



JOHNS HOPKINS

Center for Psychedelic &
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M E D I C I N E

Emerging Research on Psychedelic- assisted treatments for Substance Use Disorders

SciLine Media Briefing

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Different Types of “Psychedelics”

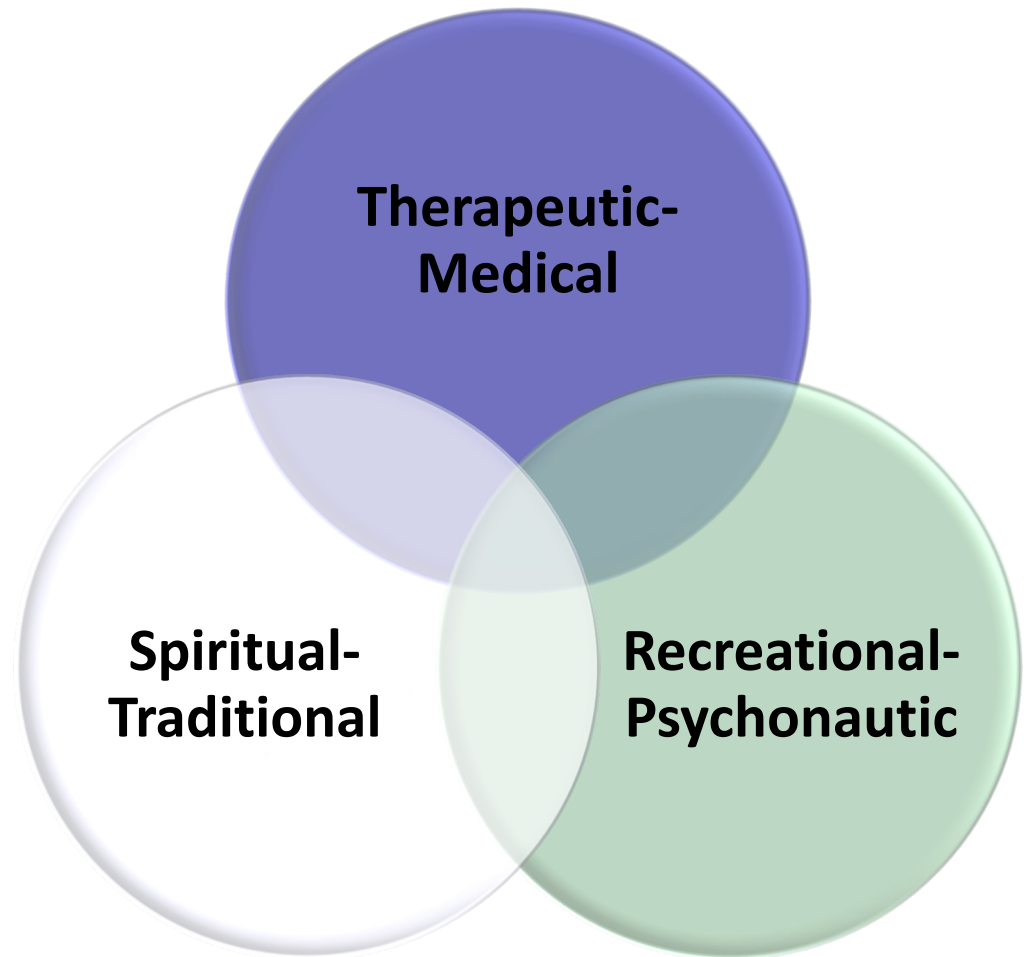
- Psilocybin, LSD (“Classic” psychedelics)
 - For depression, existential distress, addictions, *still Schedule I*
- MDMA (entactogens / empathogens)
 - For PTSD, *still Schedule I*
- Ketamine (dissociatives)
 - For depression, addictions, *legally available*
- “Psychedelic-assisted Treatments”
- Mind altering effects may facilitate efficacy

Psilocybin

- Psychoactive agent in over 200 species of mushrooms, most in *Psilocybe* genus
- Long history of indigenous use with artifacts dating back thousands of years
- First introduced to Western science in 1955 by indigenous healer, Maria Sabina

Dispelling Myths

- **Psychedelic Omnism:**
All perspectives can be valid and hold valuable knowledge, practices, and traditions
- Important to know what “lane” you are in



Early Research

- Classic psychedelics like LSD studied intensively in the 1950s-1970s
- Potential benefits included for treating alcohol dependence where patients receiving a single high-dose LSD treatment on average were 2x as likely to reduce alcohol
- Initial study found single high-dose LSD treatment associated with 4x greater abstinence from opioids than control

Modern Research

- Since 2000, major uptick in research with psilocybin
- Consistent data show antidepressant effects
- Growing evidence for treating addictions (e.g., alcohol, tobacco) and for existential distress

Drug Sessions

- Usually 1-3 high dose sessions take place
- 8-hr drug sessions are conducted in a living-room-like environment
- Two facilitators are typically present
- Participants asked to:
 - lie on the couch
 - wear eye masks and headphones
 - listen to a program of music
 - focus attention inward
 - trust, let go, be open



Psilocybin Data

- In a study of patients with cancer-related anxiety at Johns Hopkins (N = 51), roughly 80% of participants showed clinically significant decreases in depressed mood and anxiety 6 months after 1 high dose of psilocybin;
Replicated in 3 other studies to date
- Small pilot studies show improvements in individuals with alcohol dependence (N = 10) and treatment-seeking cigarette smokers (N = 15)

Psilocybin Data

- Larger randomized trial published for alcohol dependence (N = 95) showed significantly greater reductions in drinking after 2 high doses of psilocybin compared to talk therapy alone
- Recently completed randomized trial in smokers (N = 82) shows greater smoking abstinence after one high dose of psilocybin with CBT compared to nicotine patches with CBT (not yet published)
- Controlled study of psilocybin for cocaine dependence showing promising preliminary results (not yet published)

Other Psychedelic Therapies

- Small pilot study showed MDMA may be useful for alcohol use disorder (N = 14)
- Studies using ketamine-assisted therapy show promise for opioid dependence, alcohol dependence, and cocaine dependence (in combination with therapy)

In Their Own Words

Participant ID	Verbatim Comments
402	Feelings of gratefulness, a great (powerful) remembrance of humility... of my experience of being, the experience of my being in and within the infinite.
403	Not at all religious but significant in motivating me to nurture my spiritual life.
405	It changes what I believe... We are all one and divine.
406 ¹	The awareness that all is one and then the realization that I am an integral piece of the one's puzzle.
410	Oneness with universe; being forgiven.
413	Rich joy and awe. My body melting and becoming one with the universe felt both painless and profound... Feeling complete as a person and physically a part of all thin
416	There is a meaningful presence that humbles any human heart.
417	Simultaneously being aware and saturated in the majesty of existence.

Psychedelics' Risks

- Physiologically non-toxic (no fatal overdose)
 - Increased BP/HR can exacerbate heart conditions (e.g., heart attack)
 - Can interact with serotonergic medications (e.g., SSRI's, MAOI's) – serotonin syndrome
- Not Addictive, No withdrawal (rapid tolerance)
 - Past-year HUD ~0.1% of adults in U.S. (~191,000) in 2014 (includes MDMA and PCP)
 - Can produce psychological dependence

Psychedelics' Risks

- Hallucinogen Persisting Perception Disorder (HPPD) – ongoing visual / perceptual problems and related distress: Incidence is low in screened individuals & controlled settings (estimated ~4-5% in recreational users)
- “Flashbacks” not commonly seen in research
- Contraindicated in people with personal / family history of psychosis or prodromal symptoms (disordered thought / speech, delusions, unusual beliefs / appearance / behaviors, paranoia)

Challenging Experiences

- Online survey (N=1,993), mean age 30, 78% male
- 11% (>200 people) put self or others at risk of physical harm
- ~3% (>50 people) behaved in physically aggressive or violent way
- ~3% (>50 people) sought medical treatment during
- ~8% (>150 people) sought psychological treatment after
- Enduring psychotic symptoms (n=3) and attempted suicide (n=3) reported
- 84% endorsed benefiting from the experience

Psychedelics' Risks

- **NOT A MAGIC BULLET**
 - Critical to manage expectations
- Criminal penalties for use / possession, loss of licensure or employment, child custody, etc.
- Black market = dose / substance difficult or impossible to verify
- Underground therapists untrained / unregulated
- Other substance (“N-bomb” or 2C hallucinogens) with potential for serious adverse effects (hospitalization or death)

From Lab to Clinic?

- Phase 2 and Phase 3 trials in process
- Potential for FDA approval in the next few years
- Don't "take 2 and call me in the morning"
- Not like cannabis dispensaries
- Surgery / general anesthesia-type model
 - Administered only in controlled settings
 - Administered only by trained professionals
 - Substantial preparation & follow-up
- What about diversity and treatment access?

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