely largely on self-report from participants, but self-report in trusted situations have been shown elsewhere to be robust (16, 17).

References

1. Song P, Zha M, Yang Q, Zhang Y, Li X, Rudan I. The prevalence of adult attention-deficit hyperactivity disorder: A global systematic review and meta-analysis. J Glob Health. 2021;11:04009.
2. Ebejer JL, Medland SE, van der Werf J, Gondro C, Henders AK, Lynskey M, et al. Attention Deficit Hyperactivity Disorder in Australian Adults: Prevalence, Persistence, Conduct Problems and Disadvantage. PLoS One. 2012;7(10):e47404.

3. May T, Aizenstros A, Aizenstros J. Characteristics of adults with attention deficit hyperactivity disorder consecutively referred to an Australian private psychiatric clinic. Aust Psychol. 2022;57(2):117-27.
4. Kaye S, Darke S, Torok M. Attention deficit hyperactivity disorder (ADHD) among illicit psychostimulant users: a hidden disorder? Addiction. 2013;108(5):923-31.
5. Young JT, Carruthers S, Kaye S, Allsop S, Gilsenan J, Degenhardt L, et al. Comorbid attention deficit hyperactivity disorder and substance use disorder complexity and chronicity in treatment-seeking adults. Drug and Alcohol Review. 2015;34(6):683-93.
6. Kaye S, Gilsenan J, Young JT, Carruthers S, Allsop S, Degenhardt L, et al. Risk behaviours among substance use disorder treatment seekers with and without adult ADHD symptoms. Drug and Alcohol Dependence. 2014;144:70-7.
7. Young S, Sedgwick O. Attention deficit hyperactivity disorder and substance misuse: an evaluation of causal hypotheses and treatment considerations. Expert Review of Neurotherapeutics. 2015;15(9):1005-14.
8. Rolland B, Zimmer L, Prunier H, Sescousse G. Not so paradoxical … Neurobiology of attention deficit–hyperactivity disorder (ADHD) and therapeutic mode of action of psychostimulants. Annales médico psychologiques. 2025;183(3):323-7.
9. Australian Institute of Health and Welfare. ADHD medications dispensed 2004–05 to 2023–24: Australian Government; 2025 [Available from: https://www.aihw.gov.au/mental-health/topic-areas/mental-health-prescriptions/adhd-medications-dispensed-overtime.
10. Johnson B, Stjepanovic D, Leung J, Chan GCK. "Everything's a Challenge": An Interview Study of ADHD Individuals in the Midst of the Prescription Stimulant Shortage. Journal of attention disorders. 2025;29(2):120-7.
11. Holborn T, Schifano F, Smith E, Deluca P. The Use of Novel Stimulants in ADHD Self-Medication: A Mixed Methods Analysis. Brain Sciences. 2025;15(3):292.
12. Odell AP, Reynolds GL, Fisher DG, Huckabay LM, Pedersen WC, Xandre P, et al. Attention Deficit Hyperactivity Disorder, Aggression, and Illicit Stimulant Use: Is This Self-Medication? The journal of nervous and mental disease. 2017;205(5):372-9.
13. Wilens TE, Adamson J, Sgambati S, Whitley J, Santry A, Monuteaux MC, et al. Do Individuals with ADHD Self-Medicate with Cigarettes and Substances of Abuse? Results from a Controlled Family Study of ADHD. The American journal on addictions. 2007;16(S1):14-23.
14. Thurn D, Riedner A, Wolstein J. Use Motives of Patients with Amphetamine-Type Stimulants Use Disorder and Attention-Deficit/Hyperactivity Disorder. European addiction research. 2020;26(4-5):254-62.
15. Sutherland R, Chandrasena U, Karlsson A, Uporova J, Tayeb H, Price O, et al. Ecstasy and Related Drugs Reporting System (EDRS) Interviews 2024: Background and Methods. Sydney: National Drug and Alcohol Research Centre, UNSW Sydney; 2024.
16. Sutherland R, Karlsson A, Uporova J, Chandrasena U, Tayeb H, Price O, et al. Illicit Drug Reporting System (IDRS) Interviews 2024: Background and Methods. Sydney: National Drug and Alcohol Research Centre, UNSW Sydney; 2024.
17. Kessler RC, Adler L, Ames M, Demler O, Faraone S, Hiripi E, et al. The World Health Organization Adult ADHD Self-Report Scale (ASRS): a short screening scale for use in the general population. Psychol Med. 2005;35(2):245-56.
18. Kessler RC, Adler LA, Gruber MJ, Sarawate CA, Spencer T, Van Brunt DL. Validity of the World Health Organization Adult ADHD Self-Report Scale (ASRS) Screener in a representative sample of health plan members. International journal of methods in psychiatric research. 2007;16(2):52-65.
19. van de Glind G, van den Brink W, Koeter MWJ, Carpentier P-J, van Emmerik-van Oortmerssen K, Kaye S, et al. Validity of the Adult ADHD Self-Report Scale (ASRS) as a screener for adult ADHD in treatment seeking substance use disorder patients. Drug Alcohol Depend. 2013;132(3):587-96.
20. Ayano G, Tsegay L, Gizachew Y, Necho M, Yohannes K, Abraha M, et al. Prevalence of attention deficit hyperactivity disorder in adults: Umbrella review of evidence generated across the globe. Psychiatry Res. 2023;328:115449.
21. Willcutt EG. The Prevalence of DSM-IV Attention-Deficit/Hyperactivity Disorder: A Meta-Analytic Review. Neurotherapeutics. 2012;9(3):490-9.

22. Warrier V, Greenberg DM, Weir E, Buckingham C, Smith P, Lai M-C, et al. Elevated rates of autism, other neurodevelopmental and psychiatric diagnoses, and autistic traits in transgender and gender-diverse individuals. Nature Communications. 2020;11(1).
23. Kolla NJ, van der Maas M, Toplak ME, Erickson PG, Mann RE, Seeley J, et al. Adult attention deficit hyperactivity disorder symptom profiles and concurrent problems with alcohol and cannabis: sex differences in a representative, population survey. BMC psychiatry. 2016;16(1):50.
24. Therapeutic Goods Administration. About the shortage of methylphenidate hydrochloride products: Therapeutic Goods Administration; 2025 [Available from: https://www.tga.gov.au/safety/shortages/information-about-major-medicine-shortages/about-shortage-methylphenidate-hydrochloride-products.
25. Clifford B, Peacock A, Siefried KJ, Gobeil J, Smith JL, Ezard N. Responding to reports of nitazene toxicity in Australia. Medical Journal of Australia. 2025;222(5):216-9.

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