Patterns of non-prescribed and analogue benzodiazepine use among a sample of people who regularly use ecstasy and/or other illicit stimulants in Sydney, NSW

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Key findings:

- While non-prescribed benzodiazepine use was previously more common among females from 2007 to 2015, use among male participants has doubled over time and has been more common among male participants from 2017 to 2020.
- Very few participants reported using benzodiazepines during their last occasion of overdose, on their last occasion of stimulant use, or while bingeing on drugs in the last six months, from 2016 to 2020.

Introduction

Benzodiazepines are a class of prescription drugs that are used to treat a variety of medical issues. However, when combined with other drugs or taken in large doses, benzodiazepine use can cause poisonings and other adverse symptoms, such as serious impairment of mental and motor functions (1). Benzodiazepines are sometimes used by people who use stimulants to reduce the unwanted effects of drug use, such as withdrawals and insomnia (2). However, the concurrent use of benzodiazepines and stimulants can increase the risk of overdose and heart problems as a consequence of the stimulant accelerating the heart while the benzodiazepine works to slow down the heart (2).

In Australia, benzodiazepines are the second most common class of drugs involved in drug induced deaths (3). In 2019, 97% of drug induced deaths involving benzodiazepines also involved the use of other drugs, such as alcohol (4). While young people aged between 15 to 24 remained the least common group to experience drug induced death, this age group has worryingly seen an increase in the rate of deaths between 2018 (3.5 deaths per 100,000 people) and 2019 (5.1 death per 100,000 people) and this was reported to be driven by young males (3). Interestingly, while research shows greater non-medical use of tranquilizers/sleeping pills, such as benzodiazepines, among males, the majority of benzodiazepine related ambulance attendances in 2019 were female. (4)

Concerns around the non-medical use of benzodiazepines are further compounded by the circulation of counterfeit benzodiazepines in the Australian illicit drug market.

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The difficulty in detecting these counterfeit products (5) means that people using non-prescribed benzodiazepines may be consuming these substances thinking they are genuine pharmaceutical products. These counterfeit benzodiazepines may have no known medical uses and can cause unexpected and serious adverse effects (6).

With this in mind, this bulletin examines past six month use of non-prescribed benzodiazepines among people who use ecstasy and/or other illicit stimulants in NSW, stratified by age and gender. The bulletin also explores the intentional and recent use of benzodiazepine analogues, and the involvement of benzodiazepines in overdoses and drug binges.

Method

The Ecstasy and Related Drug Reporting System (EDRS) is an illicit drug monitoring system that has been annually conducted in all states and territories since 2003. The study surveys people who regularly use ecstasy and/or other illicit stimulants. In NSW, approximately 100 participants are recruited each year through social media and word of mouth. Eligible participants who are 18 years or older (17 or older prior to 2020), have used non-prescribed or illicit stimulants at least monthly over a six-month period, and have lived in Sydney for 10 of the last 12 months are interviewed for one-hour and are reimbursed $40 for their time.

In 2020, interviews were adapted to phone and video conference and participants were reimbursed electronically to comply with NSW COVID-19 restrictions and protect the wellbeing of participants and interviewers. In total, 103 participants from Sydney, NSW were interviewed in 2020. A detailed summary of our methodology, including the number of participants recruited in each year, can be found in the *EDRS Interviews 2020: Background and Method report.*

While the EDRS has been conducted annually since 2003, questions regarding benzodiazepine use have not been consistently included across years. This bulletin will utilise the following questions:

- Past six month (i.e., 'recent') use of non-prescribed benzodiazepines (2007-2020). Benzodiazepine use was included in the EDRS survey from 2007 onwards.
- Recent use of etizolam and other substances that mimic the effects of benzodiazepines (2016-2020).
- Use of benzodiazepines the last time the participant used a stimulant drug (2016-2019). This question was removed from the 2020 EDRS questionnaire.

- Use of benzodiazepines prior to the last occasion of non-fatal overdose in the last 12 months (2016-2020). It should be noted that questions about overdose have changed over time and this variable does not necessarily capture benzodiazepine overdose, but rather whether benzodiazepines were consumed during the most recent overdose.

- Benzodiazepine use when bingeing (i.e., using for 48 hours or more continuously without sleep) on any stimulants or related drugs in the preceding six months (2016-2019). This question was removed from the 2020 EDRS survey.

Descriptive analyses were used to examine and compare patterns of non-prescribed and analogue benzodiazepine use and behaviours amongst NSW EDRS participants across different age groups (17-24 years; ≥25 years) and genders (male; female. Other genders excluded due to small numbers).

Results

Past six-month use of non-prescribed benzodiazepines, stratified by age and gender, 2007-2020.

Recent use of non-prescribed benzodiazepines has fluctuated considerably over time, across age groups and genders (see Figure 1 and Figure 2). There does, however, appear to have been an overall upward trend in recent years. Specifically, the percentage of participants aged 17-24 reporting past six-month non-prescribed benzodiazepine use increased between 2013 (14%) and 2019 (49%), before stabilising in 2020 (48%). Similarly, there was an upward trend in use among participants aged 25 and older between 2016 (16%) and 2019 (55%), before declining again in 2020 (39%).

Notwithstanding some fluctuation over the years, the use of non-prescribed benzodiazepines among participants who identify as female appears to have remained relatively stable over time (36% in 2007 vs 35% in 2020). In contrast, use has almost doubled among participants identifying as male (25% in 2007 vs 48% in 2020). Indeed, in contrast to earlier years, non-prescribed benzodiazepine use has been more common among males than females since 2017 onwards.

Figure 1: Past six-month non-prescribed benzodiazepine use by age, NSW EDRS sample, 2007-2020.

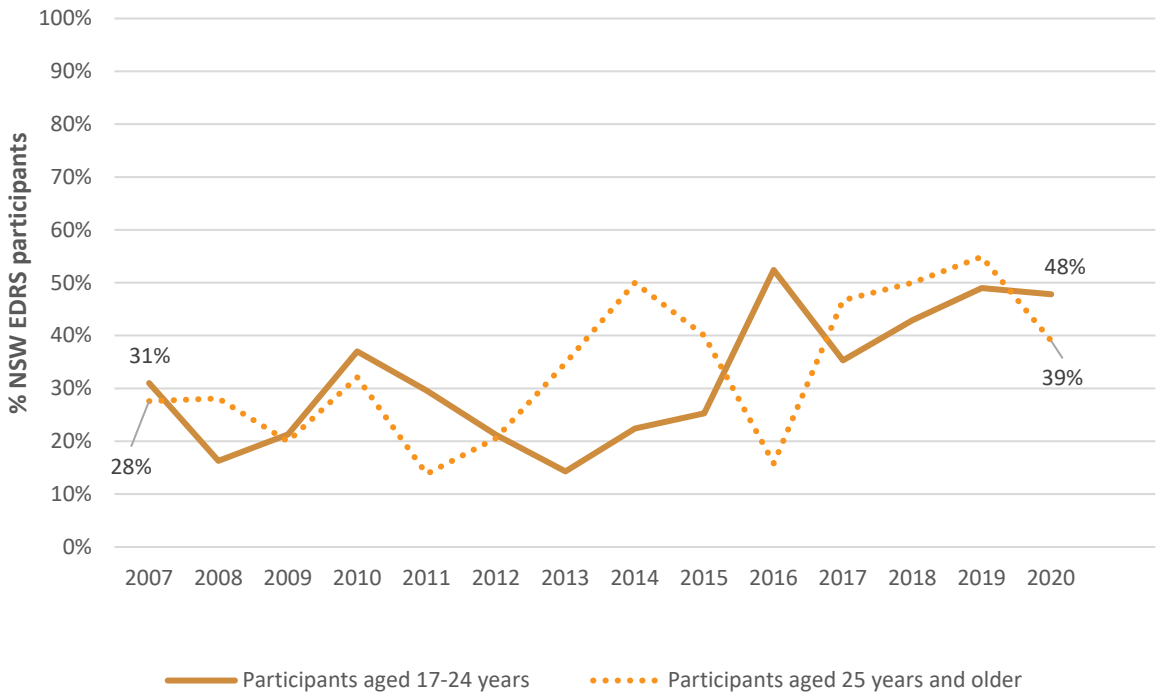

Figure 2: Past six-month non-prescribed benzodiazepine use by gender, NSW EDRS sample, 2007-2020.

Note: The percentages of females was removed in 2013 due to the values amounting to five or less. The values for participants who identified as neither male nor female was also excluded due to small numbers.

Past six month intentional use of NPS that mimic the effects of benzodiazepines, 2016 to 2020.

The intentional use of NPS that mimic the effects of benzodiazepines was very rare among the NSW EDRS sample. Specifically, five or less EDRS participants reported the intentional, recent use of etizolam and/or other substances that mimic the effects of benzodiazepines in every year from 2016 to 2020.

Benzodiazepine use the last time a stimulant drug was used and while bingeing on drugs for 48 hours or more continuously without sleep, from 2016 to 2020.

In 2016, approximately one-in-ten participants (11%) reported using benzodiazepines during their last occasion of stimulant use: eight of these participants were males aged 17-24 years. In 2018, only six males aged 17-24 years reported using benzodiazepines the last time a stimulant drug was used. In all other years, values equaled to five or less and are not presented in this bulletin.

In 2016, six participants reported using benzodiazepines while bingeing on stimulants or related drugs in the past six months: all six of these participants were aged between 17-24 years, however values were too small to disaggregate by gender. Values for all other years have been suppressed due to small numbers (n≤5).

Benzodiazepine use during the last non-fatal overdose, from 2016-2020.

The use of benzodiazepines during the last occasion of an overdose was uncommon (n≤5) in all years from 2016 and 2020.

Implications

Our findings show that use of non-prescribed benzodiazepines is relatively common among our sample of people who regularly use ecstasy and/or other illicit stimulants. Despite considerable fluctuation over the years, use appears to have remained largely comparable across age groups (i.e., those aged 17-24 and those aged ≥25), with use among both age groups increasing in recent years. In contrast, there do appear to be some gender differences in past six-month non-prescribed benzodiazepine use, which have reversed in recent years. That is, while non-prescribed benzodiazepine use was previously more common among females (2007-2015), use among male participants has almost doubled over time, such that use has been more common among male participants from 2017 onwards. Although our findings are consistent with other Australian drug monitoring systems that highlight a greater use of benzodiazepines among males compared to females (4), the reason for this unclear and require further investigation.

While recent use was relatively common, our analysis found very low numbers of participants reporting benzodiazepine use prior to their most recent overdose. This suggest that serious harms associated with non-prescribed benzodiazepine use may be relatively uncommon amongst this sample, which is consistent with the low frequency with which these substances are used (i.e., median of 3 days in the past six months) (7). Similarly, there were very few participants who reported the use of benzodiazepines the last time they used a stimulant drug or while bingeing on stimulants or related drugs in the past six months. Although the EDRS did not explicitly ask about motivations for benzodiazepine use, these findings suggest that EDRS participants are not commonly using benzodiazepines to manage the adverse effects of stimulant use, such as 'come-downs' and insomnia. However, this is largely speculative and there is a need to understand the underlying drivers for its use amongst this demographic to inform targeted harm reduction strategies.

Our findings suggested that the intentional use of NPS that mimic the effects of benzodiazepines is very rare. However, considering that counterfeit benzodiazepines are being marketed as pharmaceutical benzodiazepines and can be extremely difficult to distinguish from pharmaceutical medications (5), the use of non-prescribed benzodiazepines amongst the NSW EDRS sample continue to present a serious risk to users due to the unintentional consumption of benzodiazepine analogues. While health and harm reduction organisations have shared drug alerts warning the public about the circulation of counterfeit benzodiazepines, the relatively high use of non-prescribed benzodiazepines among our sample suggests that education campaigns targeting people who use ecstasy or other illicit stimulants may be warranted.

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