

# ncpic e-zine

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## national cannabis prevention and information centre

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### what's new in cannabis?

#### Helpline Advertising Campaign

NCPIC's Cannabis Information and Helpline 1800 30 40 50, will be the subject of an advertising campaign appearing in journals and magazines in the medical, education and psychology fields over the coming year. We have decided to target professionals such as doctors, teachers and psychologists as they are in the unique position of working closely with and being able to recognise and monitor those who might be experiencing problems with their cannabis use. By making them aware of the helpline, they can both refer their patients, students and clients to it, and call it themselves, to access any information or advice they might require.

#### guest editorial

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#### cannabis use in Indigenous communities

The role of cannabis use in the health and wellbeing of Indigenous Australians is little known. To date there has been very little research specifically addressing cannabis use, its consequences, or effective interventions in Indigenous communities. However, across the community controlled health sector there is increasing concern that cannabis use and resultant harms are a burden to health and wellbeing. Data published by the Australian Bureau of Statistics and the Australian Institute of Health and Welfare<sup>1,2</sup> demonstrates the high prevalence of cannabis use in Indigenous communities. They estimate the prevalence of use over the previous 12 months among Indigenous Australians (non-remote areas, over 15 years) as 22.6%, whereas the estimate for the general Australian population (over 14 years) is 9.1%.

Similarly, a large study of secondary school children in NSW reported that Indigenous students were significantly more likely to use cannabis than non-Indigenous students.<sup>3</sup> The study concluded that Indigenous students were more susceptible to initiating use, and used more frequently when they did.<sup>3</sup> An exception to the broad prevalence data described above, is the research by Clough and colleagues<sup>4-9</sup> whose work in Arnhem Land documented a rapid rise in cannabis use in the late 1990s,<sup>4,5</sup> and more recently reported a lifetime prevalence of cannabis use of 77% for males and 61% for females in a sample of 190 people (17-36 years).<sup>6</sup> Given diversity across Indigenous communities there is

difficulty in generalising these findings. Similarly, the conclusions drawn from school and census data are limited, but together the data do suggest that Indigenous Australians in both remote and non-remote areas are more likely than non-Indigenous Australians to have used cannabis.

In addition to high prevalence of use, there are initial findings that suggest high levels of consumption among Indigenous cannabis users.<sup>3,9</sup> Clough and colleagues reported that among a sample of cannabis users in Arnhem Land, 92% of males and 78% of females used cannabis daily, and 88% reported dependence symptoms.<sup>9</sup> It is likely that these levels of use have significant consequences. The negative consequences of cannabis use on cognitive functioning, and, mental and physical health are becoming increasingly well evidenced in the literature,<sup>10</sup> however the prevalence of these consequences in the Indigenous community is unknown.

In addition to direct effects, it is likely that cannabis plays a role in exacerbating and maintaining existing health and wellbeing problems at a community level. Several papers have reported concerns that Indigenous community members have about the effects of cannabis.<sup>6,9,11</sup> These include: the high proportion of income spent on cannabis, community violence related to diminished supply in remote communities, child neglect, sexual exploitation, declining participation in community life, and reduced participation in education and training. Further, community members have expressed concern that cannabis use may be a trigger for relationship problems, family violence, suicide and psychosis.<sup>9,11</sup>

Of additional concern is the relationship between cannabis and other substance use. Clough and colleagues reported that current users of cannabis were more likely to be heavy alcohol drinkers and tobacco

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smokers than non-users.<sup>6,8</sup> Indeed the vast majority of cannabis users smoke tobacco; this includes the practice of titrating cannabis with tobacco. There has been some suggestion that this combined use results in greater reinforcing effects of both substances.<sup>8</sup> Clough has warned that the increase in cannabis use in Indigenous communities may be a contributing factor to the maintenance of high smoking rates. This is worrying as tobacco use is considered a significant contributor to the discrepancy between the health of Indigenous and non-Indigenous Australians.<sup>12</sup>

Understanding the impact of cannabis use on Indigenous Australians and how it interacts with other predictors of physical and emotional health is in its infancy. A greater effort in collecting data related to the development, course, consequences, and aetiology of cannabis use in Indigenous communities over time is indicated. This can only be achieved in collaboration with Indigenous services. The timely development of practical and effective treatment and prevention strategies, and the up-skilling of existing agencies to deliver interventions, is required. Of note, in comparing their data to general population data, Clough and colleagues warn that the patterns and context of use in small communities

is distinctive.<sup>6</sup> This has implications for the delivery of treatment and prevention initiatives, and suggests that approaches used in the broader Australian community, which are not specifically tailored, may have limited efficacy.

The National Drug Research Institute with support from NCPIC is currently undertaking a collaborative project with four Indigenous community controlled health organisations to develop and trial treatment protocols for use in primary health care settings. While the project is a starting point in terms of raising the issue of cannabis use, and cannabis-related harms, in an already overworked health field – given the research to date, we know enough to suggest that cannabis use be placed on, and remain on, the Indigenous health agenda.

- 1 **Australian Bureau of Statistics.** (2006). *National Aboriginal and Torres Strait Islander Health Survey: Australia 2004-2005*. (ABS catalogue no. 4715). Canberra: Australian Bureau of Statistics.
- 2 **Australian Institute of Health and Welfare.** (2008). *National Drug Strategy Household Survey: 2007 first results*. (AIHW catalogue no. PHE 80). Canberra: Australian Institute of Health and Welfare.
- 3 **Forero, R., Bauman, A., Chen, J.X.C., & Flaherty, B.** (1999). Substance use and socio-demographic factors among Aboriginal and Torres Strait Islander school students in New South Wales. *Australian and New Zealand Journal of Public Health* 23, 295-300.
- 4 **Clough, A.R., Burns, C.B. & Yunupingu, M.** (2002). Diversity of substance use in eastern Arnhem Land (Australia). *Drug and Alcohol Review* 21, 349-356.
- 5 **Clough, A.R., Cairney, S., Maruff, P., & Parker, R.** (2002). Rising cannabis use in remote Indigenous communities. *Medical Journal of Australia* 177, 395-396.
- 6 **Clough, A.R., D'Abbs, P., Cairney, S., Gray, D., Maruff, P., Parker, P., & O'Reilly, B.** (2004). Emerging patterns of cannabis and other substance use in Aboriginal communities in Arnhem Land, Northern Territory: A study of two communities. *Drug and Alcohol Review* 23, 381-390.
- 7 **Clough, A.R., D'Abbs, P., Cairney, S., Gray, D., Maruff, P., Parker, P., & O'Reilly, B.** (2005). Adverse mental health effects of cannabis use in two Indigenous communities in Arnhem Land, Northern Territory, Australia: Exploratory study. *Australian and New Zealand Journal of Psychiatry* 39, 612-620.
- 8 **Clough, A.R.** (2005). Associations between tobacco and cannabis use in remote Indigenous populations in Northern Australia. *Addiction* 100, 346-353.
- 9 **Lee, K., Clough, A.R. & Conigrave, K.M.** (2007). High levels of cannabis use persist in Aboriginal communities in Arnhem Land. *Medical Journal of Australia* 187, 594.
- 10 **Swift, W., Copeland, J. & Lenton, S.** (2000). Cannabis and harm reduction. *Drug and Alcohol Review* 19, 101-112.
- 11 **Putt, J. & Delahunty, B.** (2006). Illicit drug use in rural and remote Indigenous communities. *Trends and Issues in Crime and Criminal Justice* 322, 1-6.
- 12 **Calma, T.** (2005). *The Social Justice Report 2005*. (Report No. 3/2005). Canberra: Human Rights and Equal Opportunities Commission.

## research publications

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

**Ashton, J.** (2008). Pro-drugs for indirect cannabinoids as therapeutic agents. *Current Drug Delivery* 5, 243-247.

**Bloor, R.N., Wang, T.S., Spanel, P., & Smith, D.** (2008). Ammonia release from heated 'street' cannabis leaf and its potential toxic effects on cannabis users. *Addiction* 103, 1671-1677.

**Haughey, H.M., Marshall, E., Schacht, J.P., Louis, A., & Hutchison, K.E.** (2008). Marijuana withdrawal and craving: Influence of the cannabinoid receptor 1 (CNR1) and fatty acid amide hydrolase (FAAH) genes. *Addiction* 103, 1678-1686.

**Liddle, H.A., Dakof, G.A., Turner, R.M., Henderson, C.E., & Greenbaum, P.E.** (2008). Treating adolescent drug abuse: A randomized trial comparing multidimensional family therapy and cognitive behaviour therapy. *Addiction* 103, 1660-1670.

**Macleod, J., Hickman, M., Bowen, E., Alati, R., Tilling, K., & Smith, G.D.** (2008). Parental drug use, early adversities, later childhood problems and children's use of tobacco and alcohol at age 10: Birth cohort study. *Addiction* 103, 1731-1743.

**Martínez-Rodríguez, J.E., Munteis, E., Carreño, M., Blanco, Y., Roquer, J., Abanades, S., Graus, F., & Saiz, A.** (2008). Cannabis use in Spanish patients with multiple sclerosis: Fulfilment of patients' expectations? *Journal of the Neurological Sciences* 273, 103-107.

**Roane, B.M. & Taylor, D.J.** (2008). Adolescent insomnia as a risk factor for early adult depression and substance abuse. *Sleep* 31, 1351-1356.

**Scherrer, J.F., Grant, J.D., Duncan, A.E., Pan, H., Waterman, B., Jacob, T., Haber, J.R., True, W.R., Heath, A.C., & Bucholz, K.K.** (2008). Measured environmental contributions to cannabis abuse/dependence in an offspring of twins design. *Addictive Behaviours* 33, 1255-1266.

**Schierenbeck, T., Riemann, D., Berger, M., & Hornyak, M.** (2008). Effect of illicit recreational drugs upon sleep: Cocaine, ecstasy and marijuana. *Sleep Medicine Reviews* 12, 381-389.

**Watzke, A.B., Schmidt, C.O., Zimmermann, J., & Preuss, U.W.** (2008). Personality disorders in a clinical sample of cannabis dependent young adults. *Fortschritte der Neurologie-Psychiatrie* 76, 600-605.

**Zullino, D.F., Waber, L. & Khazaal, Y.** (2008). Cannabis and the course of schizophrenia. *The American Journal of Psychiatry* 165, 1357-1358.

**Zvolensky, M.J., Lewinsohn, P., Bernstein, A., Schmidt, N.B., Buckner, J.D., Seeley, J., & Bonn-Miller, M.O.** (2008). Prospective associations between cannabis use, abuse, and dependence and panic attacks and disorder. *Journal of Psychiatric Research* 42, 1017-1023.

## commentary on research cannabis and memory in the real world: a comment on Fisk and Montgomery (2008)

Dr. Anthony Arcuri

Cannabis-related deficits in basic memory processes have been demonstrated consistently in laboratory-based research. It remains unclear, however, whether such deficits exist in the 'real world'. Fisk and Montgomery<sup>1</sup> aimed to bring some clarity to this uncertainty by examining real-world memory functioning in abstinent cannabis users.

The real-world memory functioning investigated here included everyday memory, prospective memory, and cognitive failures. Deficits in everyday memory may appear as memory lapses in everyday activities, such as forgetting where one put something. Prospective memory helps us remember to do a task at some point in the future, such as remembering to turn off the lights when leaving a room. Cognitive failures refer more broadly to perceptual failures (e.g., failing to notice a stop sign on the road), misdirected actions

(e.g., bumping into people), and memory failures (e.g., forgetting what one came to the shops to buy).

Fisk and Montgomery pointed out that the above memory processes draw on associative learning and prefrontal executive resources, which give us the ability to select actions or thoughts in relation to our goals.<sup>2</sup> As a result, the researchers also sought to investigate executive processes and associative learning to help determine whether cannabis-related deficits in real-world memory may be underpinned by cannabis-related deficits in executive functioning and associative learning.

To achieve these aims, Fisk and Montgomery compared real-world memory functioning and laboratory-based associative learning and prefrontal executive processes between varied university student samples of currently abstinent cannabis users (who had never used other illicit drugs) and cannabis non-users. The results showed that the cannabis users were impaired on all three measures of real-world memory: everyday memory, cognitive failures and prospective memory. Against expectations, however, the results did not reveal cannabis-related deficits in prefrontal executive functioning and associative learning.

A number of possibilities were put forth by the authors for this inconsistency in results. One such possibility was that the laboratory-based tests of executive functioning and associative learning used in this study were not sensitive to deficits that may occur in the real world. It is also possible, however, that the deficits in real-world memory functioning found among the cannabis users in this study may have been the result of variables not controlled for rather than of a history of cannabis use, as acknowledged by the authors.

Notwithstanding its limitations, this timely study poses a number of important questions and highlights the need for further research into the effects of cannabis use on real world memory, executive processes and associative learning.

- 1 **Fisk, J.E. & Montgomery, C.** (2008). Real-world memory and executive processes in cannabis users and non-users. *Journal of Psychopharmacology* 22, 727-736.
- 2 **Koechlin, E. & Summerfield, C.** (2007). An information theoretical approach to prefrontal executive function. *Trends in Cognitive Science* 11, 229-235.



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](mailto:c.chenoweth@unsw.edu.au).

### cannabis harm up in smoke

*MX Melbourne: October 3, 2008*

There were a number of articles about a report by Britain's The Beckley Foundation, which concluded once again, that "cannabis is less harmful than alcohol or tobacco".

### new software to help GPs identify cannabis use

*Medical Observer: October 10, 2008*

This article highlights the need for GPs "to be provided with the tools to help them recognise and manage patient with cannabis-related problems". As highlighted in NCPIC's Bulletin 2, *The Management of Cannabis Use in Australian General Practice*, BEACH data reveals that GPs undertake approximately 19,000 cannabis-related consultations per year, a relatively low number, when around 300,000 Australians use the drug regularly. NCPIC has developed 10 factsheets for the widely-used prescribing software *Medical Director*, which

cover "topics such as questions to ask when screening for cannabis-related problems, signs of such a problem and how to recognise high-risk groups".

### drugs and alcohol

*Burnie Advocate: October 11, 2008*

This article discusses how people experiencing withdrawal from substances such as cannabis and alcohol can be misdiagnosed as simply suffering from anxiety or depression, as the symptoms of withdrawal can "mimic mental illness". It stresses that "proper screening is important before a diagnosis and treatment plan can be implemented". Signs of "significant cannabis withdrawal syndrome" can include "irritability, anger, sleeping difficulties, restlessness, anxiety, excess perspiration, loss of appetite, nausea and lowered mood". Good education and support are said to help "alleviate" these symptoms, which for most people, will "reduce within a week".

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### pot users likely to keep using after mental illness

*Northern Daily Leader: October 11, 2008*

The University of Western Sydney's Social Justice Change Research Centre says that "young people who have a dependence on cannabis are likely to keep using the drug after being diagnosed with a mental illness". The centre will run a study on the links between cannabis and mental health next year. Researcher Sharyn McGee, said there are many people with both mental illness and substance abuse problems, but that "many young people who use cannabis do not see it as a problem".

### research boom for academics

*Sydney Morning Herald: October 11, 2008*

The National Cannabis Prevention and Information Centre was featured in this article about new university research centres. It explains the aims of the centre and emphasises its unique role in the cannabis area of translating research into practice. It also focuses on the work being done by NCPIC Senior Research Officer, Amie Frewen, developing clinical guidelines for dealing with cannabis use. She says there has been a void of information that clinicians can access, which her guidelines will fill, providing a "hands-on guide for busy clinicians who don't have time or access to the evidence about the best way to treat cannabis". Frewen hopes "the end result is that treatment is better, more consistent and has better outcomes".

### poor record: higher dependency now on alcohol than illicit drugs

*Bankstown Canterbury Torch: October 15, 2008*

The *Drug Use Monitoring in Australia (DUMA): 2007 Annual Report*, undertaken by the Australian Institute of Criminology (AIC), has found that "while alcohol dependency among police detainees has increased, dependency on illicit drugs has decreased". Of the "identified illicit drugs, cannabis was by far [the] most popular drug used amongst police detainees at Bankstown, followed by amphetamines, cocaine, ecstasy and heroin".

### alarm at young treated for drugs

*West Australian: October 16, 2008*

This article states that "hundreds of children and teenagers are admitted to Perth hospitals each year as a result of illicit drug use", (including cannabis), from data gained from the Health Department. Drug and Alcohol Office Executive Director, Neil Guard, said "while it is disappointing to see these young people suffering harm from drugs, the data suggests that hospital presentations of people under 18 years of age, that involve illicit drug use in 2007, has declined since 2005, and represents a small percentage of overall presentations". Director of the National Drug Research Institute, Professor Steve Allsop, was also quoted in the article. When approached by NCPIC to comment more fully about this study Professor Allsop said "There has been a significant decline in cannabis use over the last few years. Such declines in reported use in the broader community may take time to filter through to hospital and drug specialist services because these were often responding to the needs of people who were enmeshed in drug use". He also noted that a significant proportion of people admitted for drug problems were not just using illegal drugs, observing for example that many may have combined use of drugs such as alcohol and amphetamines.

### alcohol is still our most harmful drug

*Adelaide Advertiser: October 17, 2008*

A report by the Australian Institute of Health and Welfare (AIHW), *Alcohol and other drug treatment services in Australia 2006-07*, has found that

approximately half of the more than 9000 people in South Australia who "sought help for a drug problem in 2006-07" were treated for alcohol-related issues. Cannabis only came in at fourth place on the "list of reasons people sought counselling, detoxification, rehabilitation or other support", even though South Australia has been called the "cannabis capital" of Australia. In terms of treatments nationally, cannabis made up 23 per cent while opioids were at 14 percent. Dr Paul Meyer, AIHW spokesman, commented that for young people, cannabis is the most "common drug of concern followed by alcohol – a reverse of the trend for older people".

### earth week: pot pollution

*Hobart Mercury: October 20, 2008*

People growing cannabis in some national parks in America are causing them to be the "most polluted places in the country due to the use of toxic chemicals... [including illegal] defoliants and insecticides". Other chemicals the article suggested are being used include rat poison and plant growth hormones.

### NT in grip of grog, dope

*Northern Territory News: October 25, 2008*

This article reports results from a study conducted by the Australian Institute of Health and Welfare, that "alcohol and cannabis are the top drugs of concern for Territorians seeking treatment." Of all drug and alcohol treatments in the Northern Territory last year, treatments for cannabis made up 23 per cent, exceeded only by alcohol treatments, at over 40 per cent.

### poster girl for anti-drug brigade

*Whitehorse Leader: October 29, 2008*

The winner of NCPIC's 2008 Poster Competition, Amanda Olsson, from Blackburn High School in Victoria was featured in this article. Her poster, titled '*Marionette*', highlighted the importance of seeking help if cannabis users are experiencing problems and are no longer in control of their lives. In the explanation of her poster, Amanda writes that she "wanted to show how cannabis makes you lose control over yourself, like a puppet being manipulated."

## what do we know?

### people at risk of developing problems with their cannabis use: what do we know?

Not everyone develops problems when using cannabis, but those who do can experience side-effects ranging from panic and anxiety when intoxicated, through to developing a dependency on cannabis after using the drug regularly over a period of time. Although some people are more at risk of developing problems than others, these symptoms can and do arise at any stage of cannabis use.

As explained earlier, people with mental health problems are especially vulnerable to developing problems with their cannabis use. However, it has not been shown that cannabis use directly causes mental illnesses such as schizophrenia, but rather, may act as a trigger in predisposed individuals, or may make a pre-existing condition worse.

Young people also need to be very cautious in terms of any cannabis use. This is because generally, if a person starts smoking cannabis at an early age (i.e., early adolescence) and uses cannabis frequently, they are more likely to experience negative consequences. These can include developing mental health problems

and becoming dependent on cannabis. Using cannabis at a young age has also been linked with relationship and home conflicts, leaving home too early, difficulty with memory and learning, dropping out from study or work, financial difficulties and legal issues.

Other factors that may increase the risk of developing problems with cannabis use include emotional stress, poor parenting, school drop-out, affiliation with drug-using peers, moving out of home at an early age and daily cigarette smoking. In addition, having ready access to cannabis and having positive experiences to early cannabis use have also been shown to elevate the propensity for problems with cannabis use.

### cannabis and mental health: what do we know?

The issue concerning whether cannabis use causes mental illness is a topic of much interest both in the media and in research. Although severe illnesses such as schizophrenia have received a large portion of this interest, there is also debate about whether the use of cannabis can lead to more common psychiatric disorders such as depression and anxiety. There have been a number of studies that have explored the link between cannabis use and mental health symptoms. Strong associations are often found but this is not the same as a causal link (i.e. one causes the other).

Schizophrenia is a condition where people experience psychosis, or where they experience difficulty in telling what is real and what is not, may hear voices that are not really there (hallucinations), or believe things that are not true (delusions). There have been reports of people experiencing these psychotic symptoms after smoking a lot of cannabis or more cannabis than they are used to. This is rare and the symptoms usually go away if cannabis use ceases. However,

cannabis has been shown to make psychotic symptoms worse in those who already have a psychotic disorder such as schizophrenia.

Some claim that cannabis can cause schizophrenia. Evidence suggests that cannabis may somehow trigger schizophrenia in those who are already at risk of developing the disorder but does not directly cause the illness. Those with a vulnerability to develop schizophrenia, such as having a family history of the illness, should be strongly advised against using cannabis for this reason.

In terms of depression and anxiety, the link with cannabis use is confusing, because it is often used to try to relieve symptoms of these. Cannabis might appear to help ease depression before the effects of the drug wear off, but after that, it may make depression worse. People who use cannabis have been shown to have higher levels of depression and depressive symptoms than those who do not use cannabis.

Although results are mixed, there is a substantial amount of evidence to suggest that cannabis use, particularly frequent or heavy use, predicts depression later in life. Young women appear to be more likely to experience this effect. Cannabis can lead to symptoms of anxiety, such as panic, in the short-term, but there is a lack of evidence pointing to cannabis as an important risk factor for chronic anxiety disorders.

People who are more likely to experience negative consequences are generally those who start smoking cannabis earlier (early adolescence) and who smoke heavily. This may in turn lead to mental health problems, but also lead to more general life problems. Again, if someone has a genetic vulnerability or has existing mental health issues, cannabis should be avoided.

## 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

For further information on NPIC, its work and activities please contact Clare Chenoweth on (02) 9385 0218

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