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Key findings

- Older methamphetamine users had used methamphetamine on a greater number of days
- Younger methamphetamine users were more likely to have used alcohol, ecstasy (MDMA), BZP party pills, LSD and nitrous oxide
- Older methamphetamine users were more likely to have used crystal methamphetamine (ice), benzodiazepines, opioids, methadone and heroin
- Older methamphetamine users were more likely to have injected methamphetamine, crystal methamphetamine and Ritalin
- Older methamphetamine users were more likely to report harm to their 'life opportunities', 'financial position', 'relationships and social life' and 'home life' from their drug use
- Older methamphetamine users were more likely to report having 'got into debt', 'damaged a friendship', 'ended a personal relationship' and to have been 'sexually assaulted' due to their drug use
- Younger methamphetamine users were more likely to report having had a 'car crash' and 'unprotected sex' due to their drug use

Drug-related harm among younger and older frequent methamphetamine users in New Zealand: Findings from the 2006 and 2007 Illicit Drug Monitoring System (IDMS)

Introduction

The Illicit Drug Monitoring System (IDMS) was established in 2005 to provide timely research on trends in drug use and drug related harm in New Zealand. The findings from the IDMS are intended to inform appropriate responses to drug related problems and to assist in the development of effective drug policy. The findings from the study are used by a range of government and non-government agencies concerned with drug issues, including government ministries and departments, drug treatment organisations, health and counselling services and needle exchange programmes. The full annual reports of the IDMS can be downloaded from the National Drug Policy website (www.ndp.govt.nz/moh.nsf/indexcm/ndp-publications-recent-trends-illegal-drug-use?Open) or from the SHORE website (www.shore.ac.nz/projects/idms_study.htm). Hard copies of the annual IDMS reports are also available from university libraries and from the New Zealand National Library.

The principal aim of the IDMS is to provide an annual snapshot of trends in drug use in New Zealand, including levels of use, prices, availability, potency and the emergence of new drug types. Another important aim of the study is to document the nature and level of drug related harm among frequent drug users in New Zealand. A greater understanding of the problems experienced by frequent drug users can assist in the provision of drug treatment and other health services, and can provide a clearer appreciation of the impact drug use is having on the community and hence inform agency priorities and policies.

This research bulletin focuses on the drug related harm experienced by frequent methamphetamine users in New Zealand. The rise in the use of methamphetamine (known as 'P') in New Zealand over the past decade or so has had a significant impact on the nature of the drug problem in this country (Wilkins, 2002, Wilkins et al., 2002, Wilkins et al., 2008). While levels of methamphetamine use in the general population appear to have stabilised in recent years (Wilkins and Sweetsur, 2008), methamphetamine remains one of New Zealand's most serious drug problems and many challenges remain if we are to continue to respond effectively to this problem in the future. In this research bulletin we examine frequent methamphetamine users' drug related problems and harms by age to provide an appreciation of how the age of the user impacts the type and magnitude of harm suffered.

Method

The IDMS recruits frequent methamphetamine users, frequent injecting drug users and frequent ecstasy (MDMA) users from the three main centres of New Zealand (i.e. Auckland, Wellington and Christchurch) using purposive sampling and 'snowballing' techniques (Biernacki and Waldorf, 1981, Watters and Biernacki, 1989). Three separate recruitment programmes are undertaken at the same time

to recruit the three different groups of frequent drug users for the study. To be eligible to be included in the frequent methamphetamine sample, a person has to be 16 years or older, to have used methamphetamine or crystal methamphetamine at least monthly or more often during the past six months, and to have resided in the site location for 12 months or longer. Face-to-face interviews are conducted with the frequent drug users at a public venue of their choosing, such as a cafe or takeaway establishment, using a structured questionnaire. All the frequent drug users interviewed for the study are offered a \$20 food voucher to compensate them for their time. Interviewing for the IDMS takes place between July and October in each year. Interviews are strictly confidential and anonymous and no participant in the study can be identified at a later date. The research protocols used in the IDMS have been approved by the Massey University Human Subjects Ethics Committee.

Analysis

This research bulletin combines the samples of frequent methamphetamine users from the 2006 and 2007 IDMS to investigate in detail the drug related harms of frequent methamphetamine users in New Zealand. A total of 224 frequent methamphetamine users were interviewed for the 2006 and 2007 IDMS during these years (i.e. 114 in 2006 and 110 in 2007). The combined sample of frequent methamphetamine users was divided into a younger (i.e. under 25 years old) and older (i.e. 25 years or older) age group to investigate the implications of age on the level of drug-related harm. Differences between the age groups were tested using Student t-tests and Fisher's exact chi-square tests. Twenty-nine percent of the combined sample of frequent methamphetamine users were aged 16 to 24 years (n=66) and seventy-one percent were aged 25 years or older (n=158).

Patterns of drug use

The combined sample of frequent methamphetamine users had used methamphetamine on approximately 2-3 days per week on average over the past six months. Seventeen percent of the sample had used methamphetamine on a daily or near daily basis during the past six months (i.e. 150 days + in the past six months). The older frequent methamphetamine users (i.e. 25 years or older) had used methamphetamine on a greater median number of days than the younger methamphetamine users (i.e. under 25 years old) over the previous six months (52 days vs. 26 days, $p=0.0039$). A slightly higher proportion of older frequent methamphetamine users than younger frequent methamphetamine users had used methamphetamine on a daily basis (18% vs. 13%), although this difference was not statistically significant ($p=0.3257$).

Most of the frequent methamphetamine users were poly-drug users. The combined sample of frequent methamphetamine users had used a mean of 14 drug types in their lifetimes and seven drug types in the past six months. The older frequent methamphetamine users had tried a greater mean number of drug types in their lifetimes than the younger frequent methamphetamine users (14 vs. 12 drug types, $p=0.0003$). There was no statistically significant difference between the younger and older methamphetamine users with respect to the mean number of drug types reported used in the past six months (8 vs. 7 drug types respectively). The other drug types most commonly used by younger frequent methamphetamine users in the past six months were alcohol (94%), cannabis (92%), tobacco (86%), ecstasy (MDMA) (62%), crystal methamphetamine or ice (56%), BZP party pills (52%) and LSD (50%) (see Table 1). The younger frequent methamphetamine users were more likely than the older frequent methamphetamine users to have used alcohol (94% vs. 78%, $p=0.0034$), ecstasy (MDMA) (62% vs. 46%, $p=0.0281$), BZP party pills (52% vs. 30%, $p=0.0037$), LSD (50% vs. 27%, $p=0.0018$) and nitrous oxide (32% vs. 14%, $p=0.0029$) in the past six months. The older frequent methamphetamine users were more likely than the younger users to have used crystal methamphetamine (70% vs. 56%, $p=0.0454$), benzodiazepines (34% vs. 15%, $p=0.0036$), opioids (29% vs. 14%, $p=0.0167$), methadone (27% vs. 5%, $p<0.0001$) and heroin (9% vs. 2%, $p=0.0437$) in the past six months. In the past six months, the older frequent methamphetamine

users reported higher median days of use than the younger methamphetamine users of antidepressants (109 days vs. 2 days, $p=0.0282$), methadone (50 days vs. 1 days, $p=0.0120$) and benzodiazepines (12 days vs. 3 days, $p=0.0299$).

Approximately one third of the frequent methamphetamine users reported injecting methamphetamine in the past six months. The older frequent methamphetamine users were more likely than the younger frequent methamphetamine users to have injected methamphetamine (39% vs. 11%, $p<0.0001$), crystal methamphetamine (36% vs. 16%, $p=0.0252$) and Ritalin (75% vs. 21%, $p=0.0009$) in the past six months.

Table 1: Drug types used by frequent methamphetamine users in past six months by age (2006 and 2007 samples combined)

DRUG TYPE	Frequent methamphetamine users under 25 years (n = 66)	Frequent methamphetamine users 25 years or older (n = 158)
Methamphetamine	97%	99%
Alcohol	94%	78%*
Cannabis	92%	84%
Tobacco	86%	80%
Ecstasy (MDMA)	62%	46%
Ice (Crystal Meth)	56%	70%*
BZP Party Pills	52%	30%*
LSD	50%	27%*
Nitrous Oxide	32%	14%*
Mushrooms	24%	16%
Ritalin	21%	23%
GHB	18%	13%
Amphetamine	15%	26%
Benzodiazepines	15%	34%*
Antidepressants	14%	8%
Opioids	14%	29%*
Cocaine	12%	8%
Ketamine	12%	9%
MDA	11%	4%
Amyl nitrate	11%	11%
Methadone	5%	27%*
Solvents	2%	2%
Heroin	2%	9%*

* Statistically significant at the 0.05% level

Drug dependency

A short dependency scale (SDS) consisting of five questions was used in the IDMS to measure drug dependency. The SDS has previously been validated for a range of other drug types including amphetamines, cocaine and cannabis (Gossop et al., 1995, Martin et al., 2006, Topp and Mattick, 1997). Approximately half of the combined sample of frequent methamphetamine users were classified as dependent on methamphetamine. More of the older than the younger frequent methamphetamine users were classified as dependent on methamphetamine (61% vs. 49%), although the difference was not statistically significant ($p=0.1291$).

Harm to different areas of life

In the 2007 IDMS, the frequent methamphetamine users were asked whether their drug use had caused any harmful impact on eight areas of their lives in the past six months. This question was not asked in the 2006 IDMS so the age comparisons are restricted to the 2007 sample. The reduced sample size makes finding statistically

significant differences between the age groups more difficult. Nearly all the frequent methamphetamine users had experienced harm in at least one area of their lives from their drug use in the past six months (see Table 2). The frequent methamphetamine users commonly reported harm to their 'health', 'energy and vitality', 'relationships and social life' and 'financial position' from their drug use. The older frequent methamphetamine users were more likely than the younger frequent methamphetamine users to report harm to their 'life opportunities' from their drug use (70% vs. 47%, $p=0.0440$). The older frequent methamphetamine users were also more likely to report harm to their 'financial position' (80% vs. 63%, $p=0.087$), 'relationships and social life' (75% vs. 60%, $p=0.16$) and 'home life' (71% vs. 57%, $p=0.1738$) from their drug use, although these differences were not statistically significant.

Table 2: Areas of life reported harmed from drug use among frequent methamphetamine users in past six months by age (2007 sample only)

Area of life harmed	Frequent methamphetamine users under 25 years (n = 30)	Frequent methamphetamine users 25 years or older (n = 80)
Any harm in area of life	93%	96%
Health	77%	76%
Energy and vitality	70%	80%
Relationships and social life	60%	75%
Financial position	63%	80%
Home life	57%	71%
Work and study life	52%	57%
Life opportunities	47%	70%*
Legal/police problems	47%	56%

* Statistically significant at the 0.05% level

Life problems

In 2007, the frequent methamphetamine users were also asked whether they had experienced a range of specific problems 'due to their drug use' in the past six months. These questions were not asked in the 2006 IDMS so the age comparisons are restricted to the 2007 sample. The frequent methamphetamine users commonly reported 'arguing with others', 'losing their tempers', 'having reduced work or study performance', 'doing things under the influence of drugs that they later regretted', 'not being able to remember what happened the night before', 'taking sick leave or not attending classes', 'damaging property' and 'having unprotected sex' as a result of their drug use (see Table 3). The younger frequent methamphetamine users were more likely than older methamphetamine users to report having had a 'car crash' (31% vs. 12%, $p=0.0364$), 'unprotected sex' (60% vs. 40%, $p=0.0850$) and having 'passed out' (57% vs. 39%, $p=0.1303$) due to their drug use during the past six months. The older frequent methamphetamine users were more likely than the younger methamphetamine users to report having 'got into debt' (69% vs. 47%, $p=0.0460$), 'damaged a friendship' (74% vs. 47%, $p=0.0120$), 'ended a personal relationship' (64% vs. 43%, $p=0.0816$) and been 'sexually assaulted' (11% vs. 0%, $p=0.1105$) as a result of their drug use in the past six months.

Table 3: Drug related incidents among frequent methamphetamine users in the past six months by age (2007 sample only)

Drug related incident	Frequent methamphetamine users under 25 years (n = 30)	Frequent methamphetamine users 25 years or older (n = 80)
Argued with others	73%	79%
Lost your temper	73%	73%
Had reduced work/study performance	77%	64%
Did something under the influence of drugs and later regretted it	67%	65%
Took sick leave/did not attend classes	62%	61%
Couldn't remember what happened the night before	60%	54%
Damaged property (you)	60%	53%
Had unprotected sex	60%	40%
No money for luxuries	57%	70%
Passed out	57%	39%
Upset a family relationship	50%	64%
Stole property (you)	50%	41%
No money for food or rent	48%	55%
Damaged a friendship	47%	74%*
Got into debt/owing money	47%	69%*
Ended a personal relationship	43%	64%
Got arrested	43%	48%
Physically hurt someone else	43%	39%
Got a traffic ticket	38%	36%
Spent some nights sleeping rough (i.e. living on the streets)	37%	40%
Sacked/lose business/quit study course	35%	29%
Had a car crash	31%	12%*
Had sex and later regretted it	30%	33%
Charged with a driving offence (eg. DIC)	27%	22%
Was kicked out of where I was living	23%	34%
Physically hurt yourself	23%	31%
Overdosed on drugs	13%	23%
Were sexually harassed	3%	14%
Were sexually assaulted	0%	11%

* Statistically significant at the 0.05% level

Discussion

This research bulletin has shown that older frequent methamphetamine users are more likely than younger frequent methamphetamine users to experience a range of harms from their drug use, including ending personal relationships, damaging friendships, getting into financial debt, and experiencing reduced life opportunities. This is likely to reflect the fact that the older frequent methamphetamine users used methamphetamine more frequently, were more likely to inject methamphetamine, and more likely to be dependent on methamphetamine than their younger colleagues. Studies in other countries have found that higher frequencies of amphetamine use, higher amounts of amphetamine used per session, and intravenous administration of amphetamine are all associated with greater harm among amphetamine users (see Hall and Hando, 1994, Hando et al., 1997).

The greater harm experienced by the older frequent methamphetamine users illustrates the potential social benefits of getting these frequent methamphetamine users into drug treatment programmes and preventing younger users from continuing to use methamphetamine. The understanding that the older frequent methamphetamine users experienced more harm than the younger

methamphetamine users should not distract us from the findings which show that even the younger frequent methamphetamine users reported suffering serious levels of harm from their drug use, and the negative consequences of methamphetamine and other drug use can be experienced from the very first episode of use. Due to their natural lack of life experience and general impetuosity, younger frequent methamphetamine users were more susceptible to certain types of harms, such as participating in unsafe sex and involvement in a vehicle crash. The Ministry of Transport's "Young Drivers" Crash Factsheet found that drivers under 25 years of age were approximately three times more likely to have a vehicle crash than drivers aged 45 to 49 years (Ministry of Transport, 2007).

Older frequent methamphetamine users were more likely than younger frequent methamphetamine users to have used opioids (i.e. heroin and methadone) and to have injected methamphetamine and other drug types. This may indicate an increasing convergence between frequent methamphetamine use and traditional opioid use as frequent methamphetamine users age. It is unclear at this point whether this might be due to the fact that some opioid users, who tend to be older drug users in New Zealand (Wilkins et al., 2008), are increasingly taking advantage of the greater availability of methamphetamine, or alternatively the case of older frequent methamphetamine users turning to opioid use to 'come down' from the stimulant effects of methamphetamine and also choosing to inject their drugs to enhance effects and economise on costs. Amphetamine use has been implicated in the spread of intravenous drug use in Australia for these reasons (Darke et al., 1999, McAllister and Makkai, 2001). This is an issue which demands further research if we are to address the impact methamphetamine may be having on levels of opioid use and intravenous drug use in New Zealand in the near future.

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- New Zealand Customs Service
- Odyssey House

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