



Health risks of smoking synthetic cannabinoids

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In recent years, synthetic substances with similar effects to cannabis—termed synthetic cannabinoids—have been incorporated into herbal mixtures for smoking. Sold for recreational use on the drug market and easily purchased over the internet under the names Kronic, Pineapple Express, Skunk and herbal incense (Spice and K2 in USA and Europe), they are marketed in Australia and New Zealand as Karma, Voodoo and Kaos. While the synthetic product simulates the cognitive effects of marijuana, it doesn't contain THC (the active constituent of cannabis) and so can't be detected by routine drug tests. This raises a number of health and safety concerns in the workplace.

Health and safety concerns

All synthetic cannabinoids interact with receptors in certain cells of the body, including the brain. The physiological effects are similar to those of cannabis and include:

- increased heart rate and blood pressure
- altered state of consciousness
- mild euphoria and relaxation
- perceptual alterations (time distortion)
- intensification of sensory experiences
- pronounced cognitive effects
- impaired short-term memory
- delayed reaction time.

Research into the effects of synthetic cannabinoids is limited, but studies so far point to them having a greater potential for harm than marijuana. Unwanted side effects include anxiety, paranoia, irritability and hallucinations and, in some cases (as with cannabis), the drugs have precipitated the redevelopment of psychoses in people treated for severe mental illness.

Tests on herbal smoking products have revealed a variety of active synthetic cannabinoids and poor quality control in their preparation, with some products being more potent than others. This has led to significant impairment in some users and serious overdoses requiring hospitalisation. Also concerning is that the long-term effects of regular use are unknown, with some compounds being more toxic than cannabis and some being suspected carcinogens.

Prevalence in the mining industry



There are no documented studies of the use of synthetic cannabinoids in the Australian mining industry at this time; however, media reports, especially from Western Australia, provide anecdotal reports of heavy use of Kronic. Before its active ingredients were registered as prohibited, Kronic was marketed as 'legal weed' and targetted at mine workers.

Testing for synthetic cannabinoids

In Queensland, QML, Mater Pathology and Racing Analytical Services Ltd, among others, are currently developing methods for testing for common synthetic cannabinoids. ChemCentre, Western Australia, undertakes urine and saliva testing for approximately 40 compounds and/or metabolites related to synthetic cannabinoids.

However, the testing process is complicated by the fact that the chemical formula of a synthetic cannabinoid can be slightly altered so that the agent being tested for becomes undetectable (while the product itself retains its negative health effect).

Legal status

The Australian Government has placed eight of the most commonly used substances contained in Kronic, and related mixtures, into schedule 9 of the Poisons Standard. These are now prohibited substances and are subject to action by law enforcement in the same way as cannabis.

The Therapeutic Goods Administration is expected to impose similar restrictions on a broader range of substances later in the year as a way of pre-empting the supply of other substances from illegal suppliers.

In Queensland, the Department of Justice and Attorney-General is seeking to ban synthetic cannabinoids by adding them to Schedule 2 (Dangerous Drugs) of the Drugs Misuse Regulation 1987.

The definition of dangerous drugs will be expanded to include any substances intended to have a substantially similar pharmacological effect to known drugs. This approach attempts to counteract the ability of manufacturers to alter the chemical formula of the synthetic cannabinoid.

The Criminal Law Amendment Bill 2011 may be before State Parliament by the end of August 2011.

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