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Sex and Drugs: Sexual Risk Behaviour among Regular Psychostimulant Consumers in Australia

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Medicine | National Drug and Alcohol Research Centre

KEY FINDINGS

- Sexual risk behaviour was examined among Regular Psychostimulant Users (RPU) interviewed for the Ecstasy and Related Drug Reporting System (EDRS) in 2015 (*n*=763).
- Three-fifths (65%) of RPU reported having penetrative sex with a casual partner during the preceding six months, and a large majority (89%) reported sex while under the influence of drugs during this time.
- Females were significantly more likely to report casual sex while under the influence of drugs in comparison to males (93% vs. 88%), and the frequency of encounters was greater among older (>22 years) relative to younger (≤21 years) males and females.
- Among those who had casual sex while under the influence of drugs in the last six months, two-fifths (41%) indicated that they had unprotected penetrative sex during this time, and over one-half (52%) did not use protection on the last occasion. This equates to 40% and 30% of the entire sample respectively.
- The proportion of RPU reporting inconsistent use of protection (72% of males and 69% of females) was greater in comparison to a nationally representative sample aged 20-29 years (52% and 36% respectively).
- The main factors associated with unprotected penetrative sex on the last occasion were: female sex, greater number of casual partners in the last six months, being under the influence of cannabis at the time, days of cannabis and alcohol use in the last six months, higher levels of problematic alcohol use, and higher levels of psychological distress.
- Over one-third (36%) of RPU had never had a sexual health check-up, almost one-half (46%) reported a check-up in the last year, and the remainder (18%) reported a check-up more than a year ago.
- A small proportion of RPU (4%) had been diagnosed with an STI in the last year, most commonly chlamydia (83%), gonorrhoea (14%) or HPV (genital warts) (7%). An additional 10% had been diagnosed with an STI more than a year ago.
- Younger males were less likely to report a sexual health check-up or an STI diagnosis in the past year when compared to older males and younger and older females. Overall STI testing rates were higher relative to the general population aged 20-29, but rates of STI diagnosis were similar.
- RPU represent a high risk group who may benefit from targeted education campaigns and associated interventions. Females, those with high levels of psychological distress, and those using cannabis and alcohol in greater frequency may be at particular risk.

BACKGROUND

Sexual risk behaviours such as unprotected penetrative sex with casual partners put people at a higher risk of contracting sexually transmitted infections (STIs) and blood-borne viral infections (BBVI) such as hepatitis and HIV. The prevention, testing, and treatment of STIs remains a significant public health issue. In Australia, STI rates have risen over the last decade, with the highest rates among those aged 20-29 years. Chlamydia diagnoses increased steadily in Australia between 2005 and 2011, but have remained stable in 2014, with higher diagnoses reported among females (436 per 100,000) than males (310 per 100,000) (The Kirby Institute, 2015). Chlamydia may be asymptomatic, particularly in males, but it can have serious consequences including infertility in women (Grulich et al., 2014). While less common, diagnosis rates of gonorrhoea increased in 2014 to 99 and 38 per million population for males and females respectively, and syphilis rates increased in males from 5.1 to 12.7 in 2014, compared to 1.9 per million population for females (The Kirby Institute, 2015).

It is important to know the factors associated with sexual risk behaviours in high risk populations so that interventions can be appropriately targeted. According to the National Sexually Transmissible Infections strategy 2014-2017 (Australian Government Department of Health, 2014), high risk populations include: young people (<30 years), Aboriginal and Torres Strait Islander peoples, gay men and other men who have sex with men, and sex workers. In the most recent survey of Australian secondary students (n=1,136) (Mitchell, Patrick, Heywood, Blackman, & Pitts, 2014), among sexually active students, two-fifths (41%) had noted used a condom, and almost one-fifth (17%) reported that they were drunk or high on the last occasion that they had sex, with the latter proportion greater for males relative to females (21% vs 15%).

High levels of sexual risk behaviour has also been noted among sub-groups of young people who regularly use psychostimulants. For example, in 2009 it was reported 54% of regular ecstasy users had unprotected penetrative sex with a casual partner in the last six months, and unprotected sex was more likely among those who identified as heterosexual (Dunn, Day, Bruno, Degenhardt,

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& Campbell, 2010). Injecting drug use has also been reported as a correlate of STI diagnoses in the general Australian population (Grulich et al., 2014).

Recent research has examined factors which influence safe sexual practices among representative samples of the population. Use of condoms during heterosexual sex is typically higher among men, young people, people with multiple or casual sexual partners, those who identify as bisexual, and those with higher education (de Visser et al., 2014). Use of condoms is also typically higher for homosexual relative to heterosexual encounters (de Visser et al., 2014). In the 2014 Australian Study of Health and Relationships (ASHR), among those aged 16-59, multiple casual partners predicted consistent condom use in males, and being over the age of 30 years, and drinking in excess of NHMRC guidelines was associated with less consistent condom use among females (de Visser et al., 2014).

Few studies have examined the factors which influence use of condoms among populations of young people who regularly use psychostimulants. In one study among the 2004 EDRS cohort, binge alcohol use in combination with ecstasy (more than 5 standard drinks) was associated with unprotected penetrative sex with a casual partner while under the influence of drugs (Breen et al., 2006), with 52% of binge drinkers reporting unprotected sex, compared to 36% of non-binge drinkers and 34% of non-drinkers.

AIMS

RPU represent a high risk population which may benefit from targeted health promotion and education interventions to prevent the risk of and increase the screening and treatment of STIs. This bulletin aims to examine trends in sexual risk behaviour among a sentinel group of RPU in Australia, and where possible, compare these results to representative samples from the general population. A further aim was to examine the correlates of unprotected penetrative sex among this group, in order to inform targeting of intervention strategies in this group.

METHOD

The Ecstasy and Related Drugs Reporting System (EDRS) is an annual study designed to monitor ecstasy and related drug markets in every Australian capital. The project includes a structured face-to-face interview of regular psychostimulant users (RPU), interviews with key experts who have regular contact with RPU, and analysis of indicator data in relation to ecstasy and other drug use.

Eligibility criteria for RPU included at least monthly ecstasy use in the preceding six months, at least 16 years of age, and residence in the relevant capital city of each jurisdiction for at least 12 months. Detailed information on the characteristics of RPU who participated in the EDRS survey between 2005 and 2015 can be found in the national and state reports which are available on the NDARC website: http://ndarc.med.unsw.edu.au/group/drug-trends

A total of 763 RPU were interviewed in the 2015 EDRS: 101 from the Northern territory, 100 each from New South Wales, Victoria, South Australia, and Western Australia; 99 from the Australian Capital Territory 85 from Queensland; and 78 from Tasmania.

RPU interviewed in 2015 were 21 years old (range 16 to 55) on average, and over three fifths (62%) were male. The majority were heterosexual (87%) and spoke English as their main language (96%). Participants were typically well educated with a majority (78%) having completed a Year 12 education, and most were currently employed (52%) or studying (33%). Few participants reported a previous prison conviction (3%) or current drug treatment (2%).

Participants were asked about frequency of casual sex while under the influence of drugs and use of barriers during this time. Sex was defined as penetration of the penis/hand/toys into the vagina/anus. Use of protection was defined as the use of condoms/gloves/dams. Participants were also asked whether that had had a sexual health check-up and whether they had been diagnosed with any sexually transmitted infections (STIs) in the last year. The Alcohol Use Disorders Identification Test (AUDIT) (Saunders, Aasland, Babor, de la Fuente, & Grant, 1993) and the Kessler Psychological Distress scale (K10) were also completed (Kessler et al., 2002).

To examine age differences a categorical variable was calculated based on a median split, with younger RPU classified by an age ≤21 years and older participants classified as >22 years. There was no significant difference in the proportion of males and females classified as younger (52% vs. 57%), X^2=2.75, p=.253.

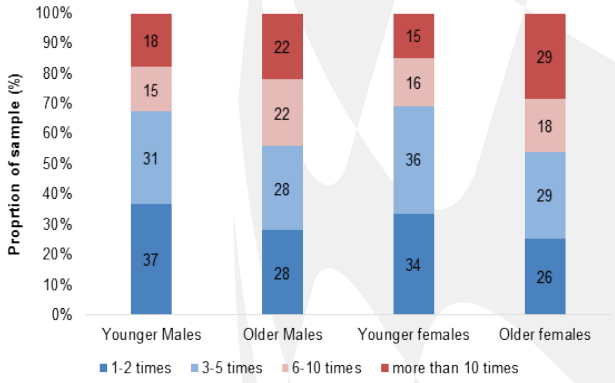
Sexual Risk Behaviour among RPU

Three-fifths (65%) of the 2015 EDRS sample reported having penetrative sex with a casual partner during the preceding six months. Among those who reported sex with a casual partner (n=492), a large majority (89%) reported sex with a casual partner while under the influence of drugs. Females were more likely to report casual sex while under the influence of drugs in comparison to males (93% vs. 88%), X^2 =3.88, p=.049. There was no significant difference in the proportion of younger or older participants (based on a median split) who reported casual sex while under the influence of drugs during the past six months (55% vs. 45%), X^2 =0.136, p=.712.

Frequency of casual sex while under the influence of drugs varied between once (13%), twice (19%), 3-5 times (31%), 6-10 times (17%) or more than 10 times

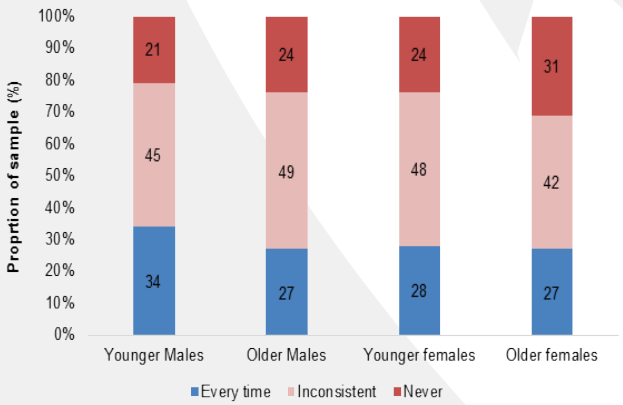
(20%). Figure 1 shows the frequency of casual sex (while under the influence of drugs) during the past six months was relatively similar among younger and older males and females. However, older males and females were more likely to report casual sex on six or more occasions during the past six months relative to younger groups.

Figure 1. Frequency of sex with a casual partner when under the influence of drugs in the last six months among younger and older male and female RPU (n=492)



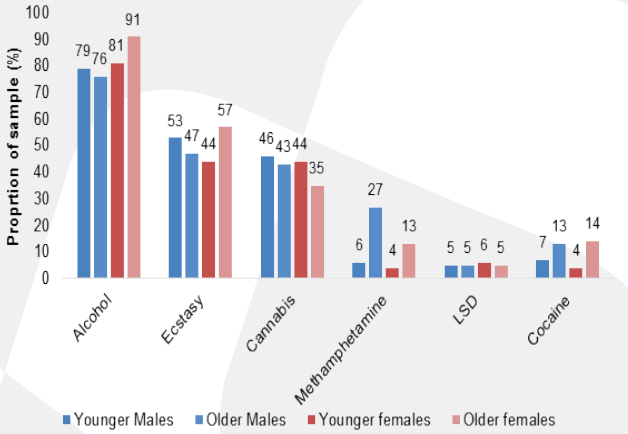
Among those who reported casual sex while under the influence of drugs in the last six months, over one-quarter (30%) reported that they 'always' used protection, almost one-half (46%) reported inconsistent use of protection (either often, sometimes or rarely), and almost one-quarter (24%) reported 'never' using protection. Thus, 41% of the entire RPU sample (n=755) reported unprotected penetrative sex with a casual partner in the preceding six months. Figure 2 shows that self-reported use of protection when having sex with a casual partner (while under the influence of drugs) was relatively similar among younger and older females and males, with the exception that older females were slightly less likely to report 'never' using protection.

Figure 2. Use of protection among younger and older male and female RPU who reported sex under the influence of drugs in the last six months (n=492)



On the last occasion of sex with a casual partner (while under the influence of drugs), less than one-half (48%) reported using protection on this occasion. On this occasion, the drugs that had most commonly been used (Figure 3) were alcohol (80%), ecstasy (52%), cannabis (43%), methamphetamine (10%), cocaine (9%), and LSD (5%). This pattern of drug use is relatively consistent with the drugs most commonly used among the RPU sample. Older males were more likely to report that they were under the influence of methamphetamine relative to other groups.

Figure 3. Drug used on last occasion among younger and older male and female RPU who reported sex under the influence of drugs in the last six months (n=492)



Sexual risk behaviour compared to the Australian general population

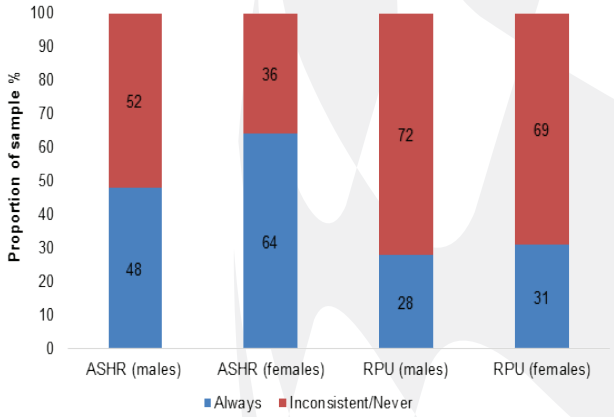
In the second Australian Study of Health and Relationships (ASHR) (de Visser et al., 2014), of those aged 20-29 years, an age group similar to the RPU cohort, 46% of males and 39% of females reported condom use on last occasion of heterosexual intercourse. However, the estimate for this age group includes regular partners, and is therefore not directly comparable to the 2015 RPU sample, which focuses on casual sex. However, when compared to rates of condom use on last occasion of casual sex among the ASHR sample aged 16-59 years (65% of males and 56% of females), condom use while under the influence of drugs was lower among the 2015 RPU sample (51% of males and 41% of females).

Among the ASHR sample (aged 20-29 years) who reported heterosexual sex with casual partners in the past six months, 48% of males and 64% of females 'always' used condoms during this time (de Visser et al., 2014). Figure 4 shows that the proportion reporting inconsistent use of condoms with casual partners in the last six months was substantially greater among the 2015 RPU sample when compared to a nationally representative sample aged 20-29 years. However, it should be noted that the ASHR refers to any heterosexual sex, whereas the EDRS refers to

penetrative sex with a casual partner while under the influence of drugs.

Note: RPU data refers to penetrative sex while under the influence of drugs; ASHR data refers to vaginal sex only.

Figure 4. Use of protection with casual partners during the last six months among the national ASHR sample (aged 20-29 years) and the 2015 EDRS sample.



Correlates of Sexual Risk Behaviour among RPU

Table 1 shows logistic regression analyses predicting unprotected penetrative sex on last occasion among RPU who reported casual sex while under the influence of drugs in the last six months (n=440).

There were significant associations between unprotected penetrative sex and frequency of casual sex while under the influence of drugs, being under the influence of cannabis at the time, higher frequency of alcohol and cannabis use in the last six months, higher levels of problematic alcohol use (AUDIT score) and higher levels of psychological distress (K10 score). There was also a statistically non-significant trend for an association between unprotected penetrative sex and being female.

When all significant variables were entered into a multivariate logistic model (and after removing overlapping cannabis and alcohol variables), significant independent associations remained between unprotected penetrative sex and being under the influence of cannabis at the time, higher levels of problematic alcohol use (AUDIT score) and higher levels of psychological distress (K10 score).

Table 1. Logistic regression models predicting unprotected penetrative sex on last occasion among those reporting casual sex while under the influence of drugs in last six months (n=440)

	Unadjusted OR (95%CI)	*p*	Adjusted OR (95%CI)	*p*
Sex (reference=male)	**1.46 (0.98-2.18)**	**.060**	**1.47 (0.96-2.24)**	**.077^**
Age	1.00 (0.97-1.04)	.987		
GBLT	1.18 (0.68-2.05)	.559		
ATSI	0.77 (0.26-2.34)	.648		
Weekly income	1.00 (1.00-1.00)	.580		
Current student	1.22 (0.82-1.80)	.332		
Number of casual sex partners [b]	**1.27 (1.09-1.48)**	**.002****	**1.16 (0.99-1.36)**	**.068^**
Intravenous drug use [b]	0.90 (0.42-1.94)	.793		
Under influence of alcohol [a]	1.19 (0.75-1.92)	.459		
Under influence of cannabis [a]	**1.59 (1.09-2.33)**	**.017***	**1.65 (1.10-2.50)**	**.016***
Under influence of ecstasy [a]	1.10 (0.75-1.6)	.633		
Under influence of methamphetamine [a]	0.68 (0.39-1.18)	.169		
Days used alcohol [b]	**1.01 (1.00-1.01)**	**.017***		
Days used ecstasy [b]	1.01 (0.99-1.02)	.310		
Days used cannabis [b]	**1.00 (1.00-1.02)**	**.027***		
Days used methamphetamine [b]	0.99 (0.98-1.00)	.201		
AUDIT score	**1.07 (1.04-1.12)**	***p*<.001***	**1.07 (1.03-1.10)**	***p*<.001***
K10 score	**1.05 (1.02-1.09)**	**.001****	**1.04 (1.01-1.07)**	**.023***
Self-reported mental health problem [b]	1.35 (0.91-2.01)	.136		
Binge drug use [b,c]	1.32 (0.89-1.94)	.166		

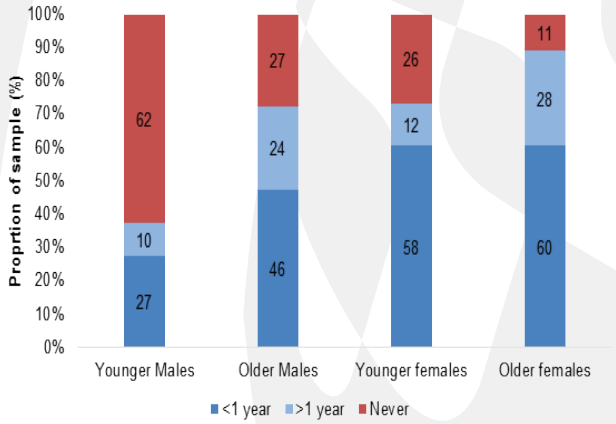
[a] on last occasion of casual sex while under influence of drugs; [b] in the last six months; [c] use for more than 48 hours continuously without sleep; OR: odds ratio; 95%CI: 95% confidence interval; ^*p*<.1; **p*<.05; ***p*<.01; ****p*<.001

Sexual Health Testing and Diagnosis among RPU

Over one-third (36%) of the 2015 RPU sample (n=748) had never had a sexual health check-up, almost one-half (46%) reported a check-up in the last year, and the remainder (18%) reported a check-up more than a year ago. Figure 5 shows that young males were less

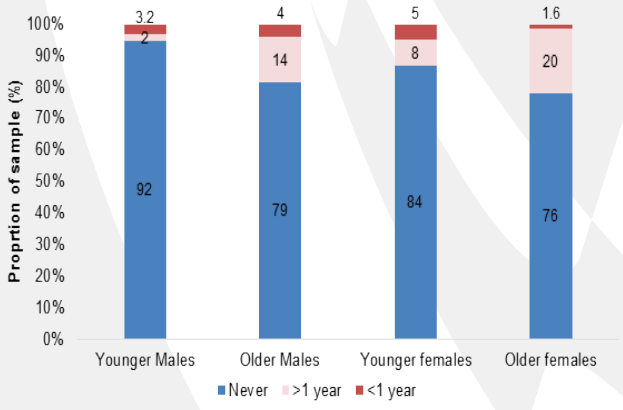
likely to report having a sexual health check-up relative to older males and younger and older females.

Figure 5. Sexual health check-ups among younger and older male and female RPU (n=763)



A majority (86%) of RPU (n=741) reported that they had never been diagnosed with an STI. Smaller proportions had been diagnosed with an STI in the last year (4%) or more than a year ago (10%). Among those who had been diagnosed within the last year (n=29), the most common STIs were chlamydia (83%), gonorrhoea (14%) and HPV or genital warts (7%). Figure 6 shows that younger males were less likely to report a diagnosis of an STI when compared to older males and females.

Figure 6. Diagnosis of STIs among younger and older male and female RPU (n=763)



Sexual Health Testing and Diagnosis compared to the Australian general population

In the second Australian Study of Health and Relationships (ASHR) (Grulich et al., 2014), STI testing in the past year was reported by 17.3% of females and 13.2% of males aged 16-69 years, with higher rates of testing in high risk groups such as homosexual men (61%). Testing rates were highest in the 16-19 (19.2% and 34.1%) and 20-29 (27.4% and 38.5%) age groups for males and females respectively. Thus, aside from younger males (27%), rates of testing were generally higher among the present RPU sample (46-60%).

In the second Australian Study of Health and Relationships (ASHR) (Grulich et al., 2014), 2.7% of females and 1.1 of males had been diagnosed with an STI in the last year, with higher rates among the 20-29 age group, and among females (4.7%) females relative to males (2.4%) (Grulich et al., 2014). These rates are relatively similar to the rates reported among RPU in the present study (1.6% - 5%).

CONCLUSIONS & IMPLICATIONS

The proportion of RPU who reported unprotected penetrative sex with a casual partner in the last six months (72% of males and 59% of females who had sex while under the influence of drugs) was substantially greater than sexually active males (52%) and females (36%) in the general population aged 20-29 years. In addition, risk is likely to be higher than expected, because on one-sixth of occasions that condoms are used, they are applied after some form of genital contact (de Visser et al., 2014).

Predictors of unprotected penetrative sex on last occasion (while under the influence of drugs) included being under the influence of cannabis at the time, higher levels of problematic alcohol use (AUDIT score) and higher psychological distress (K10 score).

The associations between alcohol use and unprotected penetrative sex is consistent with previous research among the 2004 EDRS cohort in which binge alcohol use in combination with ecstasy (more than 5 standard drinks) was associated with less safe sex with casual partners while under the influence of drugs (Breen et al., 2006), with 52% of binge drinkers reporting unprotected penetrative sex, compared to 36% of non-binge drinkers and 34% of non-drinkers.

Several other studies have shown an association between cannabis use and sexual risk behaviour. It is possible that this relationship is due to a reduction in behavioural control due to the potential effects of cannabis on cognitive processing, relaxation, euphoria, and sex-drive (Brodbeck, Matter, & Moggi, 2006). However, among young (16-24 years) heterosexual adults in Switzerland, person variables such as intention, self-efficacy, and an underlying preference for risk/hedonism mediated this relationship, suggesting that the effect was not due to cannabis intoxication per se (Brodbeck et al., 2006). However, in the present study, there was an association between cannabis use and unprotected penetrative sex on the last casual encounter, which may indicate a situational effect.

Similar to the present study, Brodbeck et al. (2006) reported a significant relationship between sexual risk and psychosocial stress among females but not males. It was suggested that females with higher psychosocial distress may be more vulnerable to unprotected sex,

or alternatively that sexual behaviour may be used as a coping strategy. In the present RPU sample, psychological distress was significantly higher among females relative to males. Further analysis of gender differences in the correlates of unprotected sex would be required to examine this further.

While condom use has previously been reported to be higher among homosexually active men (de Visser, Rissel, Smith, & Richters, 2006; Dunn et al., 2010), there was no relationship reported in the present study. Further analysis among men and women separately may be needed to explore this relationship further.

Together the present finding suggest that RPU represent a high risk population which may benefit from targeted intervention strategies. Such strategies should take into consideration the factors associated with sexual risk behaviour in this group. Given the increased rates of engagement in testing in this sample in comparison to the general population, it is likely that this demographic would be receptive to such intervention strategies. Increased engagement in testing among younger male demographics may be an important target. Furthermore, interventions targeted towards problematic drinking, cannabis use, and psychological distress may also impact sexual risk behaviours among this group.

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