Dextromethorphan

Expert peer review on pre-review report

35th Expert Committee on Drug Dependence, Hammamet, Tunisia
June 4-8, 2012
1. Comment based on the review report

a. Evidence on dependence and abuse potential
   Little data exists on dextromethorphan dependence. However, dextromethorphan is a one of NMDA receptor antagonist. Other NMDA receptor antagonists, such as ketamine and MK-801, produce rewarding effect. Furthermore, dextromethorphan dose-dependently substituted for discriminative stimulus effect of ketamine.

b. Consequences to individual and society because of misuse
   At the recommended doses adverse effects are reported in less than 1% including drowsiness, nausea, tachycardia etc. Dextromethorphan abusers report a heightened sense of perceptual awareness, altered time perception, and visual hallucinations. Abusers of dextromethorphan describe the following four dose-dependent "plateaus": 1\textsuperscript{st} (100-200mg) produces mild stimulation, 2\textsuperscript{nd} (200-400mg) euphoria and hallucinations, 3\textsuperscript{rd} (300-600mg) distorted visual perceptions and loss of motor coordination, 4\textsuperscript{th} (500-1500) dissociative sedation.

c. Magnitude of the problem in countries (misuse, illicit production, smuggling etc.)
   Cases of recreational abuse of dextromethorphan have been reported in United States, Sweden, Australia, Germany, and Korea primarily among adolescents and young adults. Dextromethorphan is readily available for purchase or theft in a number of over-the-counter cough and cold preparations. A concentrated dextromethorphan powder can be extracted by various methods from cold preparations, e.g. Coricidin HBP Cough and Cold tablets (street name Triple C). In recent years, dextromethorphan has appeared in Ecstasy (MDMA) mimic or combination tablets.

d. Need of the substance for medical (including veterinary) practice
   Dextromethorphan is widely used as an antitussive in many over-the-counter and prescription-only preparations. Therefore dextromethorphan is an essential medicine\textsuperscript{1}.

e. Need of the substance for other purposes (e.g. industrial)
   There is no industrial use reported in the literature.

f. Measures taken by countries to curb misuse
   Dextromethorphan is controlled under legislation that is intended to regulate availability of substances of abuse in 12 countries.

g. Impact if this substance is scheduled

\textsuperscript{1} Footnote by the secretariat: Dextromethorphan is not listed on the WHO Model List of Essential Medicines
Impact could be significant. If dextromethorphan is placed under more strict international control, the availability for medical use will be affected.

2. Additional information to the pre-review report

Several sentences and references to the text.

3. Other comments or opinions

Since dextromethorphan is an essential medicine as antitussive, education is important.

4. Expert reviewer’s recommendation for the need for a critical review

Abuse rate of dextromethorphan is relatively low at present. However, medical use of dextromethorphan is very high. Therefore, it is possible that dextromethorphan abuse could expand in the near future. A critical review is recommended to prevent expansion of dextromethorphan abuse.