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'Synthetic cannabis': A new front in the war against drugs

Synthetic versions of cannabis belong to a rapidly expanding array of substances that mimic or increase the psychoactive effects of tetrahydrocannabinol (THC), the chemical found in naturally cultivated cannabis

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Singapore was among those who voted against the reclassification of cannabis. PHOTO: AFP

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People have been using cannabis for medicinal as well as misusing it for recreational purposes for thousands of years.

The chemical responsible for the mind-altering effects of naturally cultivated cannabis is tetrahydrocannabinol (THC), and abuse can lead to adverse physical or psychological effects.

On Dec 2, 2020, the Commission on Narcotic Drugs (CND), a central drug policymaking body of the United Nations, voted by a narrow margin to recognise the medicinal and therapeutic potential of cannabis, although its use for non-medical and non-scientific purposes would continue to be illegal. Twenty-seven CND members voted in favour of the move, 25 were against and there was one abstention.

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Singapore was among those who voted against the reclassification of cannabis. Chile, which also voted against, argued that there is "a direct relationship between the use of cannabis and increased chances of suffering from depression, cognitive deficit, anxiety, (and) psychotic symptoms, among others" while Japan stated that the non-medical use of the plant "might give rise to negative health and social impacts, especially among youth".

Despite Singapore's strong stance against the consumption of cannabis irrespective of whether one is home or abroad, a survey commissioned by The Sunday Times (Generational shift in S'pore on cannabis use overseas, Oct 2) found that one-third of respondents in the Republic on average felt that overseas consumption of cannabis should not be illegal.

The percentage jumped to 40 per cent for those aged between 16 and 24. The survey results serve as a reminder that the fight against cannabis consumption goes beyond legislation. We should focus instead on educating Singaporeans, especially the youth, on the risks associated with the drug.

Instead of reiterating such risks, which were widely publicised recently, I want to highlight a new growing drug problem related to "synthetic cannabis".

Driven by scientific curiosity and intent on developing new medicine, chemists have synthesised variations of THC.

These synthetic versions belong to a rapidly expanding array of substances that mimic or increase the psychoactive effects of THC.

Yet, they mostly slip past law enforcement as their formulas are tweaked just enough to skirt existing regulations or go undetected in a drug test.

The publication of scientific information on their synthesis inadvertently became a treasure trove for ill-intentioned "entrepreneurs" to develop potent synthetic cannabis for the clandestine market, with a sometimes chilling effect.

In 2016, emergency responders in New York City came across several people who were exhibiting "zombie-like" symptoms, including groaning and an eerie blank stare. One type of synthetic cannabis, estimated to be 85 times more potent than THC, was pinpointed as the cause of the "zombie-like" symptoms.

As at the end of 2021, 324 types of synthetic cannabis have been reported worldwide, according to the UN Office on Drugs and Crime (UNODC) World Drug Report 2022. Thirteen were being reported for the first time to the UNODC Early Warning Advisory (EWA). The data reflect the rapid and relentless introduction of new synthetic cannabis worldwide by clandestine laboratories.

Sprayed on natural herb mixtures with the aim to mimic the euphoric effect of cannabis and sold as "herbal smoking blends" or "herbal incense" under brand names like "Spice" or "K2", synthetic cannabis products are available online for use in combination with herbal materials or more recently, with e-cigarettes.

Some synthetic cannabis versions have been found to be more potent than THC, with use culminating in more severe adverse effects such as heart attack, kidney failure, psychosis, and sometimes death. Scientific information based on solid data, rather than misinformation, should therefore be used to educate our young people, who need to understand the dangers in taking synthetic cannabis products constantly changing in content and effects.

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To combat this new scourge, teachers and parents need to take a strong stance against synthetic cannabis in the classroom and around the family dinner table.

Such conversations are now more important than ever because the movement towards legalisation of medical and recreational cannabis use has resulted in changed attitudes towards the drug and its synthetic versions.

As part of the campaign against this new threat, the World Health Organisation (WHO), separately and in conjunction with other UN agencies, conducts surveillance and recommends updates on scheduling of synthetic cannabis.

In Singapore, generic listing of a number of synthetic cannabis-related chemical structures has been updated in legislation. Trafficking, possession and consumption of such synthetic cannabis are now offences that attract heavy punishment in Singapore.

Scientists must also be roped in to help fight against growing abuse of synthetic cannabis. They need to develop urine biomarkers to detect and confirm the consumption of synthetic cannabis by abusers. In collaboration with the Health Sciences Authority of Singapore, our research laboratory in the National University of Singapore has developed such biomarkers to help curb the abuse of several new synthetic types of cannabis that have crept into the island over the past few years.

We have also shared our findings with the international scientific community through publications so that these biomarkers can be shared with forensic laboratories worldwide.

The emergence of synthetic cannabis is challenging but there are feasible solutions to address the menace. International collaboration and interdisciplinary research are necessary to prevent the ill-informed use of such drugs and manage their unforeseen effects in clinics.

Ultimately, research-guided prevention education will fortify societies against this new scourge.

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Correction: The article has been edited for accuracy.