

New Psychoactive Substances – Reducing Harms

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Internationally, there has been a rapid increase in the number and diversity of new psychoactive substances (NPS), with the European Monitoring Centre for Drugs and Drug Addiction (EMCDDA¹ 2016) monitoring 560 NPS throughout Europe, 100 of which were recorded for the first time in 2015. The rapidity of the emergence of NPS results in a deficit in clinical knowledge on the content and harms associated with these substances, creating greater risks among consumers, and a greater burden on the health system and community.

Within Australia, there appears to be an increase in the prevalence and use of NPS, at least among drug using populations, with an increase from 33 percent (2010) to 40 percent (2015) of NPS reported use within surveyed substance using cohort (Sutherland et al 2016). This figure does not take into account the number of people surveyed who had used NPS unintentionally through purchasing traditional illicit drugs that contained NPS. The Australian state governments, as well as the Commonwealth, have previously legislated to ban various substances over the past few years in an attempt to reduce the supply of NPS, many of which can be readily accessed from various shopfronts as well as over the internet. Manufacturers however, have modified the structure of many of these substances, producing new, unknown substances which are not prohibited (Munro and Wilkins 2014). This perpetual cycle of prohibition, followed by substance modification appears to have had limited efficacy in reducing demand and harms. More recently, there is a growing trend to implement blanket bans on any substances (with a few exceptions) which can cause a psychoactive effect in the person who consumes it. The full impact of this emerging policy response is yet to be determined.

¹ The European Monitoring Centre for Drugs and Drug Addiction (EMCDDA) reports regularly on a range of European-based AOD issues.

What are New Psychoactive Substances?

The UNODC (nd) defines NPS as ‘substances of abuse, either in pure form or a preparation, which are not controlled ... but which may pose a public health threat’. They are produced to mimic the effect of an illicit drug (Munro and Wilkins 2014). The EMCDDA (2016a) defines NPS as, ‘a new narcotic or psychotropic drug, in pure form or in preparation, that is not controlled by the United Nations drug conventions, but which may pose a public health threat comparable to that posed by substances listed in these conventions.’

It should be noted that not all the substances captured within this definition are necessarily new – many have been previously developed but only recently available (Kueppers & Cooke 2015).

Key issues

- There is a paucity of data on NPS related harms and consumption in Australia
- The past legislative approaches to reduce the supply of NPS do not appear to have been effective, with the year on year sizable increases in the number of diversity of NPS available
- Throughout Europe and other international jurisdictions, there are significant harms occurring through NPS use
- Evidence informed endeavours to reduce NPS related harm, such as pill testing with sophisticated testing methods, have not been adopted in Australia
- The evolving composition and growth of NPS creates significant challenges in clinically responding to individuals who present at emergency departments experiencing overdose and other NPS related harms

Overview

The increasing presence of NPS creates additional complexities in addressing AOD related harms within Australia. There is, in many cases limited information on the composition and therefore the harms associated with these products. There is also limited information on how pervasive their use is within the community, with only a small number of surveys providing any data on cohorts who consume NPS. These surveys are limited in that they are based on what the participant believes that they have been consuming, with no verification of what they have actually been consuming. The legislative responses undertaken by governments within Australia to address the consumption of NPS have not been accurately measured. The lack of concrete data on harms, consumption rates and the limited success in supply reduction based initiatives are of significant concern. International data indicates that NPS are causing significant harms within certain communities and this experience should be reflected upon to devise a range of evidence-informed solutions to ensure that similar levels of harm do not occur in Australia.

This paper will reflect on contemporary trends, evidence and policy, and detail recommendations on addressing NPS related harms within Australia.

How prevalent is NPS consumption within Australia?

The 2013 National Drug Strategy Household Survey indicated that 1.2 percent of Australians had consumed synthetic cannabinoids in the past 12 months, and 0.4 percent had used another NPS (AIHW 2014). There is, however, high levels of consumption among drug using cohorts, with the Ecstasy and Related Drugs Reporting System (EDRS) survey participants noting that 33 percent had recently consumed an NPS in 2010; this has since increased to 40 percent in 2015 (Sutherland et al 2016). Beyond self-reports, police seizures and overdose reports (often reported through media), there is a dearth in data portraying overall consumption patterns within Australia. One means of measuring consumption is to ascertain the levels of traffic via various avenues of access. In Australia, 11 percent of surveyed participants in the EDRS reported having used darknet markets or cryptomarkets to purchase drugs online (Sindicich and Burns 2015). These figures do not include those who may have intended on purchasing a specific substance but have unknowingly been supplied with an NPS. Bruno et al (2013) measured the surface web NPS market in Australia, finding that over a 12 month period, 43 websites sold NPS. These sites received 40,000 searches each month. Estimations have been made by industry that the NPS market derives \$600M gross per annum in Australia (Patten 2013). Another novel method of detecting NPS is waste water analysis. In one study, waste water samples in Queensland were tested for mephedrone and methylone between 2011 and 2013: while mephedrone was not detected, methylone was detected in 45% of samples. Given that self-report surveys do not detect methylone use, the best explanation is that drugs thought to contain MDMA actually contain the NPS methylone (Thai et al 2016).

The International Experience

It would appear that the prevalence and harms afforded by NPS within Europe are significant with reports indicating 3 percent of 15 – 24 year olds have used a NPS in the past 12 months (European Commission 2014). The same study notes that 4.8 percent of adolescents in the USA have consumed synthetic cannabis. As noted earlier, EMCDDA (2016) is now monitoring 560 NPS; this is a significant increase from 14 in 2005 (Musselman and Hampton 2014). Although use appears to be relatively low within the general population, heightened consumption among certain cohorts is apparent. Sutherland et al (2016) cite a study which reports that 75 percent of surveyed gay men attending a London dance club who had recently consumed ecstasy had also used mephedrone. The use of synthetic cannabis within UK correctional settings has featured regularly in media reports with citations of prison authorities struggling to maintain order due to these use of this substance. The UK Ombudsman reported that 19 deaths in custody were associated with synthetic cannabis between 2012 – 2014, and 39 deaths from NPS between June 2013 – 2015 (Allison and Hattenstone 2016; Prisons and Probations Ombudsman 2015; Prisons and Probation Ombudsman 2016).

Risks & Harms

The harms associated with NPS are in many ways not dissimilar to that occurring with other substances. The burgeoning number of NPS appearing on the market is driven in part by the legislative response in attempting to reduce the supply of these products. This results in a dearth of knowledge regarding the contents of many NPS, and also an increase in NPS being sold as illicit substances leading to unintentional use and increased harms. In turn, this creates limitations in the effectiveness of treatment responses to individuals who have consumed these products presenting at emergency departments (Mussleman and Hampton 2014). Additionally, there is uncertainty on both the short and long term harms which may occur through consumption of these products. In the case of synthetic cannabinoid receptor agonists, there is some evidence to suggest that their use results in far greater harms than the use of herbal or plant based cannabis. For instance, with reference to short term harms, Winstock et al (2015) found that synthetic cannabis consumption was 30 times more likely to result in an emergency department attendance than herbal cannabis consumption.

These risks are exacerbated by the appeal of NPS, which is evident with:

- A reduced likelihood of adverse legal consequences;
- The ease with which they can be sourced;
- Their low cost; and
- A decreased likelihood of detection in toxicology testing (Baumann and Volkow 2016).

Solutions

As with most AOD related harms, there is no single measure or suite of measures which will dispel the harms associated with NPS consumption. Innovations and policy initiatives must adhere to the best available evidence and should not result in unintended adverse outcomes. Responses to NPS consumption should be centred on the need to reducing harm.

Many of the initiatives would elicit concurrent benefit for those using illicit substances, with the harm reduction messaging related to NPS being similar to that related to illicit substance consumption. Central to addressing harms associated with NPS, is the need to know what these substances consist of. This requires two streams of activity:

1. There is a need to ensure that government policy do not create preconditions which generate more harm by inadvertently promoting the development of new NPS with unknown components; and
2. There is a need to facilitate transparency to reduce harm by developing a publicly accessible database which captures data from police and hospital sources on the composition of various substances respectively seized or surrendered.

The analogue laws, evident in many jurisdictions in Australia, which prohibit substances with structures similar to illicit substances appear to have not curbed either use or availability of these substances with multitudes of new and emerging varieties rapidly becoming available and most likely creating even greater harm. The risks inherent with the consumption of these unknown quantities are potentially vast with limitations in clinical responses and unknown long term impacts. More recently, within Australia, blanket ban legislation (Crimes Legislation Amendment (Psychoactive Substances and Other Measures) Act 2015) prohibiting all psychoactive substances has been introduced. The Australian legislation necessitates the importer to prove that the substance is either not psychoactive or fits within the category of exempt substances (Barratt et al 2016). Similar laws applied internationally have generated

some criticism, which include issues with the sheer breadth of banned substances impeding enforcement, the lack of assessment on harms in prohibiting a substance and the potential risks which can occur when drug using populations transition to new (potentially more harmful) substances in response to a ban (Stevens et al 2015). It is too early to determine how these Australian laws will unfold.

Developing a data system which captures police forensic data and hospital data on the specific NPS will assist in enhancing clinical knowledge in responding to overdoses and provide the public with information on the various harms associated with these substances. There are a number of international examples of data systems which address this need. The Drug Information and Monitoring System (DIMS), which has been operating in the Netherlands since the 1990s, and provides the opportunity for drug users to have their substances analyzed. The results are disseminated through various means, enabling drug using cohorts which otherwise would have been difficult to access, to be rapidly informed of dangerous substances found in illicit drugs (Brunt and Niesink 2011). Additionally, the Trans European Drug Information (TEDI) project, a collaborative endeavor combining the data from a number of European countries, is another example of an effective data system capturing the results of pill testing and therefore providing an opportunity to reduce AOD harms (Brunt et al 2015). Both these models should be reflected upon in the development of a similar system in Australia.

There is a need to enhance the capacity of frontline workforces, including ambulance and emergency department personnel to ensure that individuals presenting with NPS related overdose symptoms receive optimal care. Similarly, alcohol and other drug (AOD) services also require additional capacity to address NPS related harms among service users. It is likely that many AOD service users may have been unknowingly consuming NPS and experiencing associated harms.

Pill testing or drug checking is a service that identifies the composition of drugs which are confidentially and voluntarily submitted. The service provides this information back to service users, often accompanied by support, education and information about the substance. A drug checking service may occur on-site (at a club or festival), at a fixed site (at a shop front, e.g. part of a drug service), or through the post (samples are posted to a service who provides information back to consumers through an online portal) (Butterfield et al 2016). It is important that testing services can provide accurate and reliable information about the content of drugs, and ideally, their purity. Launching a service like this in Victoria, as part of a broader drug trends monitoring system, would provide unique information about NPS, both intentional and unintentional use. Collecting this kind of information and making it available promptly to the public and to health services enables harm reduction initiatives to be quickly tailored to the dynamic NPS markets, so that any particularly dangerous NPS can prompt swift and persuasive warnings and medical responses.

Recommendations:

1. That policy initiatives seeking to address harms associated with NPS consumption are evidence informed with specific consideration directed toward any unintended harms which these policies may engender
2. That a comprehensive database, capturing data from all relevant sources including police and hospital data, is developed to provide up to date information on NPS to inform clinical practice as well as provide information to the community on the risks associated with emerging NPS. The Drug Information and Monitoring System (DIMS) and the Trans European Drug Information project (TEDI) models should be reflected on in the development of this data system
3. That the frontline health workforces be provided with additional support to provide optimal treatment to individuals presenting with NPS related overdose and other acute harms
4. Additional resources should be allocated for training and capacity building endeavours to assist the AOD sector address NPS related harms among service users
5. Access to pill testing should be afforded at all events and venues where NPS and other substances are likely to be consumed (and/or made available at a fixed office site). Pill testing should be primarily considered as an integral part of a drug trend monitoring system as per the Dutch system and an essential adjunct to harm reduction strategies.

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