Expert Committee on Drug Dependence

Thirty-eighth Meeting

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World Health Organization

Expert Peer Review No.2 for 3-Methylmethcathinone (3-MMC)

1. Comments based on the review report

3-Methylmethcathinone (3-MMC) is a synthetic cathinone with stimulant properties similar to amphetamines. Pharmacological studies on 3-MMC are lacking. However, the general pharmacology of 3-MMC may be expected to be similar to that of its structural isomer mephedrone (4-MMC).

a. Evidence on dependence and abuse potential

As pointed out in the critical review, no studies are available on the dependence and abuse potential of 3-MMC. Analytically confirmed use of 3-MMC has been reported in cases. The extent of use/abuse is unknown.

b. Risks to individual and society because of misuse

The number of publications on analytically confirmed 3-MMC intoxications is scarce in the scientific literature. Five fatal cases were reported from Poland, 1 from France, 1 from Norway, and 1 from the UK. In all cases, 3-MMC was found in blood in combination with one or more other psychoactive substances (alcohol included). The association with 3-MMC is weak in all of these cases. In Sweden, 3-MMC was detected in 50 out of 786 cases included in the Swedish STRIDA project in the period August 2012 – March 2014. Poly-drug use was common and 3-MMC mono-intoxication was seen in only 4 (8%) cases. Adverse health effects included tachycardia, agitation, reduced level of consciousness, dilated pupils, hallucinations, diaphoresis, seizures, and hyperthermia. One non-fatal intoxication was reported from Poland, but again the association with 3-MMC is weak. In several European countries, 3-MMC has occasionally been detected in traffic drivers, usually in combination with other psychoactive substances.

Many users report repeated administration of 3-MMC in a single session or within a few hours. Animal studies indicate a short half-life of 3-MMC which may explain the frequent re-dosing that users report. Case reports in humans indicate that 3-MMC has

similar effects as mephedrone and amphetamines, though milder. Self-reporting users mentioned that the effects of 3-MMC are softer and less 'brutal' than those of mephedrone.

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

3-MMC misuse has been reported from France, Hungary, Norway, Poland, Slovenia, Sweden and the United Kingdom. In Italy between 2013 and 2015, 3-MMC has been found in 35 out of 162 seizures of substances purchased through the Internet. Data on illicit production or smuggling are not available.

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

There is no evidence of medical applications (including veterinary) of 3-MMC.

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

There is no evidence of industrial applications of 3-MMC.

f. Measures taken by countries to curb misuse

3-MMC is a controlled substance in China, Czech Republic, Estonia, Finland, Germany, Hungary, Ireland, Slovakia, Slovenia, Sweden, Turkey and the United Kingdom.

g. Impact if this substance is scheduled

None

2. Are there absent data that would be determinative for scheduling?

There is lack of information in the scientific literature on dependence potential, abuse potential, and epidemiology of abuse and dependence.

3. Other comments or opinions

No further comments.

4. Expert reviewer's view on scheduling with rationale

There are no data on dependence and abuse potential of 3-MMC. Information on the risks for individual and society is largely lacking. Clinical effects of 3-MMC appear to be similar to those of 4-MMC and amphetamine, though milder.

There are no known therapeutic applications of 3-MMC. Some abuse for non-medical purposes has been reported in a few countries. Few intoxications have been reported and in all cases the association with 3-MMC is weak.

Based on the general lack of information on dependence potential, abuse potential, and epidemiology of abuse and dependence, international control of 3-MMC is not indicated at present.