

Street Drug Pharmacology 2021

Hallucinogens

J. Randall Webber, MPH, CADC
JRW Behavioral Health Services
www.randallwebber.com



www.linkedin.com

Emerging Drugs of Abuse discussion group

Neurotransmitters

- Serotonin (5-HT)
- Norepinephrine (NE)
- Dopamine (DA)
- Acetylcholine (Ach)
- Glutamate (GLU)
- Gamma amino butyric acid (GABA)
- N-methyl-D-aspartate (NMDA)

Hallucinogens

- Lower risk
 - LSD
 - Psilocybin
 - Peyote/mescaline
- Higher risk
 - Anticholinergics
 - NBOMe compounds

Hallucinogens (Lower risk)

- Addiction potential low
- Tolerance develops rapidly
- Short- and long-term physical toxicity potential low
- Psychiatric impairment low to moderate
- Neurochemical mechanism of action:
 - Stimulation of serotonin subreceptors (5HT_{2A})
 - Increase in glutamate

LSD Vs Psilocybin

- Psilocybin rarer on the street, but this is changing
- Psilocybin decriminalized in Oregon and other states
- Psilocybin duration shorter than LSD (4-6 hours Vs 8-12)

Hallucinogens (Lower risk)

- Effects (desired):
 - Hallucinations
 - Perceptual distortions
 - “Morphing”
 - Synesthesia
 - Altered body image
 - Altered experience of time and space
 - Consciousness expansion
 - Mystical experiences

Hallucinogens (Lower risk)

- Effects (side)
 - Slight increase in body temperature
 - Nausea (rare)
 - Blurred vision (rare)
 - Slightly increased/decreased blood pressure
 - Slight elevation of pulse
 - Dilated pupils

Hallucinogens (Lower risk)

- Effects (Undesired/Bad Trip)
 - Panic
 - Fear of insanity
 - Paranoia
 - Frightening hallucinations
 - Depersonalization
 - Derealization

Low risk hallucinogens: Therapeutic Uses

- Terminal cancer patients
- Depression
- PTSD
- OCD
- Substance use disorder (e.g. alcohol)

Therapeutic Use of Psilocybin

Nutt & Carhart-Harris (2021)

- Hallucinogen research common until late 60s
- Promising results (LSD) with terminal cancer patients and persons with alcohol use disorder
- Virtually no research until recently
- Psilocybin current focus

Therapeutic Use of Psilocybin

Nutt & Carhart-Harris (2021)

- Psilocybin psychotherapy
- Four phases:
 - Assessment
 - Preparation
 - Experience
 - Integration
- Two sessions over 2-3 weeks

Therapeutic Use of Psilocybin

Nutt & Carhart-Harris (2021)

- Hypothesized method of action:
 - Effect on 5-HT (serotonin) receptors
 - Works best on internalizing disorders with negative “self-talk” and thinking
 - Psilocybin disrupts the brain systems that encode negative, repetitive thinking
 - Interruption of this encoding allows brain to challenge thinking patterns

Higher risk hallucinogens

Anticholinergics

Anticholinergic hallucinogens

- Jimsom weed
- Deadly nightshade
- Angel's trumpet
- Stinkweed
- Belladonna alkaloids
 - Atropine
 - Scopolamine
 - Hyoscyamine

Anticholinergics

- Hot as a hare
- Dry as a bone
- Blind as a bat
- Red as a beet
- Mad as a hatter