

EXPERT-ADVISORY COMMITTEE ON DRUGS

AGENDA ITEM 4

THE JWH SUBSTANCES

Preliminary Assessment

1. On 16 April 2010, the Expert Advisory Committee on Drugs (EACD) agreed to a new two-step approach to drug classifications whereby the Committee would undertake a preliminary assessment of new substances to ascertain whether or not any further consideration is warranted before undertaking a formal review at a later meeting.
2. This paper has been prepared by the Secretariat to assist the EACD in undertaking a preliminary assessment of the class of indol derivatives known as 'the JWH substances'.
3. Should the Committee decide that further consideration of these substances is warranted the Secretariat will compile a thorough review of the scientific literature and will invite submissions from stakeholders to inform the Committee in its deliberation of the appropriate classification, if any, of these substances under the Misuse of Drugs Act framework.

Background

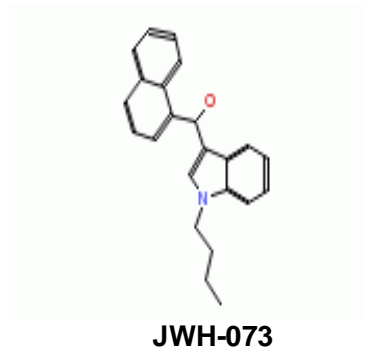
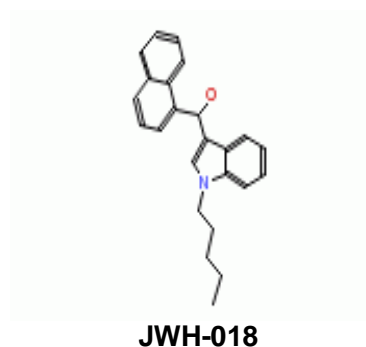
4. "Spice" was the first in a series of products sold as 'legal highs' that contain vegetable matter infused with synthetic cannabinomimetic substances. While "Spice" is no longer the dominant product of this type on the New Zealand market the term "Spice type products" is intended to be used synonymously with any legal high product intending to be smoked that contains synthetic cannabinomimetic substances.

Substance Identification

5. Spice type products contain vegetable matter of an unknown origin that has been infused with synthetic cannabinomimetic substances. The vegetable matter is then generally smoked to administer the psychoactive substance it contains. Spice type products are available in quantities of 1g (NZ \$20), 3g, (NZ \$50) 1 ounce, (NZ \$350) and more recently, as pre-assembled cigarettes or 'joints', which cost \$9.95 and are marketed as "enough for three people."
6. The strength of these substances differs between brands but generally these products are designed to be of similar potency to cannabis, meaning that the same quantity of vegetable matter in spice type products as cannabis would be smoked to induce an equally potent psychoactive effect.



7. The primary psychoactive components contained within spice type products have changed over the past 12 months to adapt following legislative clarification. In March 2009, the Ministry of Health arranged for the forensic testing of three varieties of spice type products by ESR and the results of that testing identified the presence of the 1,1-dimethyloctyl homologue of the substance CP 47,497. It was subsequently determined that CP 47,497 is substantially similar in chemical structure to tetrahydrocannabinol (THC) and therefore a controlled drug analogue of THC, meaning this substance is a Class C controlled drug.
8. Spice type products containing the 1,1-dimethyloctyl homologue of the substance CP 47,497 were then removed from the market in New Zealand following the clarification that this substance was illegal. However, immediately following their removal new products of this type emerged containing other uncontrolled cannabinomimetic substances. Testing by ESR of five varieties of these products has revealed the presence of a combination of the substances **JWH-018** (1-pentyl-3-(1-naphthoyl)indole) and **JWH-073** (1-butyl-3-(1-naphthoyl)indole).



9. The substitution of the 1,1-dimethyloctyl homologue of CP 47,497 with two substances from the JWH chemical family mirrors the experience in overseas jurisdictions whereby moves to restrict one synthetic cannabinomimetic type substance, such as CP 47,497, has simply resulted in the inclusion of other unregulated active ingredients.
10. The JWH compounds were first synthesised *circa* 1995 for experimental purposes, potentially as a viable alternative to medicinal cannabis and the most commonly studied of

these compounds is JWH-018. However, no pharmaceutical preparations of these substances have emerged.

11. All of the JWH compounds act as agonists at the CB1 and CB2 receptor. JWH-018 is alleged to be active at doses around 2-4mgs when smoked and is understood to produce physiological effects very similar to THC, but with a longer onset of effect and shorter duration of action.

Current classification

12. Compounds in the JWH series are not currently listed as controlled drugs under the Misuse of Drugs Act 1975, nor are they listed as prescription medicines under the Medicines Act 1981. The Secretariat also understands that these substances are likely not substantially similar in chemical structure to any controlled drug and accordingly are unable to be deemed controlled drug analogues.
13. As Spice type products are intended to be smoked, there are limited controls provided under the Smoke-free Environments Act 1990. Under that Act, it is illegal to sell an herbal smoking product to anyone under the age of 18, and smoking in all indoor workplaces is prohibited.

Prevalence

14. There is no quantified data available on the use of spice type products in New Zealand, however a survey undertaken by the University of Auckland shows that use of these substances is low but may be increasing. It is also possible that media coverage around the clarification that the substance CP 47,497 is illegal earlier this year may have increased knowledge of and demand for these types of products.
15. The Secretariat notes that the marketing and availability of spice type products has increased substantially over the past 12 months. Websites such as www.kronic.co.nz deal exclusively in these products and offer a number of different "blends" purporting to have differing subjective effects. Such websites also heavily discount these products by offering promotions such as "buy one, get one free", which based on a 100mg dose of vegetable matter would equate to roughly 560 doses for NZ \$300. Additionally, the emergence of different forms of these products such as pre-rolled cigarettes makes their consumption easier and may have the effect of appealing to a market that does not have experience in consuming cannabis.

International classification and experience of the drug in other jurisdictions

16. The JWH compounds are not covered by the provisions of any international treaties or conventions. However, a number of countries have prohibited these substances since JWH-018 was first identified in "Spice" in January 2009. These countries include Austria, Germany, Lithuania, Finland, Sweden, Estonia and Russia. Health Canada is also of the opinion that JWH-018 is the equivalent of a controlled drug analogue under Canada's Controlled Drugs and Substances Act, however this view is being challenged.

Comment

17. The pharmacology of cannabis, and THC specifically, is well understood and the potential for this substance to cause physical or mental harm is well documented. However, little is

known about the metabolism and toxicology of the synthetic cannabinoid compounds and it cannot be assumed that the risks associated with the use of synthetic cannabinoids will be necessarily comparable to those of THC.

18. Because the synthetic cannabinoids in spice type products have only been tested in the laboratory (*in vitro* or in animals), the health risk of the inhaled smoke is unknown. Additionally, as different products might contain different forms of vegetable matter as the delivery mechanism for the JWH compounds, it is likely that some of these products may be more hazardous to smoke than others.
19. Should the EACD decide that a formal assessment of these substances is warranted, the Secretariat will advise interested stakeholders of the date of this assessment and invite these parties to make a submission on this classification. The Secretariat will also compile available scientific literature on the pharmacodynamics, pharmacokinetics, toxicology, self reported harms, and benefits of this substance and these will be included in the paper considered by the Committee.

Recommendations

20. It is recommended that the EACD either:

Agree to undertake a formal assessment of the JWH compounds at a future meeting; or

Agree that a formal assessment of the JWH compounds is not warranted at this time.