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1. Comments based on the review report

a. Evidence on dependence and abuse potential

AMT has potential for abuse because it shares many similarities to other hallucinogenic tryptamines and MDMA. It produces amphetamine-like mood elevating effect and indeed AMT is used as a substitute for MDMA. Human subjects using AMT report euphoria, stimulation, visual effects such as blurry vision, bright colors, after images, primarily hallucinogenic effects. Lower doses of AMT produce stimulant effects and increasing the dose causes more hallucinogenic effects. In animals, AMT produced discriminative stimulus effects similar to DOM and MDMA.

As a class, tryptamines are generally not physical or psychological dependence producing. Users report a lack of withdrawal effects following discontinuation of use, even though some cases reported short period of tolerance or feelings of depression following AMT use. Dependence or tolerance potential of AMT is essentially unknown without human pharmacokinetic and controlled pharmacology data.

b. Risks to individual and society because of misuse

Tryptamines are considered not to produce life-threatening cardiovascular, renal or hepatic toxicity because of their lack of affinity for the relative targets and receptor, but there have been deaths associated with AMT use especially in combination with other agents such as 3,4-methylenedioxypyrovalerone, cocaine, amphetamine, cathinones, MDMA, and cannabinoids as investigated by ROAR Forensics laboratory, UK. Other deaths related to AMT have been reported in the US ,Isle of Man, Sweden, Norway, Scotland, UK, and Japan.

In humans, 20 mg AMT has a slow onset of action of 3-4 h, but an extended duration of 12-24 h although some users have reported effects for 2 days. AMT produces various negative physical and psychological effects such as mild increases in blood pressure or respiration rate, tachycardia, mydriasis, diaphoresis, salivation, severe nausea, severe vomiting, deep tendon reflexes, impaired coordination, visual and auditory disturbances , distortions. Subjects report uncomfortable feelings, muscular and nervous tension, irritability, restlessness, upset stomach, and inability to sleep or relax. Psychological effects can include terrifying hallucinations, emotional distress, nervousness, tension, irritability, restlessness, and inability to sleep. AMT also diminishes user inhibitions and cause hallucinations, which can result in high-risk sexual activity or accidental injury.

In a study showed the route of exposure was ingestion in most cases and clinical effects recorded more frequently in AMT compared with mephedrone users including acute mental health disturbances ,stimulant effects and seizures .The authors concluded that although AMT use is still infrequent, toxicity following reported exposure to AMT has been encountered in the UK since January 2011. Stimulant features, acute mental health disturbances and seizures are more frequently reported than in those presenting following reported use of another NPS, mephedrone.

c. Magnitude of the problem in countries (misuse, illicit production, smuggling etc)

Synthetic tryptamines such as AMT found their way into recreational use in the late 1990s as powder, capsules, or pellets. The recreational use of tryptamines remains limited but has increased over the past five years. AMT was first reported through EMCDDA in Finland in 2001 and since that, 11 additional neighboring countries have detected AMT. In the UK, patterns of use, clinical effects and possible harm of acute toxicity following recreational use of AMT were reported.

Of the tryptamines reported in the UNODC questionnaire on NPS in 2012, AMT was 4-5th most commonly reported The Global Emergence of NPS (December 2013) reported the emergence of AMT in the following countries: Estonia, Finland, France, Italy, Lithuania, Netherlands, Norway, Russian Federation, and United Kingdom.

From report of WHO questionnaire for the 36th ECDD, on illicit activities related to AMT, one reported as clandestine manufacture, three respondents reported processing into the consumer product, 10 reported trafficking, two reported diversion and 10 an internet market.

A study found a small decrease in the number of Internet sites selling AMT in powder, capsules, and pellets and prices were decreasing and cheaper for bulk/potential dealer sales compared to recreational, smaller purchases.

d. Need of the substance for medical (including veterinary) practice

There is no medical use of AMT at the present time.

e. Need of the substance for other purposes (e.g. industrial)

Not applicable (no information about this)

f. Measures taken by countries to curb misuse

Some countries have national control on AMT, such as in Australia, Sweden, Denmark, Germany, Austria, Hungary, Slovakia and Spain. In Sweden ,Germany and Lithuania placed AMT as a health hazard , listed under Narcotic Drugs making AMT illegal to sell or possess. But from report of WHO questionnaire for the 36th ECDD , 19 reported that AMT was controlled under legislation that was intended to regulate its availability; 12 under "controlled substance act", three under "medicines law", one "temporary ban",

one under "analogue legislation" and two "other" laws. Only one respondent stated that there were challenges with the implementation of this legislation.

However in the UK, AMT remained legal because AMT does not fall under the tryptamines clause as its substituent is not on the nitrogen position.

g. Impact if this substance if scheduled

If AMT was placed under international control, at least some countries would have the laboratory capacity to identify the substance.

2. Additional information to the critical review report

Alpha-methyltryptamine (AMT) is a stimulant hallucinogen that has recently been emerging in the club and rave scene. It is part of a class of chemicals called tryptamines, which produce hallucinogenic effects.[1] AMT and another tryptamine analog, foxy methoxy (5-MeO-DIPT), were placed into Schedule I of the Controlled Substances Act in April 2003 in the United States.[2] The Drug Enforcement Agency considered the threat of abuse and harm high enough to send AMT through emergency scheduling provisions to have its sale made illegal.

The effects of AMT, foxy methoxy, and other tryptamines are highly dose-dependent. A moderate dose of AMT (20 mg) causes effects that last anywhere from 12 to 24 hours.[1]

References:

[1] Drug Intelligence Brief. (2002). Trippin' on Tryptamines: the Emergence of Foxy and AMT as Drugs of Abuse. Retrieved on April 8, 2004, from http://www.usdoj.gov/dea/pubs/intel/02052/02052p.html.

[2] Microgram Bulletin: Scheduling Update. (2003). AMT and Foxy are emergency scheduled. Retrieved on April 8, 2004, from http://www.usdoj.gov/dea/programs/forensicsci/microgram/mg0503/mg

3. Other comments or opinions

AMT is of concern especially for specific population, because it is typically abused by teenagers and young adults. The drug is used at raves, nightclubs, and other venues where the use of club drugs, such as MDMA, is well established. It is also is used at private parties.

4. Expert reviewer's recommendation on scheduling with rationale

Considering that dependence or tolerance potential of AMT is essentially unknown, more studies are needed to generate data to make a scheduling recommendation. It is important for the countries to improve laboratory capacity .