ncpic e-zine

national cannabis prevention and information centre

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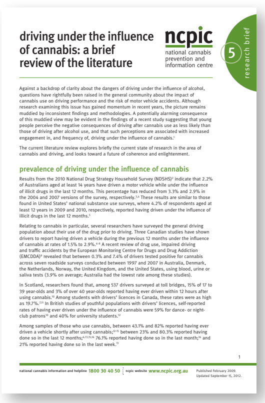
contents

what's new in cannabis?

Cannabis and driving research brief – Updated

NCPIC regularly reviews and updates its resources in an effort to ensure we continue to provide up-to-date, evidence-based information to the public. We recently reviewed one of our Research Briefs, 'Driving under the influence of cannabis: A brief review of the literature' and made updates according to the latest research.



driving under the influence of cannabis: a brief review of the literature

director's report

Jan Copeland (PhD) – *Professor/Director, NCPIC*

I hope those of you that were able to join us for the 2nd National Cannabis Conference in Brisbane last month found it an enjoyable and valuable experience. It has been such a difficult period for many service providers and those working in government departments to attend meetings, so we were thrilled with more than 200 registrations.

There are so many people to thank, and considerable fear I may miss someone, so I will confine my nominations to our sponsors (especially the Australian Government Department of Health and Ageing), speakers, conference organisers MERS, committee members and NCPIC staff for their logistic support. The papers spanned the basic science on cannabinoid pharmacology and toxicology, synthetic cannabinoids, genetic influences on cannabis use and dependence, prevention approaches, criminal justice responses and clinical interventions. The theme of the meeting was the impacts and responses among Aboriginal and Torres Strait Islander communities to cannabis-related issues and this was threaded throughout the meeting. A special thank you to our consortium partner NDRI, with Director Professor Steve Allsop providing a much appreciated overview of the Centre's work since the last conference and a summary of the meeting's highlights.

As researchers we looked forward to conducting the evaluation of the meeting as we found the 2009 evaluation vital for shaping the 2012 conference. It was conducted online and we were thrilled to receive a more than 50% response rate. I think this must be some kind of record!! There was a good spread of sectors and occupations represented. The vast majority of respondents (95%+) rated the plenary and parallel sessions as either excellent or very good. The ratings were very similar for relevance and value, 80% rated the venue and catering as excellent and >50% had already decided to attend the 2014 meeting with <5% saying they would not attend. While many enjoyed the scientific presentations there was an enduring theme in the qualitative comments that in 2014 we should add a stream for those working in a range of alcohol and other drug and youth services, for those in the Aboriginal and Torres Strait Islander community services, and for police, that provides summaries of cannabis-related harms and trends. In addition, our NCPIC clinical training workshops should be made available for those new to the sector, and opportunities provided to share and discuss experiences and clinical approaches with Indigenous community members, prevention services, as well as police/law enforcement, more information on synthetic cannabinoids and a greater number of posters were also requested. There was also a range of helpful hints about practical issues such as registration forms, conference length, and seating for the evening function! No doubt 2014 will be upon us very soon so we will start planning for the next meeting in the near future. We have a number of terrific national and international speakers who have contacted us to be involved so I'm getting excited already.

To conclude the conference theme, this month I presented on oral health consequences of illicit drug use

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commentary on research

medicinal D9-tetrahydrocannabinol (dronabinol) impairs on-the-road driving performance of occasional and heavy cannabis users but is not detected in Standard Field Sobriety Tests – a comment on Bosker and colleagues (2012)

Peter Gates

Outside of Australia, several countries have passed laws to regulate the distribution of medicinal cannabis. In particular, a synthetic cannabinoid named Dronabinol (Marinol®) is primarily marketed by pharmaceutical companies to treat wasting diseases, individuals with severe emesis (vomiting) and those with chronic pain. Given the increasing prevalence of synthetic cannabis use, it is important to gain an understanding of the synthetic drug effects and the associated implications to the wider community.

It is known that smoking cannabis will result in a peak blood concentration of THC within minutes of smoking which will begin to decline over one to two hours. Following oral administration of dronabinol, however, a peak blood concentration is reached only after two to four hours and can last for up to six hours from administration. Thus, intoxication from synthetic cannabis can last longer than smoked 'street' cannabis, leaving a longer window for unwanted side effects. It is known that smoking cannabis can negatively impact on driving, however, few studies have investigated the impact of synthetic cannabis on driving performance.

In response to this lack of research, Bosker and colleagues (2012) administered a placebo or varying doses of dronabinol to occasional and heavy cannabis users and tested their driving performance. Performance was tested with the use of a specially instrumented car where participants attempted to drive as straight as possible at a constant speed for one hour behind a lead experimenter car in normal traffic. In addition, the authors were interested to determine if the Standard Field Sobriety Test (SFST), a test commonly used by US law enforcement to detect drug intoxication, was able to detect any signs of cannabis intoxication. Participants were 12 heavy cannabis users and 12 occasional cannabis users (58% male) with an average age of 24 years. The occasional users were tested only when showing a negative urine screen for THC and the heavy users were tested only when positive for THC.

Both groups evidenced impairments to their ability to drive without weaving from a straight line comparable to an individual with a blood alcohol concentration greater than 0.5 mg/ml. Significant impairments were evident regardless of dronabinol dose, however; a dose relationship was observed and impairments increased with increasing dose. In addition, occasional cannabis users showed significantly greater impairment compared with heavy users. Although the participants reported subjective feelings of being high on a visual analogue scale, no further statistically significant impact on other measures of driving performance were noted. Importantly, the SFST failed to detect any signs of intoxication despite the significant impact on driving performance that was detected.

The authors concluded that, like 'street' cannabis, synthetic cannabis can impair driving, particularly among naïve users but also among experienced users. In addition, the authors highlighted a need to develop more sensitive field tests for law enforcement to detect drug-induced intoxication. Medicinal cannabis patients are advised not to use dronabinol and drive.

Bosker, W.M., Kuypers, K.P., Theunissen, E.L., Surinx, A., Blankespoor, R.J., Skopp, G., Jeffery, W.K., Walls, H.C., van Leeuwen C.J., & Ramaekers, J.G. (2012). Medicinal Δ(9) -tetrahydrocannabinol (dronabinol) impairs on-the-road driving performance of occasional and heavy cannabis users but is not detected in Standard Field Sobriety Tests. *Addiction 107*, 1837-1844.

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director's report

(focussing on cannabis of course) for the 10th Annual Conference of the Dental Hygienists Association of Australia in Brisbane. It was a great opportunity to explore a new literature and we will write it up as a new factsheet to add to the series.

research publications

Relevant publications examining issues to do with cannabis that have been published in the last month include the following:

Bosker, W.M., Kuypers, K.P., Theunissen, E.L., Surinx, A., Blankespoor, R.J., Skopp, G., Jeffery, W.K., Walls, H.C., van Leeuwen C.J., & Ramaekers, J.G. (2012). Medicinal Δ(9) -tetrahydrocannabinol (dronabinol) impairs on-the-road driving performance of occasional and heavy cannabis users but is not detected in Standard Field Sobriety Tests. *Addiction 107*, 1837-1844.

Bruci, Z., Papoutsis, I., Athanaselis, S., Nikolaou, P., Pazari, E., Spiliopoulou, C., & Vyshka, G. (2012). First systematic evaluation of the potency of cannabis sativa plants grown in Albania. *Forensic Science International 222*, 40-46.

Bujarski, S.J., Norberg, M.M. & Copeland, J. (2012). The association between distress tolerance and cannabis use-related problems: The mediating and moderating roles of coping motives and gender. *Addictive Behaviors 37*, 1181-1184.

Chabrol, H., Chauchard, E., Goutaudier, N., & van Leeuwen, N. (2012). Exploratory study of the psychopathological profiles of adolescent cannabis users. *Addictive Behaviors 37*, 1109-1113.

Faridi, K., Joober, R. & Malla, A. (2012). Medication adherence mediates the impact of sustained cannabis use on symptom levels in first-episode psychosis. *Schizophrenia Research 141*, 78-82.

Kleinloog, D., Liem-Moolenaar, M., Jacobs, G., Klaassen, E., de Kam, M., Hijman, R., & van Gerven, J. (2012). Does Olanzapine inhibit the psychomimetic effects of Delta-9-tetrahydrocannabinol? *Journal of Psychopharmacology 26*, 1307-1316.

Kopak, A.M., Proctor, S.L. & Hoffmann, N.G. (2012). An assessment of the compatibility of DSM-IV and proposed DSM-5 criteria in the diagnosis of cannabis use disorders. *Substance Use and Misuse 47*, 1328-1338.

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media stories this issue

Each issue we will examine some of the cannabis-related stories that have received media attention across the country. The headlines are listed below in bold, with a short summary and/or commentary regarding the content of the news story beneath.

If you are interested in obtaining a copy of a particular story, please contact Clare Chenoweth at c.chenoweth@unsw.edu.au

facebook preferred to mind-altering drugs for today's young?

International Business Times: October 1, 2012

A survey on crime in England and Wales has found that "posting status updates [on social networking program, facebook] has replaced getting into altered states as the amusement of choice for most young people." Cannabis use rates in England and Wales amongst the 16-24 years age group is said to have halved since 1998, with involvement in online activities such as facebook, meaning young people have fewer "opportunities to come into contact with drugs with their friends." Chief executive of Drugscope, Martin Barnes, says that in this way, facebook "indirectly dampens drug use." The increase in time spent by young people online, essentially means they are "alone together", and have less time and/or inclination to use cannabis on their own. Other suggested causes for the drop in cannabis use in the United Kingdom include young people having less money to spend on drugs due to youth unemployment and "inflated drug prices."

cannabis growers wanted for world survey

The Courier: October 4, 2012

The National Drug Research Institute (NDRI) at Curtin University is helping run an anonymous, global survey looking at those who grow cannabis illegally. Ballarat residents are being asked to participate in the online survey so that researchers can "identify growers' perceptions about the risk of getting caught" and also ascertain how and why they grow the drug. The survey will compare "what's happening in Australia as well as differences across borders."

ecstasy and synthetic drug use on rise

WA Today: October 10, 2012

The National Drug and Alcohol Research Centre's national survey of ecstasy and psychostimulant users has found that rates of ecstasy use among this group is rising slightly. The survey of 600 drug users in Australia also found that "40 per cent were reporting using synthetic substances, such as synthetic cannabis."

endocannabinoid system most vulnerable to cannabis during adolescence

The Medical News: October 10, 2012

According to new research by Neuroscience Research Australia, the "system of the brain responsible for mediating the effects of cannabis, the endocannabinoid system, is most vulnerable to the drug during adolescence." This is said to be due to the endocannabinoid system going through a crucial period of change throughout adolescence and "interfering with these changes by using cannabis could have consequences for the development of healthy brains in adults." The endocannabinoid system "is involved in appetite, pain-sensation, mood and memory, and affects the way the neurons in the brain communicate with each other."

new Kronic drug test

Australian Mining: October 12, 2012

A new test kit has been developed for the mining industry that will "provide companies with a more thorough way of screening its employees" for substances such as Kronic, a type of 'synthetic' cannabis. Kronic has been of concern to the mining industry due to its fairly widespread use among workers and the impact on health and safety in the workplace.

NRG1 gene plays an important role in cannabis dependence

Medical News: October 12, 2012

Research has found that a particular gene, the NRG1 gene, may cause a "susceptibility" to cannabis dependence. The NRG1 gene has also been linked to schizophrenia which may explain the link between cannabis use and schizophrenia in those predisposed to the condition.

study shows high rates of self-harm

Medical Observer: October 15, 2012

Researchers have found that cannabis use, along with smoking, heavy alcohol use and sexual abuse by a parent are predictors of self harm.

parental tough love

Australian Financial Review: October 17, 2012

Good parenting of one teenager can have positive impacts on others in their friendship network. Teenagers whose friends' mothers were communicative, "authoritative and warm" and "willing to set limits", were less likely to misuse alcohol or smoke tobacco or cannabis.

cannabis spray may help severely ill cope with pain

Sydney Morning Herald: October 29, 2012

A global trial of the medication, *Sativex*, is being conducted to determine its efficacy in pain management for cancer and multiple sclerosis patients. Professor Jan Copeland commented in the article that "low doses of Sativex was unlikely to have the same effect on people as illicit cannabis because it was made of almost equal parts of the drug's two psychoactive properties: tetrahydrocannabinol (THC), the psychoactive part of cannabis that most recreational users look for, and cannabidiol (CBD)" the compound that "typically lowers anxiety and psychotic symptoms." NCPIC is currently conducting its own study on *Sativex's* potential to help cannabis dependent people withdraw from the drug. Please click here for more information about this study.

Active Learning Module for GPs

NCPIC has just launched an Active Leaning Module (ALM) for General Practitioners (GPs). An ALM is an online training program, accredited by the Royal Australian College of General Practitioners, that they complete independently that contributes towards their professional development requirements. The module requires GPs to work through a series of readings and exercises on how to treat and screen patients with problems related to cannabis use and then record 10 case summaries with their patients experiencing this problem. The NCPIC ALM is a joint initiative with Healthed, an education provider for health professionals, and will soon be available to complete either online or download from this link: http://www.healthed.com.au/notes-resources/active-learning-module-cannabis-dependency-module/

Congratulations!

Congratulations to Valentina Lorenzetti who won the $50 David Jones gift voucher for completing our conference evaluation survey. Over 100 people gave us invaluable feed-back in this survey. We are grateful for the time taken to help us ensure our next conference is better than ever!

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research publications

Lecompte, Y., Perrin, M., Salle, S., & Roussel, O. (2012). Impact of lowering confirmatory test cutoff value in pre-enlistment urine cannabinoids screening: About five years' experience in the French gendarmerie. *Journal of Analytical Toxicology 36*, 569-574.

Lynskey, M.T., Agrawal, A., Henders, A., Nelson, E.C., Madden, P.A., & Martin, N.G. (2012). An Australian twin study of cannabis and other illicit drug use and misuse, and other psychopathology. *Twin Research and Human Genetics 15*, 631-641.

O'Tuathaigh, C.M., Clarke, G., Walsh, J., Desbonnet, L., Petit, E., O'Leary, C., Tighe, O., Clarke, N., Karayiorgou, M., Gogos, J.A., Dinan, T.G., Cryan, J.F., & Waddington, J.L. (2012). Genetic vs. pharmacological inactivation of COMT influences cannabinoid-induced expression of schizophrenia-related phenotypes. *International Journal of Neuropsychopharmacology 15*, 1331-1342.

Piontek, D., Kraus, L., Pabst, A., & Legleye, S. (2012). An age-period-cohort analysis of cannabis use prevalence and frequency in Germany, 1990-2009. *Journal of Epidemiology and Community Health 66*, 908-913.

Ranganathan, M., Carbuto, M., Braley, G., Elander, J., Perry, E., Pittman, B., Radhakrishnan, R., Sewell, R.A., & D'Souza, D.C. (2012). Naltrexone does not attenuate the effects of intravenous Delta-9-tetrahydrocannabinol in healthy humans. *International Journal of Neuropsychopharmacology 15*, 1251-1264.

Taffe, M.A. (2012). Delta-9-tetrahydrocannabinol impairs visuo-spatial associative learning and spatial working memory in rhesus macaques. *Journal of Psychopharmacology 26*, 1299-1306.

ncpic contact details

NCPIC is a consortium led by the National Drug and Alcohol Research Centre and is an Australian Government Department of Health and Ageing initiative

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