

Substance Abuse

Halocinogen

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Hallucinogens

- Cannabis (tetrahydrocannabinol)
- LSD (Lysergic acid diethylamide)
- Psilocybin (mushrooms)
- Mescaline (from amanita muscaria)
- phencyclidine

Cannabis

Source

- From the dried leaves & flowers of the plant *cannabis sativa*

it comes in 2 major forms:

- Marijuana
- Hashish

Others: hash oil, pipe resin...

absorption

Inhalation (most common):

Small pipes, bong, paper-wrapped joints

- Onset : few min & lasts 2-3 h

Ingestion:

- Onset: 30 min & lasts 5 – 8 hrs
- ✓ Plasma $T_{1/2} = 18 \text{ hr} - 4 \text{ days}$
- ✓ Fat soluble- 30 days
- ✓ High lipid-solubility of cannabinoids results in their persistence in the body fat tissues for long periods of time.



Pathophysiology

- The term cannabinoid: compounds that can activate either the cannabinoid receptor 1 (CB1) or CB2 receptor, or both.
- 50-60 additional substances have been isolated from cannabis that do not activate the CB1 or CB2 receptors.
- **Delta-9-tetrahydrocannabinol (THC)** is the major psychoactive component of cannabis. THC potently activates the G-protein–coupled cannabinoid receptor CB1 and modulates
the cannabinoid receptor CB2.

- Delta-9-THC is believed to exert all of its effects on the brain via the CB1 receptor. High densities of CB1 receptors are found in the cerebral cortex (especially frontal), basal ganglia, cerebellum, anterior cingulate cortex, and hippocampus. They are relatively absent in the brainstem nuclei.
- Stimulation of these receptors causes monoamine and amino acid neurotransmitters (Dopamine) to be released

Manifestations

Low dose (~ 2 mg THC)

- Relaxation
- Euphoria (high or stoned)
- Increased visual ,auditory & gustatory perception

● Moderate dose (5-7)

- Disturbance in thoughts
- Ataxia
- short term memory impairment

● High dose (>15)

- Paranoia –depersonalization-disorientation
- Tachycardia- sensory disturbances
- ↓ libido

BUT NO LOC

- The fact that it produce neither physical dependence nor withdrawal symptoms remains controversial.

Cessation of cannabis use that has been heavy and prolonged (ie, usually daily or almost daily use over a period of at least a few months) may result in withdrawal symptoms:

Three or more of the following signs and symptoms develop within approximately 1 week after cessation of heavy, prolonged use:

Irritability, anger or aggression

Nervousness or anxiety

Sleep difficulty (insomnia, disturbing dreams)

Decreased appetite or weight loss

Restlessness

Depressed mood

At least one of the following physical symptoms causing significant discomfort: abdominal pain, shakiness/tremors, sweating, fever, chills, or headache

Acute poisoning

**Very rare (after Intravenous injection)

- N & V & D
- Abdominal pain
- Fever
- Hypotension
- Pulmonary edema
- Acute renal failure
- DIC
- Death

Investigations

- **Urine testing**
- Cannabinoids can be detected in the urine for as many as 21 days after use in persons chronically using marijuana,
- **Blood testing:** measuring the quantitative level of THC can distinguish between recent use and residual excretion