CHARACTERISTICS OF AMPHETAMINE-TYPE STIMULANT (ATS) USE IN NEW ZEALAND: INFORMING POLICY RESPONSES

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Abstract

New Zealand has recently experienced dramatic increases in seizures of amphetamine-type stimulant (ATS) drugs and detections of clandestine amphetamine laboratories. Secondary analysis of ATS drug use in New Zealand from the 2001 National Drug Survey highlighted the greater harms associated with frequent ATS use and identified potential risks associated with increased use of ATS, such as the spread of intravenous drug use and the increased demand for other "hard" drug types. Crystal methamphetamine users emerged as the ATS-using group with the highest levels of daily use, poly-drug use, intravenous drug use and opioid use. The findings suggest New Zealand drug treatment and law enforcement resources will be more effective when applied to frequent ATS and crystal methamphetamine users. The work also underlined the rationale for an indicator drug survey that can track changes in drug-use patterns, including levels of intravenous administration, within a time frame that allows effective agency responses before drug problems

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become entrenched. The Office of the Commissioner of New Zealand Police has already made progress in this direction.

INTRODUCTION

Amphetamine-type stimulants (ATS) are a group of synthetic illicit drug types which include methamphetamine, ecstasy and crystal methamphetamine (United Nations Drug Control Programme 2001). Over the last five years New Zealand has experienced dramatic increases in seizures of ATS drugs and detections of clandestine amphetamine laboratories (Expert Advisory Committee on Drugs 2002, New Zealand Customs Service 2002, Wilkins et al. 2002). Annual detections of amphetamine laboratories by New Zealand Police increased from just one in 1998 to over 200 in 2003 (New Zealand Police 2004). Border seizures of ecstasy made by the New Zealand Customs Service increased from less than 3,000 tablets in 1998 to 167,000 tablets in 2002 (New Zealand Customs Service 2002) and 260,000 tablets in 2003 (Barker 2004). The rise in the use of ATS drugs in New Zealand has been implicated in a range of social and public health problems including violent crime, mental illness, domestic violence, drug addiction, relationship breakdown, robbery, burglary and car conversion (Expert Advisory Committee on Drugs 2002, Wilkins and Rose et al. 2004, Wilkins and Reilly et al. 2004).

A useful distinction when fashioning a policy response to a drug is between occasional and frequent users of the drug. Frequent users are more likely to experience problems from their drug use, to be involved in the manufacture and sale of the drug, and to recruit others to drug use through example and social networking (Kleiman 1992).

An understanding of how key measures in the illicit market for a drug, such as price and availability, have changed can also inform policy response by signalling how demand and supply for a drug are likely to evolve in the near future. The price of a drug can also provide an indication of the socio-economic status of the user group and, in turn, the level and types of harms the drug may cause individuals and communities. For example, the social damage caused by cocaine increased considerably in the 1980s when it was repackaged and sold as the cheaper "crack" cocaine and so became financially accessible to urban poor (Kleiman 1992). Poor addicted crack users turned to property crime and robbery to finance their drug use, and the explosion in demand for crack fuelled violent confrontations between sellers over lucrative public selling locations (Kleiman 1992). Previously cocaine was sold in the expensive powder form and use was limited to affluent sectors of society, with little impact on crime and violence (Kleiman 1992).

The demographic characteristics and geographic location of a drug-using population can also inform the level and targeting of public resources dedicated to tackling a drug problem.

New Zealand Police sought an understanding of these features of ATS drug use in New Zealand to inform the response of Police and other agencies concerned with the ATS problem. New Zealand Police asked SHORE researchers to investigate the use patterns, conditions of supply and demographic features of the ATS-using population in New Zealand from the most recently available National Drug Survey data. This paper summarises the key findings from this work and discusses the implications for the policy response to ATS in New Zealand.

METHOD

The 2001 National Drug Survey interviewed approximately 5,800 people aged 13–45 nationwide about their drug use, using a Computer Assisted Telephone Interview (CATI) system. New Zealand has high levels of telephone coverage by international standards with over 96% of households having access to a connected landline telephone (Statistics New Zealand 2001, Wyllie et al. 1994). The response rate achieved in the 2001 National Drug Survey was 80%.

Three separate drug categories from the 2001 National Drug Survey were combined to make up the broader ATS category: amphetamines (also known as uppers, speed and methamphetamine), ecstasy (MDMA) and ice (crystal methamphetamine).[2]

Secondary analysis was completed for the combined ATS category and for the three separate drug types which make up the ATS category. Ice users were not asked the questions on harms, quantities used, and prices and availability. This was essentially because the current level of ice use was not considered high enough to justify the asking of additional questions concerning this drug. The focus of the analysis was last-year users of ATS drug types. Frequent users (i.e. those who had used an ATS drug six

2 These three broad drug categories contain drug types that share similar generic amphetamine characteristics but have unique individual differences, which can have important implications for user risk and harm, as well as broader social impacts. The amphetamines category includes a wide range of substances from the amphetamine family, from relatively weak amphetamine sulphates to powerful psycho-stimulants such as methamphetamine. High doses of amphetamines cause irritability, hostility, and paranoia, which can contribute to violent incidents (see Shearer et al. 2002). Ecstasy (3,4-methylenedioxymethamphetamine or MDMA) combines amphetamine qualities and hallucinogenic characteristics like LSD. Ecstasy increases energy and alertness like standard amphetamine, but also produces a warm state of empathy and good feelings for others (see Gowing et al. 2001). Ice or crystal methamphetamine is the crystallised form of methamphetamine. Smoking methamphetamine in crystal form increases the speed at which the drug is absorbed and the intensity and duration of effects (see Matsumoto et al. 2002). Crystal methamphetamine is generally manufactured in Asia and is often of higher potency than locally manufactured methamphetamine.

or more times in the last year) were compared to occasional users (i.e. those who had used less than six times in the last year) and to the wider population. Chi square tests were used to identify statistically significant differences between sub-groups of these user groups. All the differences reported are statistically significant at a 95% significance level.

FINDINGS

Recent Prevalence of ATS Drug Use

Six per cent of New Zealanders aged 13–45 years had used an ATS drug in the last year, the population equivalent of 114,000 people.[3] By ATS drug type, 5% had used amphetamine in the last year (90,000 people), 3% had used ecstasy in the last year (62,000), and 1% had used ice in the last year (16,000). Just over 1% of New Zealanders were frequent ATS drug users (25,000). About two-thirds of last-year ATS users were male and about two-thirds of users were aged 18–29. Frequent ATS drug use was highest among 20–24-year-olds.

Self-Reported Harms from ATS Drug Use

Nearly one-third of last-year ecstasy and amphetamine users reported experiencing harm from their ATS use in the last year in *at least* one of seven areas of life asked about. The areas of life that ecstasy and amphetamine users most often reported harmed were "energy and vitality" (14% and 20% respectively), "financial position" (12% both), "health" (8% and 10%), "outlook on life" (8% and 6%) and "friendship and social life" (5% and 7%). Just over half of frequent ecstasy and amphetamine users reported experiencing harm in at least one of the seven areas of life asked about. Frequent amphetamine users were more likely than occasional amphetamine users to experience problems from their amphetamine use in the areas of "energy and vitality" (37% versus 12%) and "health" (25% versus 4%). Frequent ecstasy users were more likely than occasional ecstasy users to report problems from their ecstasy use in the areas of "energy and vitality" (32% versus 8%), "financial position" (26% versus 7%) and "outlook on life" (20% versus 4%).

Patterns of ATS Drug Use

Poly-drug use was common among ATS drug users. Last-year amphetamine users had used an average of six drug types in the last year (range 1–17). Among frequent amphetamine users, in the last year 73% had used ecstasy, 66% LSD, 24% ice, 21%

3 Based on Statistics New Zealand's population estimate of 1,906,000 people aged 13–45 years as at 30 June 2001.

cocaine, 21% ketamine, and 12% homebake heroin. Last-year ecstasy users had used an average of seven drug types in the last year (range 1–17). Among frequent ecstasy users, in the last year 95% had used amphetamine, 77% LSD, 33% ketamine, 19% cocaine, and 16% homebake heroin.

Ice users had the highest levels of poly-drug use, including opioid use. Last-year ice users had used an average of nine drug types in the last year (range 4–17). Twenty-five per cent of last-year ice users had used "homebake" heroin in the last year compared to 1% of the general population. Among frequent ice users, in the last year 70% had used LSD, 42% homebake heroin, 36% cocaine, 36% GHB (Gamma hydroxybutyrate), and 33% ketamine.

Intravenous drug use was also many times higher among the ATS-using population than the general population. About 3% of ATS drug users had used a needle to inject a drug for recreational purposes in the last year, compared to 0.2% of the wider population. Twenty-one per cent of frequent ice users had used a needle to inject a drug in the last year.

Approximately two-thirds of those who had used an ATS drug in the last year had used less than five times in the previous year. Sixty-one per cent of last-year ecstasy users and 55% of last-year amphetamine users had only used these drug types one to two times in the previous year. Small numbers of amphetamine and ice users reported daily or more frequent use; 2% of ice users reported using ice three times a day or more often.

Frequent ATS drug users were more likely to use larger quantities of ATS drugs in a single session than occasional users. Frequent amphetamine users were more likely than occasional amphetamine users to use one gram of amphetamine on a typical occasion (13% versus 2%). Frequent ecstasy users were more likely than occasional ecstasy users to use two pills of ecstasy on a typical occasion (33% versus 6%).

Conditions of ATS Supply

About half of last-year ATS users believed ATS drugs had become "easier" to obtain compared to a year ago. About half reported that the prices of ATS drugs were the "same" compared to a year ago, but just over a third of ecstasy users indicated that the price of ecstasy was "lower" compared to a year ago. Forty-six per cent of frequent ecstasy users reported that the price of ecstasy was "lower" compared to a year ago.

Demographic Characteristics of ATS Drug Users

Consistent with the ethnic structure of the entire population, about 80% of last-year ATS drug users were European and 16% were Māori. Ninety-one per cent of frequent

amphetamine users were European. Proportionally fewer ATS drug users were Pacific people than in the general population (2% versus 4%), except in the case of ice (5% versus 4%). Very few ATS users were of Asian ethnicity (1%), although they made up 4% of the population.

ATS drug users were more likely to be single and more likely to be separated than the general population: 18% of frequent amphetamine users were separated, compared to 6% of the general population.

ATS drug users were less likely than the general population to have no school qualifications and more likely to have completed some university papers. About 20% of last-year ATS users were tertiary students compared to 10% of the general population.

Mirroring the situation in the general population, about two-thirds of last-year ATS drug users were in paid employment. Frequent amphetamine users were more likely to be in full-time employment than the general population (67% versus 51%). ATS users were found in a cross-section of occupations including the professions (18%), clerical/sales positions (37%) and skilled and manual employment (42%).

ATS drug users were more likely than the general population to earn over $10,000 gross income but less likely to earn $50,000 or more. Frequent ecstasy users were more likely to earn $20,000–$29,999 than the general population (39% versus 17%).

ATS drug users were more likely than the general population to live in urban areas (81% versus 74%), regions north of the Waikato (47% versus 36%) and in Auckland (41% versus 30%). Fewer ATS drug users than the general population lived in the South Island (17% versus 24%).

POLICY IMPLICATIONS

In 2001 one in ten New Zealanders aged 18–29, or about 100,000 people nationwide, had used an ATS drug in the last year. Approximately one-third of these users were frequent users (i.e. monthly or more often). A small proportion of ATS drug users in the 2001 National Drug Survey were daily or more frequent users. Approximately one-third of those who had used an ATS drug in the last year reported experiencing harm in at least one area of their lives from the use of ATS drugs. Frequent ATS users in the survey were many times more likely to report problems from ATS use than occasional users.

Recent worldwide country comparisons of ATS use by the United Nations have suggested that New Zealand ranks near the top in terms of population use of ATS (see United Nations Office on Drugs and Crime 2004). However, the drug prevalence levels

reported could not take into account the different survey methodologies used to collect the data in each country, which may have affected the relative levels found. Relatively high levels of ATS use in New Zealand are offset to some extent by relatively low levels of cocaine use by world standards (United Nations Office on Drugs and Crime 2004). The high international ranking for ATS use in New Zealand must also be placed in the context of a still fairly low absolute level of ATS use (i.e. 3.4% of 15–64-year-olds), and New Zealand's ATS levels are consistent and sometimes lower than neighbouring countries in Oceania and the South East Asian region (see United Nations Office on Drugs and Crime 2004). A preliminary comparison of population-level use of ATS between New Zealand and Australia for those aged 15–45 years old, based on respective 2001 National Household Surveys, suggests that Australia generally has higher rates of ATS use than New Zealand, particularly in the case of ecstasy (see Wilkins and Reilly et al. 2004).

Overseas research has suggested that using half a gram or more of amphetamine on a typical occasion significantly increases the user's risk of experiencing problems such as psychosis, violent behaviour and addiction (Hall and Hando 1994, Hall et al. 1996). In New Zealand about one in five of those who had used amphetamine in the last year in the 2001 National Drug Survey had used amphetamine at this level on a typical occasion; 44% of frequent amphetamine users, compared to 14% of occasional amphetamine users, had used these quantities of amphetamine.

The ATS supply conditions of easier availability and stable prices identified by ATS users suggest that suppliers of these drugs are earning strong profits. The opportunities to earn high returns will attract new entrants to the market both at the domestic and international levels. This is evidenced by the continuing rise in the number of amphetamine laboratories detected by Police and the increase in seizures of amphetamine and its precursors at the border by Customs. Lower prices for ecstasy are likely to indicate improving conditions of supply, or lower costs of supply, rather than any reduction in demand for ecstasy. Seizures of ecstasy continue to increase at a rate that is inconsistent with a reduction in consumer demand for this drug. In Australia and overseas, methamphetamine is often fraudulently sold as ecstasy to reap the higher prices traditionally gained for ecstasy (Australian Bureau of Criminal Intelligence 2002, Cole et al. 2002). The lower prices for ecstasy reported in New Zealand may be the result of this practice, as drug dealers sell the locally manufactured methamphetamine as lower-priced ecstasy.

Poly-drug use was common among ATS drug users. Ice users exhibited the highest level of poly-drug use, including relatively high levels of opioid use. The combining of other drug types with ATS drugs and the use of other substances to recover from the effects of ATS use increase the risk that users will experience problems from their drug use, including psychosis, violent behaviour and addiction (Darke and Ross 1994, Darke

and Hall 1995, Baker et al. 2001). Drug treatment programmes designed for ATS users may need to take into account the level of poly-drug use within this population and the possibility of addiction to a number of substances, including legal drugs such as alcohol. Secondary analysis of the recent DUMA findings in Australia by Weierter and Lynch (2002) found that detainees who were dependent on amphetamine were also commonly dependent on alcohol and cannabis as well.

The high levels of poly-drug use among ATS drug users should also act as an early warning of the potential for increased ATS use to enlarge the demand in New Zealand for other illicit drug types, such as cocaine and opioids, as well as popularising new illicit drug types such as GHB and ketamine. This feature of ATS drug use would seem to justify a higher priority being placed on restricting the availability and supply of ATS drugs, above and beyond that warranted by the immediate harms of the ATS drugs themselves. Ice would receive the highest drug enforcement priority on the basis of poly-drug use. The greater harms experienced by frequent ATS users, their wider use of other drug types and higher levels of intravenous drug use illustrate the greater benefits of moving this group into drug treatment or confining them in prison.

Intravenous drug use was relatively higher among ATS drug users and in particular among ice users. Overseas studies of amphetamine users have found that increases in amphetamine use have led to increased intravenous drug use, particularly among young drug users (Klee 1992, Peters et al. 1997, McAllister and Makkai 2001). In New Zealand a rise in ATS drug use could lead to more intravenous drug use via two developments: (1) heavy ATS drug users may switch to intravenous means of administration in response to a growing tolerance to the effects of the ATS drugs they take; and (2) the traditional intravenous opioid using population (e.g., homebake heroin) may increasingly use ATS drugs in response to their greater availability and spread intravenous drug use within the ATS scene, through example and association.

Close monitoring of the ATS-using population in New Zealand is required to identify the emergence of intravenous ATS use and the impact increased ATS use is having on the demand for other drug types. Such monitoring should draw on the experience of a range of agencies which have contact with ATS drug users, including law enforcement, drug treatment, and health and youth services. An effective model of such an indicator drug survey is the Illicit Drug Reporting System (IDRS), which has been operating in Australia on an ongoing basis for a number of years (Darke et al. 2000, Breen et al. 2003). The data collected in the IDRS allow the tracking of intravenous drug use and general trends in illicit drug use, drug availability and prices, as well as providing early warning of the emergence of new illicit drug types. The value of an indicator drug survey over a population drug survey as a means to track trends in drug use is that an indicator survey can be conducted and results made available within a few months, compared to over a year for a population drug survey. An indicator drug survey can

thus provide the knowledge to inform a timely response by agencies to emerging drug problems.

Indicator drug surveys also place a research priority on collecting data on emerging drug types that are likely to be of future concern, whereas the task of population drug surveys is to provide a comprehensive overview of current drug use. The implications of this different research focus can be seen in the case of crystal methamphetamine, which has a low priority in terms of population-level research of drug use but is likely to have a high priority as an emerging drug of concern. The Office of the Commissioner of New Zealand Police has worked towards the establishment of an indicator drug survey in New Zealand, including funding the scoping work for such a project in 2003. These efforts have culminated recently in funding being made available for a pilot of an indicator drug survey in mid-2005.

The provision of drug treatment services and the development of agency strategies to combat the rise in ATS drug use can be informed by the demographic features and geographic location of the ATS drug-using population in New Zealand. Much of the ATS user group could be broadly characterised as urban, educated and middle class. ATS drug users had high levels of full-time employment, came from a range of occupational backgrounds (including the professions), earned mid-level incomes and had relatively high levels of educational achievement. Large numbers of ATS drug users, including frequent users, were European. Disproportionately more ATS users lived in urban settings, in the upper half of the North Island and in Auckland. As with many other drug-using populations, ATS drug users were disproportionately male and aged 18–29, with the heaviest use among 20–24-year-olds.

The relatively higher levels of ice use found among Pacific Islanders, compared to their use of amphetamine and ecstasy, may be due to the family and cultural connections these ethnicities have to Pacific regions where ice use is more common, such as Hawaii and the west coast of the United States. Hawaii experienced an epidemic of ice use among its indigenous population in the late 1990s (Joe 1995, Joe-Laidler and Morgan 1997), while ice has a long history in the west coast of the United States, where there are established Pacific Island communities (Miller 1997, Morgan and Beck 1997). The low levels of ATS drug use among Asians in New Zealand was curious, as methamphetamine in particular has a long history in several Asian countries such as Japan and Thailand. Many Asian immigrants in New Zealand are from China, which has a more recent experience of ATS, and this may explain the low level of use in this ethnic group in New Zealand. There is also evidence that Asian cultural norms and strong family ties may impede the self-reporting of drug use for the purposes of social research (see Cheung et al. 2004). Admitting drug use or related problems may be perceived by Asians to bring shame to their families and "loss of face" in what is a relatively small New Zealand Asian community (Cheung et al. 2004).

The secondary analysis of ATS use from the 2001 National Drug Survey presented in this paper provides a valuable description of the use patterns and demographic characteristics of the ATS-using population in New Zealand. Many ATS users were found to be educated middle-class people in paid employment or tertiary education. The secondary analysis highlighted the greater risks and harms associated with frequent ATS use and identified the risk that increased ATS use may pose in terms of the spread of intravenous drug use and enhancement of the demand for other "hard" drug types. Attention was also drawn to users of crystal methamphetamine as the ATS drug users with the highest level of daily use, poly-drug use, intravenous drug use and opioid use. These findings suggest agencies should focus on frequent ATS and crystal methamphetamine users as priorities in the effort against ATS. Both drug treatment and law enforcement resources will be more effective when applied to these groups. The findings also underline the rationale for an indicator drug survey which can track changes in drug-use patterns, including levels of intravenous administration, within a time frame that allows an effective policy response before problems become entrenched. Some important progress has been made towards this goal.

New Zealand Police have recently requested a repeat of the secondary analysis of ATS-using data from the soon-to-be released Ministry of Health 2003/04 Health Behaviours Survey – Drugs (2003/04 HBS-Drugs). This analysis would allow the findings for ATS from the 2003/4 HBS-Drugs to be compared back to the 2001 National Drug Survey to identify where trends in ATS use have progressed in recent years. This analysis would provide valuable information on where the ATS epidemic in New Zealand is heading and the extent to which the concerns raised in the original analysis are now being realised in patterns of drug use and drug-related harm.

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