

Psychedelic Medicine



The upstream mediators for end of life distress and the current mental health crisis

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With an intention of reconciliation, I acknowledge that I currently live on the unceded traditional territory of the Quw'utsun First Nation. I offer respect, honour, and love to the people of this land and all the ancestors who have lived here since time immemorial.



Case Study

35 year old female with metastatic cervical cancer

Large pelvic mass eroding into the acetabulum

No further radiation treatment options, no surgical options

Referred to Pain & Symptom clinic for pain in left leg and pelvis

Trying chemotherapy - ambiguity with prognosis

Extreme increase in pain in left leg and pelvis *when she's told she has terminal illness*



Working as government worker

Stable long term relationship with common-law husband


Well supported by mother and father and particularly close relationship with sister

No children



- Treated with **methadone, codeine** (found hydromorphone and morphine caused worsening pain)
- **Ketamine** added
- TENS tried
- Cannabis trialled
- Sent to tertiary palliative unit for trial of **intrathecal** with objective improvement but no subjective improvement
- **Staff witness to extreme existential suffering**
- Consideration for neurolytic block but patient doesn't want to contemplate loss of use of leg (even though she could not use her leg)


- Intrathecal placement, patient can't tolerate staying in hospice and has it removed and leaves with **Sufentanil CADD, regular benzos, Mirtazapine**.
- Using ++ breakthrough, thinks it makes no difference
- MAiD paperwork done for fear of intractable pain
- Trial of **IV bolus lidocaine** successful but not durable
- **SC lidocaine infusion** partially successful



Even though she has intractable pain, she does not want MAiD, does not want to die, unable to engage in any discussions about end of life

Family are also suffering

She continues to decline, now PPS is 40% but poor energy, poor oral intake, prognosis short weeks



Opportunity presents itself for psilocybin treatment

Discussed with family and patient. Patient is psychedelic naive, sister and father have used in past recreationally and have source

Patient willing to try if it will help her pain



Use of Therapsil to help with patient access

Letters from therapist and palliative physician

Letter from patient

Letter from MP

Granted compassionate access by the federal health minister in 24 hours

48 hours later at patient's home palliative physician and therapist. Family have accessed mushrooms which are weighed and 3 gm ground mushrooms are mixed in juice

Given to patient who then has 6 hour experience with family (given the prognosis, only 1 pre-treatment session)




Patient has tremendous grief and wept throughout the session.

Patient refused eye shields and headset but consented to supportive music played in the room.

Patient asked for various family members at various times to be holding her during her treatment. Most asked for member was her father who spent much time holding space for her.

After the session, patient did not wish to discuss the experience, only that she felt 'high'.



24 hours later:

Husband reports: *“her leg doesn’t hurt anymore. Her attitude has changed, she is happier, cracking jokes - I can’t believe the difference.”*

Sister reports: *“ her pain was about 70% less than it had been for months prior. She was able to move her leg with more ease to get out of bed.. she literally dropped her leg to the floor and was amazed that it didn’t hurt. Her emotional state was a lot lighter as well, she even cracked the odd joke. Within 2 days of having the treatment she had finally come to terms with dying.”*

Rapid titration down off medications:

She stops her benzos

She stops her mirtazapine

Methadone reduced from 50mg q8 to 25mg q8

Sufentanil breakthrough drops from 45 in 24 hours to 9 B/T

She is settled, she is awake and alert.

She wants to talk about dying. She is no longer afraid to die. She doesn't want to be bed bound and dependent. She wants to have MAiD.

Gathers her friends and family for last goodbyes

Had MAiD at home with family

Psychedelics

Cultural use for thousands of years:

Ayahuasca - South America

Psilocybin - Mexico

Peyote (mescaline) - North American Indigenous

Ibogaine - Africa

Salvia divinorum - Mazatec Mexico

LSD-like substance - Eleusinian mysteries - ancient Greece (Plato, Cicero, Marcus Aurelius)

1943 - Albert Hofmann

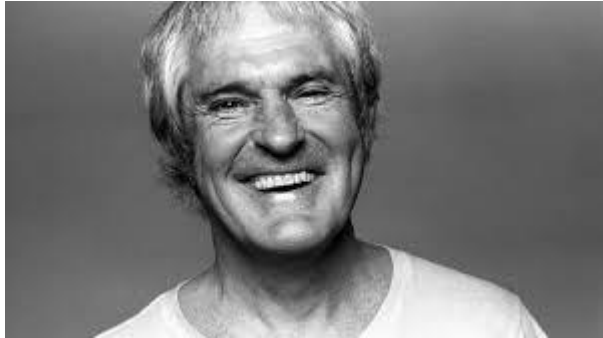


Lysergic Acid diethylamide

1955 Saskatchewan hub of psychedelic research and treatment



1960 Timothy Leary



American psychologist at Harvard University
participating in Psilocybin Project

Founder of the 'psychedelic counter-culture'

Richard Nixon described him as 'Most dangerous
man in America'



American Counter-culture

Peace Love

Human sexuality

Women's rights

Anti-establishment

Anti-war (Vietnam draft dodgers)

Human rights movements

FEAR
→



WAR AND DRUGS

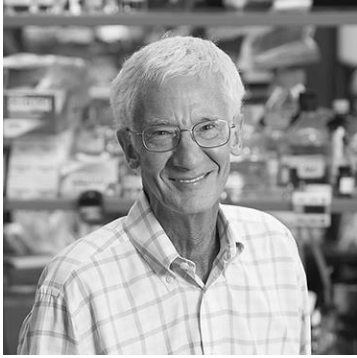
All psychedelics labelled as Schedule I

Government initiates public fear campaign against psychedelics citing brain damage, schizophrenia, addictions, birth defects, deaths despite evidence to contrary

All research and psychedelic treatments cease.

Psychedelic research and treatment goes underground

Leo Zeff, Jugian therapist continued treating and trained 150 other therapists in psychedelic therapy. Codifying the protocols of treatment.



Dr. Roland Griffiths

1999 Psychedelic research revival. John Hopkins, the University of Arizona; Harvard; New York University; the University of California, Los Angeles; and other places.

The work has been supported by nonprofit groups like the [Heffter Research Institute](#) and [MAPS](#), the Multidisciplinary Association for Psychedelic Studies.

Psilocybin produces substantial and sustained decreases in depression and anxiety in patients with life-threatening cancer: A randomized double-blind trial

Roland R Griffiths, Matthew W Johnson, Michael A Darducci et al

J Psychopharmacology 30(12) 2016

Study

2 session double-blind cross over randomly assigning patients to low dose and high dose arms for psilocybin

51 patients have potentially life threatening cancer diagnosis and DSM-IV diagnosis (adjustment disorders, depression, anxiety disorders)

2 or more pre-treatment sessions and post treatment sessions

During treatment vital signs, physical, emotional and cognitive responses monitored

Treatment - psilocybin assisted psychotherapy

Set and Setting - imperative to the treatment!

2-3 pre-treatment sessions to determine eligibility, expectation of treatment, patient preparation

1 psilocybin treatment session

2-3 post treatment integration sessions



Questionnaire and subscale description	Assessment time-point		
	Low dose (5 weeks)	High dose (5 weeks)	High dose 6-month follow-up
Increased spirituality	37.07 (4.31)	52.48 (3.88)***	57.43 (4.17)***
Decreased spirituality	1.68 (0.63)	1.88 (0.68)	1.27 (0.39)
<i>How personally meaningful was the experience?</i> (maximum score=8)	4.62 (0.31)	6.38 (0.20)***	6.65 (0.18)***
Top 5 most meaningful of life, including single most (% of participants)	24%	62%***	67.4%***
<i>How spiritually significant was the experience?</i> (maximum score=6)	3.16 (0.24)	4.46 (0.19)***	4.78 (0.17)***
Top 5 most spiritually significant of life, including single most (% of participants)	24%	66%***	69.6%***
<i>Did the experience change your sense of well- being or life satisfaction?</i> (maximum score=3)	1.50 (0.19)	2.20 (0.16)***	2.33 (0.14)***
Increased well-being or life satisfaction moderately or very much (% of participants)	52%	86%***	82.6%***

Medicinal psychedelics

Psilocybin - end of life distress, addictions, depression, anxiety, cluster headaches (very safe)

MDMA - PTSD, anxiety, Adverse Childhood Experiences (pediatric population), addictions, anxiety-related disorders, couples counselling (more risk of serotonin syndrome and interactions)

Ibogaine- opioid use disorder (detoxification and rehabilitation) (higher risk of cardiovascular effects
- for in-patient settings only)

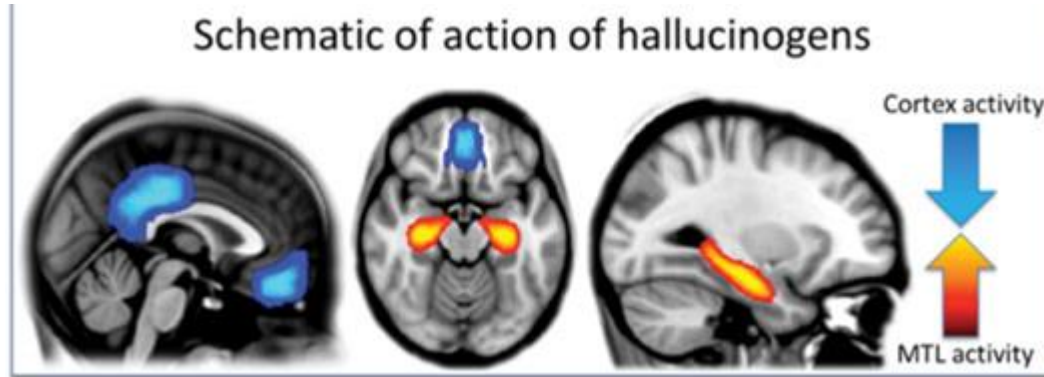
LSD - substance use disorders, end of life anxiety , depression, anxiety (generally not used today)

Ketamine - depression and anxiety (safe, minimal interactions, some effect on CVS)

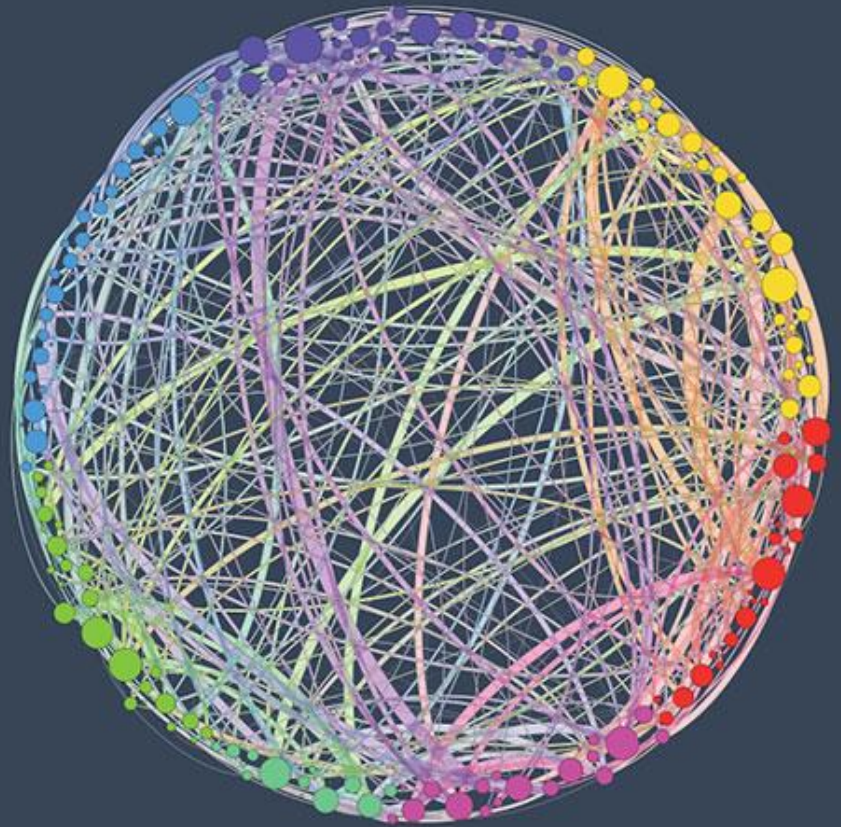
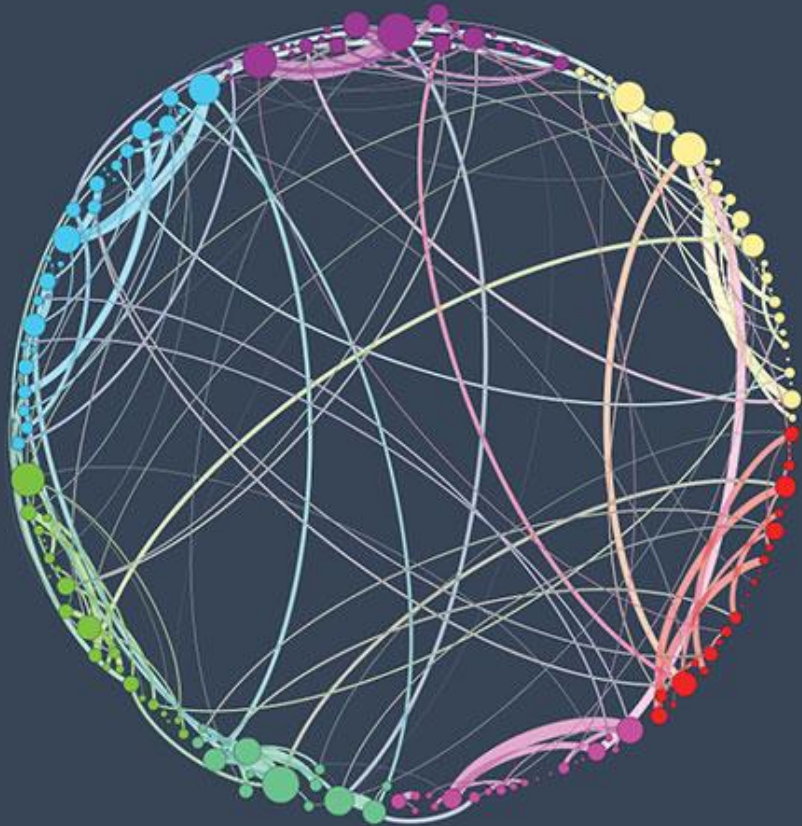
Entheogens - the patient experience

- Unity, spiritual interconnectedness of humankind
- Transcendence of Time and Space
- Sacredness, unconditional acceptance, belonging
- Intuitive knowledge - indestructibility of consciousness
- Deeply felt positive mood
- Ineffability and paradoxicality
- Persisting positive changes in attitudes and behavior

Pharmacology



Default Mode Network (centre of self and ego responsible for orchestrating input and output flow) decreased blood flow



What happens to patients with:

WHOLE PERSON PAIN - EXISTENTIAL DISTRESS

Demoralization

Loss of sense of purpose

Loss of who they are

Disconnection and withdrawal from friends and family

Anxiety about death and dying

- Awe and gratitude
- Change in self-concept
- Change in self-worth
- Fresh awareness of interconnectedness
- Feelings of rebirth and empowerment
- Loss of fear of death
- Enhanced aesthetic perception
- Enhanced ecological sensitivity and connection



Mental health and substance use crisis:

Time for a paradigm shift



Overview

- ❑ Defining the current crisis
- ❑ How we got here
- ❑ Seeing/assessing through a holistic lens
- ❑ A way forward

The other pandemic

- ❑ New records for opioid deaths
- ❑ Record disability rates for anxiety/depression
- ❑ Record prescribing rates for “antidepressants”
- ❑ Health care provider burnout

How we got here

- ❑ Campaign by APA--starting in the 70's--to enhance psychiatry's prestige
- ❑ Resurrect psychiatry as a "medical specialty"
- ❑ Opinion leaders on talk shows
- ❑ The neurotransmitter deficit hypothesis
- ❑ Deinstitutionalization

1990's: The decade of the brain

- ❑ Rapid roll-out of novel antidepressants and antipsychotics
- ❑ Huge industry influence in academic arena
- ❑ Heady optimism that we were on the verge of a breakthrough
- ❑ Educational curriculum: “diagnostic” interview and prescribing

The myth of “diagnosis” in psychiatry

- ❑ Our disorders are in fact syndromes, not a specific disease process
- ❑ Our PHQ 9 and GAD 7 capture symptom severity only, they are not “diagnostic” of any specific disease, nor do they inform treatment
- ❑ Just because we call something a diagnosis does not make it real (Joel Paris)

The patient at the centre of care?

- ❑ The mission creep of modern psychiatry has fulfilled the agenda of the APA
- ❑ Should the scope of psychiatry be limited to conditions that are qualitatively different from normalcy?
- ❑ Just about everyone is a “psych patient”, with a “diagnosis” and a medicalizing of the human experience

Rising treatment resistance

- ❑ The therapeutic benefit from antidepressants barely separates from placebo
- ❑ Of those that respond, only a minority realise full remission
- ❑ Credibility gap in continuing to call these medications “anti” anything, in comparison to other areas of medicine
- ❑ Unrealistic patient expectations and increased sense of helplessness

A call to action

- ❑ What is the definition of insanity?
- ❑ If the only tool you have is a hammer....
- ❑ Maybe we're simply using the wrong treatments

Disorder versus normal adaptation

- ❑ For many (most ?) anxiety and depressive symptoms are predictable adaptations to upstream mediators
- ❑ We have labelled *distress* as *disease*
- ❑ “Psychiatric diagnosis is the naming ceremony of colonization”

-- Darien Thira, PhD

Are we simply chasing smoke?

Anxiety “disorder”
Depressive “disorder”
Post-traumatic stress “disorder”

Trauma
Disconnection



Pre “disease” model

The cognitive triad of CBT:

- ❑ Negative view of self, world and future -- *Aaron Beck*

Psychoanalysis:

- ❑ “Until we make the unconscious conscious, it will direct your life and you will call it fate.” *Carl Jung*

Angst versus melancholia -- *Ancient Greece*

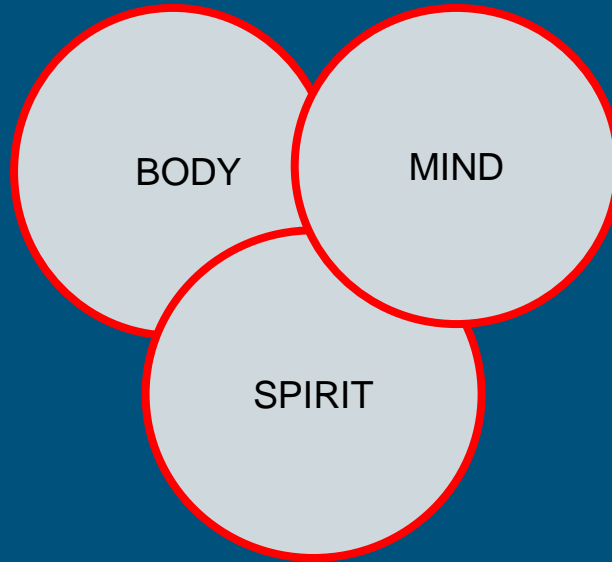
Holistic lens

TOXICITY?

DEFICIENCY?



Dis-ease



Helpful questions

- How do you feel about yourself as a person?
- Strongly agree--Agree--Neutral--Disagree--Strongly disagree

I am a failure

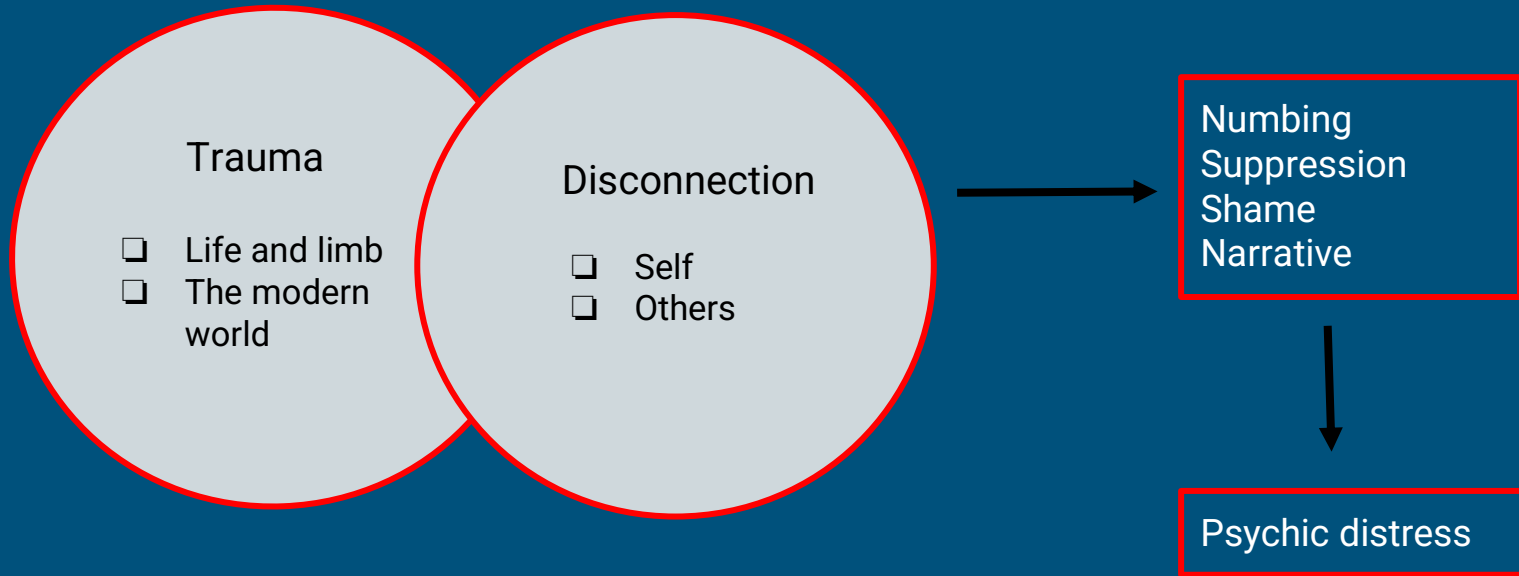
I am enough

I have a clear sense of meaning and purpose

I feel much shame or guilt

➔ *Spiritual/existential despair*

Disease versus adaptation?



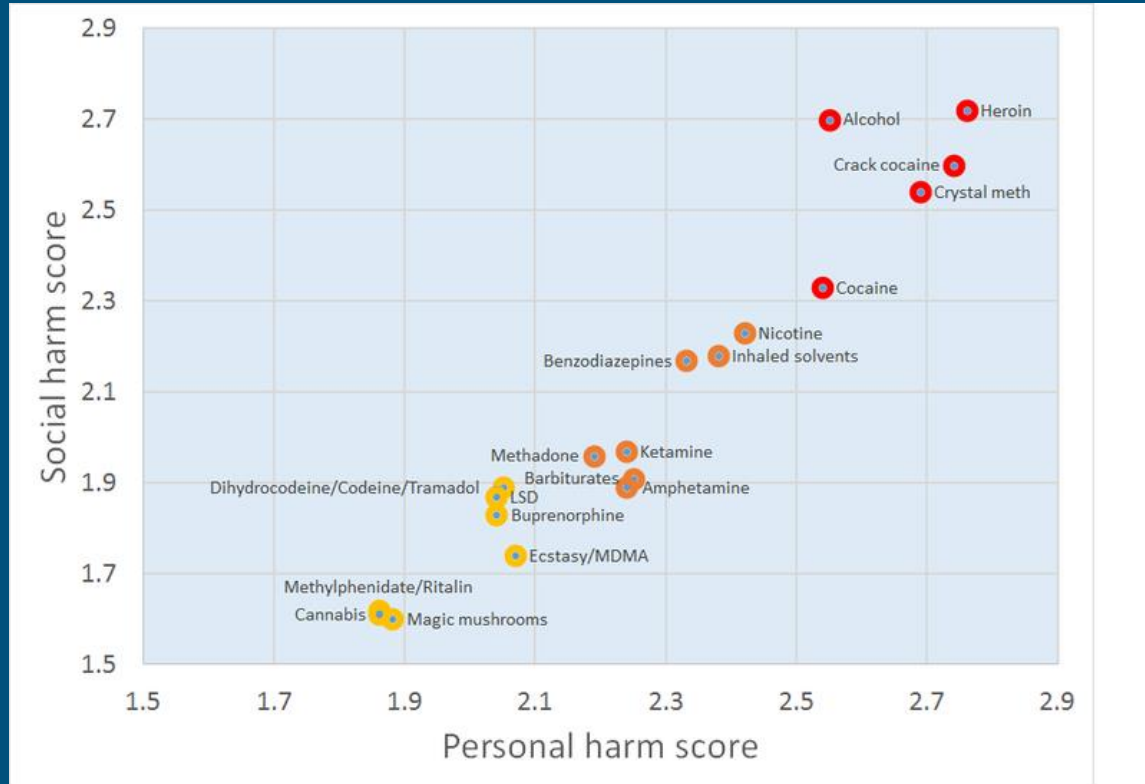
Psychopharmacologic vs Psychedelic Therapy Models of Treatment

Psychopharmacologic Model	Psychedelic Therapy Model
Patient is a compliant consumer, trust placed in outside <i>cure</i> and the <i>expertise</i> of the professional	A more active, curious and collaborative engagement--innate inner capacity for healing
Brain as primary locus of <i>illness</i>	Self and culture are included in the clinical/ <i>explanatory</i> narrative
The problem is defined through specific, observed signs and symptoms that represent <i>disorders</i>	Attends to patterns and process--outcomes are less predetermined
Goal: decreased dysphoria, improved adaptation	Goal: Embracing full range of experience/shifts in identity and way of being in the world


FDA “breakthrough therapy” designation

- ❑ Psilocybin for depression
- ❑ MDMA for PTSD
- ❑ Ketamine for depression

Efficacy and safety



Transpersonal experience

- ❑ Sense of identity or self extends beyond (trans) the individual or personal to encompass wider aspects of humankind, life, psyche or cosmos
- ❑ Each level of consciousness constructs its own reality
- ❑ Default mode network--baseline “hum” of waking consciousness
- ❑ Psychedelics  Loss of the ego

Transformational *experience* of self

- ❑ “Like sitting in front of a mirror where you cannot lie to yourself anymore about who you are.”
- ❑ “Better to go in before you go out, even though the latter is far more seductive.”

-- Duncan Grady, Blackfoot elder

Transformational *experience* of the “external” world

Unity consciousness:

- ❑ “I am that, thou art that and all of this is that.”
- ❑ “I am the universe.” *Aham Brahmasmi*
- ❑ “I am nothing and everything.”

Knowledge versus *experience*

Knowledge = intellectual awareness (CBT)

Noetic quality of psychedelics = embodied awareness/inner knowing

Inner healing intelligence....knowledge and power within oneself to move towards wholeness and wellbeing

The relevance of community

Community of practice:

- ❑ Mirroring transference--*Heinz Kohut*
- ❑ Seeing oneself + being seen by others = more robust embodiment of the experience
- ❑ Enhanced durability of benefit?

“You come for the ketamine, but stay for the connection with community”

It's not all about the medicine!

SET → SETTING → INTEGRATION

Set: Intention, education (non-ordinary states of consciousness, inner healing intelligence), ESR, ground rules

Setting: Environment, music, therapeutic presence, relationship/trust

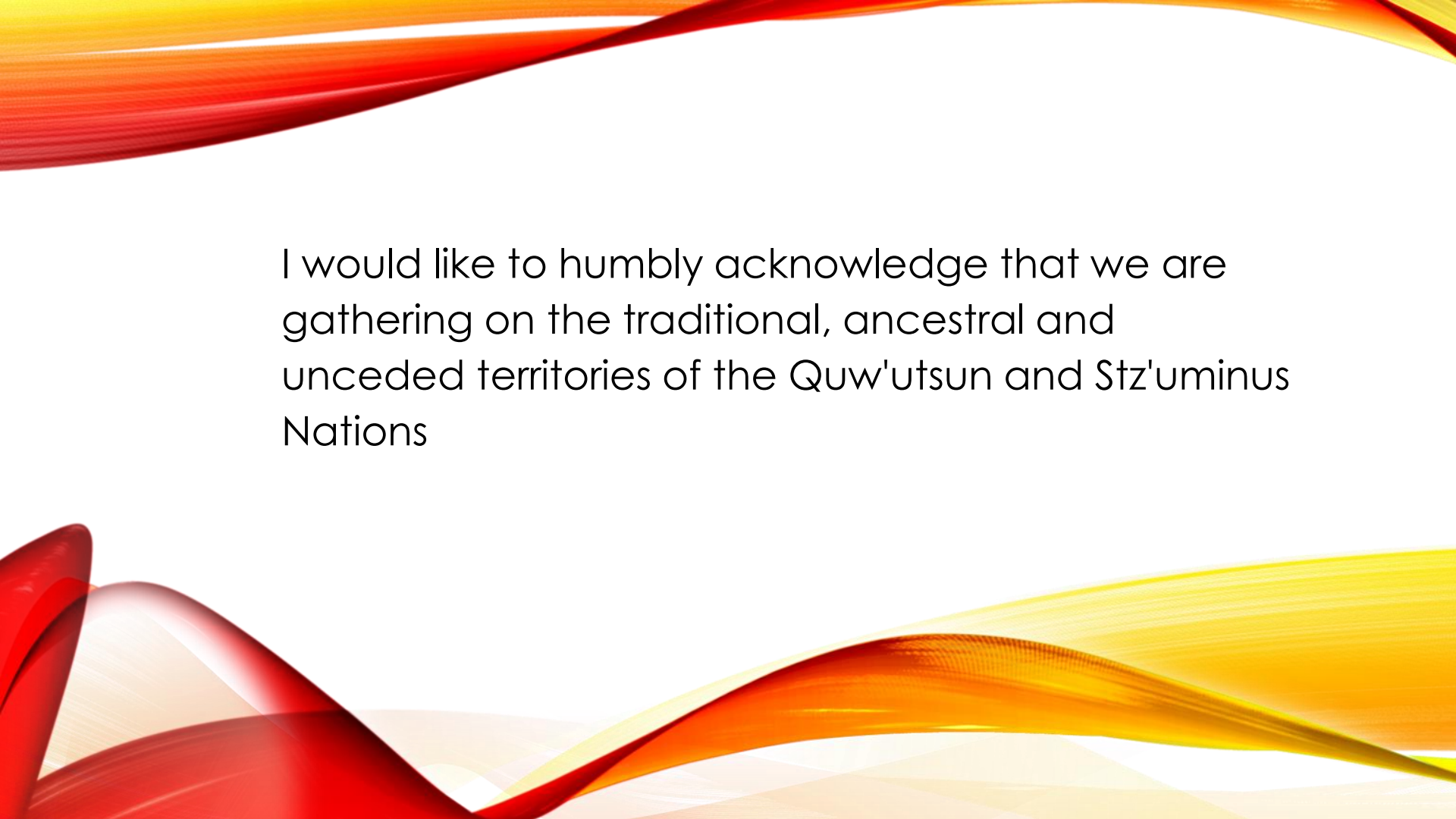
Integration: Bringing insights into daily life--non-judgement, inner healing intelligence, focus on process and awareness vs "are we there yet?"

Above requires a specific skill set

Preliminary data from Roots (n = 94)

Statistically significant improvements for:

- Depression (PHQ 9)
- PTSD (PCL-5)
- Anxiety (GAD 7)

The background features abstract, flowing waves of color. At the top, a thick, vibrant red wave curves across the frame. Below it, a thinner, more ethereal yellow wave flows. At the bottom, another thick red wave curves upwards, overlapping with a yellow wave that flows from the right side towards the center. The overall effect is dynamic and colorful, with a white background in the center where the text is placed.

I would like to humbly acknowledge that we are gathering on the traditional, ancestral and unceded territories of the Quw'utsun and Stz'uminus Nations

ROOTS TO THRIVE – KETAMINE ASSISTED THERAPY:



My personal experience as a participant
and now as a member of the team.

LAURA MCLEAN, MD, FRCPC
CONSULTANT IN SLEEP DISORDERS
AROGA LIFESTYLE MEDICINE

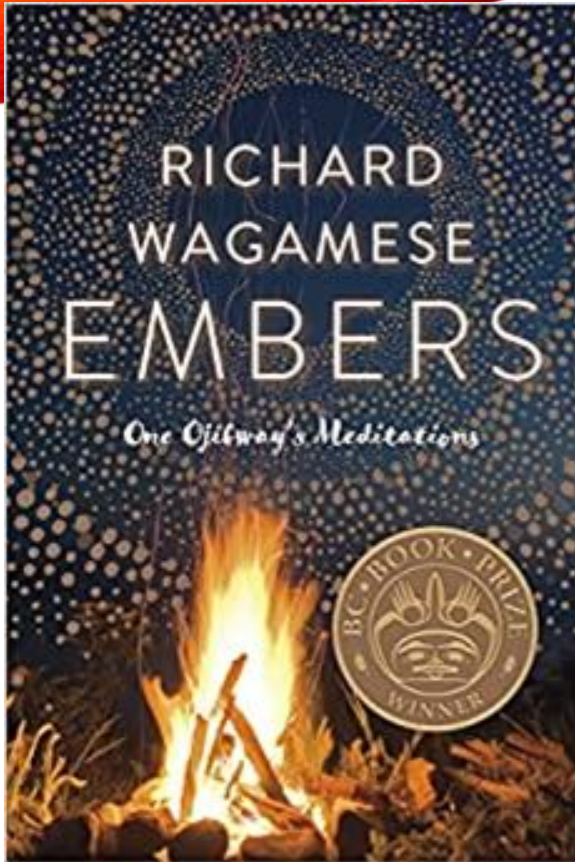
BACKGROUND - LEADING UP TO RTT



CULTURALLY COMMITTED

Cultivating culturally safe care.





“Teachings come from everywhere when you open yourself to them. That’s the trick of it, really. Open yourself to everything, and everything opens itself to you.”

Richard Wagamese




How to Change Your Mind

What the New Science of
Psychedelics Teaches Us
About Consciousness,
Dying, Addiction, Depression,
and Transcendence

Michael Pollan

Author of [The Omnivore's Dilemma](#)

- 
- I learned about Roots to Thrive from my friends, Andrea and Crosbie, who are leaders on the team
 - The opportunity for me to become a participant arose
 - My ideas about why I wanted to do the program:
 - Part of the process of moving forward after the cancer experience
 - Interested in how I might be able to connect my sleep clinic patients with the program

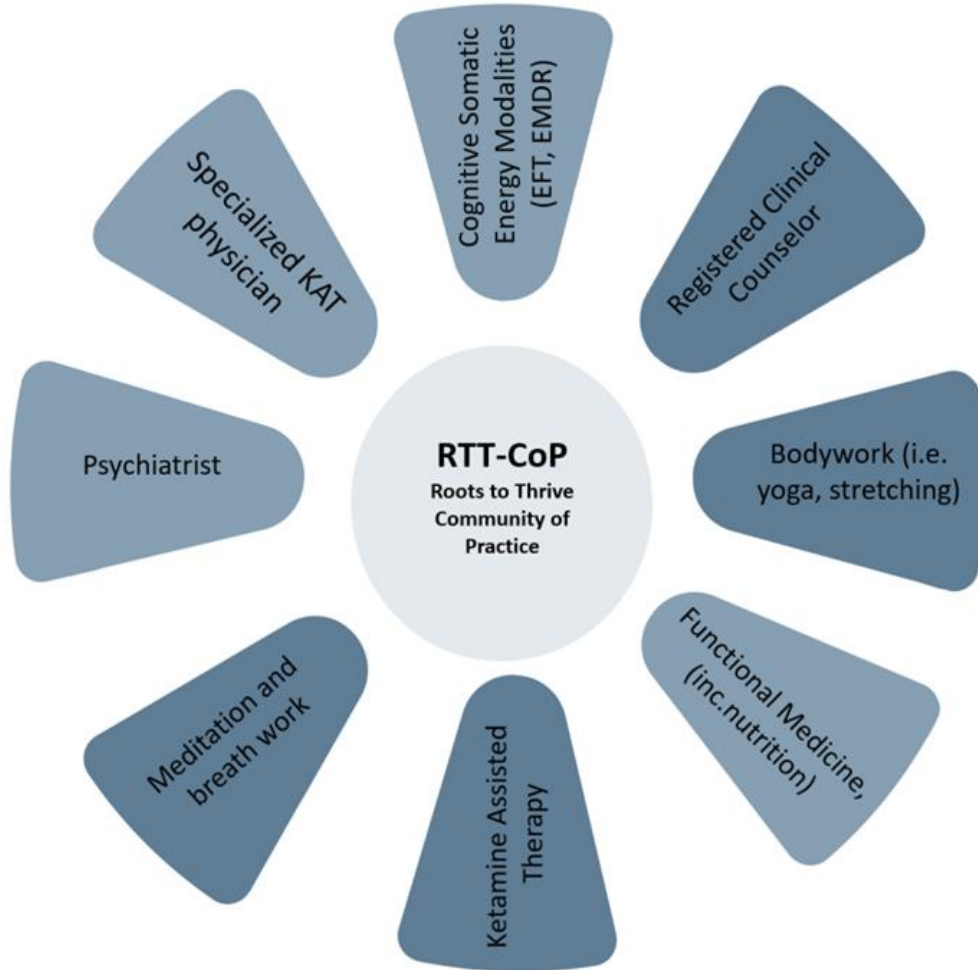
PRE ROOTS TO THRIVE

- I had done some “work”
 - Mindfulness/meditation courses and retreats
 - Self help books
 - Brene Brown TED talks, etc.
- I felt that I was “Teflon-coated” – Nothing really stuck to me, I wasn't really troubled by past experiences, I could handle anything, I have a supportive family and network of friends – heck I sailed through the cancer experience.
- I thought that I was in touch with myself. I could say that I loved myself. BUT:
 - I sometimes wondered why I didn't feel as emotional when “sharing” about myself as what I witnessed in others at meditation retreats
 - Was there something buried very deep, locked up tight?



ROOTS TO THRIVE – KETAMINE ASSISTED THERAPY

- Program goes 12 weeks
- Meetings every Tuesday for 2 hours.
- Ketamine sits in weeks 4, 5 and 7.
- Each week all participants gather via zoom for the first 30 minutes for an opening blessing, “coming to know” – teaching around a particular topic, “pause practice” – a short guided meditation, then in the next 1.5 hours you meet with your small group



Within the community of practice:

- Unconditional positive regard
- Self compassion
- Awareness/mindfulness
- Self regulation
- Open heartedness
- Authenticity

KETAMINE SITS:

- Eye covers, headphones, mattresses, pillow, blanket
 - Dark, quiet, in a circle. Soundtrack.
- First Session - Ketamine lozenges – 3 x 100 mg
- Second – 90 mg im
- Third – 100 mg im
- Integration sessions – within 48 hours of the ketamine sits
 - talking about the experience with others from other small groups
 - empathetic listening and compassionate witnessing
 - to integrate new insights and to shift into new ways of BEing

NEUROPLASTIC WINDOW





Session 1

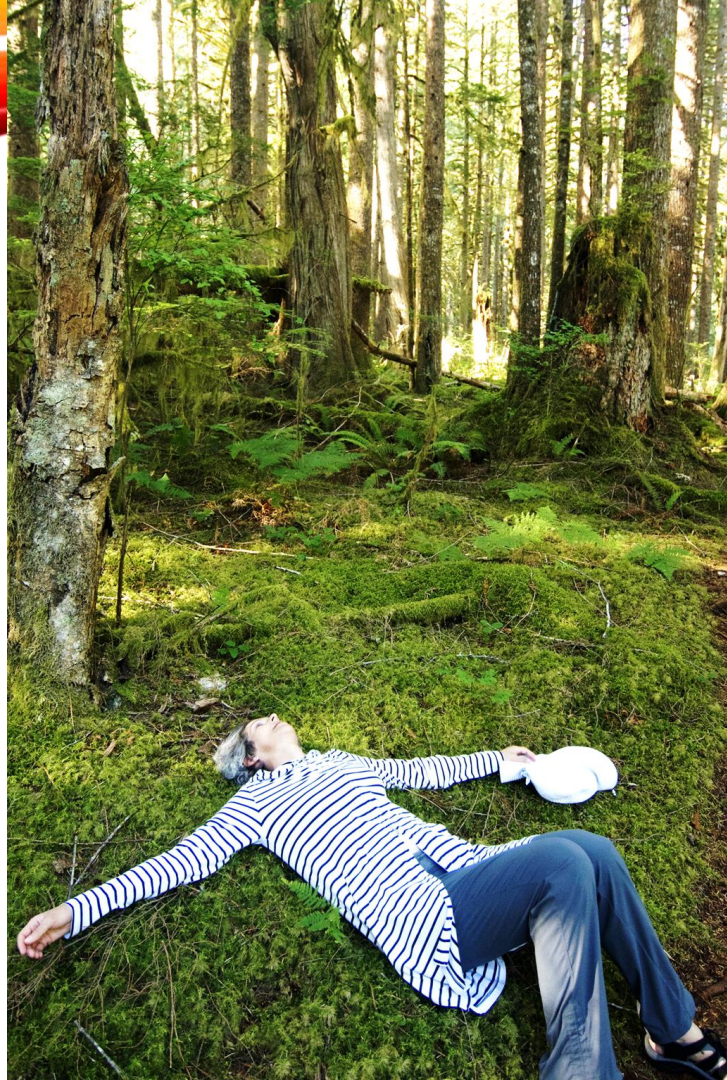
Session 2

The background image shows a dimly lit cave with rugged, layered rock formations. A narrow passage or tunnel leads from the foreground into the dark interior of the cave, where some faint light is visible at the end of the passage. The overall atmosphere is mysterious and ancient.

SESSION 3













QUOTES FROM OTHERS IN MY SMALL GROUP:

“There is now very little graphically violent cinematography/imagery in my head. ” “ **No more constant fear!** ” “no more ridiculously exaggerated startle responses and the ensuing humiliation.”

“Almost overnight I was able to wake up earlier in the morning and take on more responsibility in caring for my son” “I feel connected and supported” “I have been able to make some very challenging yet significant changes in my life and in my relationships.” “My **chronic pain has decreased** dramatically, **my sleep has improved**, and **my life just feels a lot fuller and more fulfilling.**”



WHERE AM I NOW?

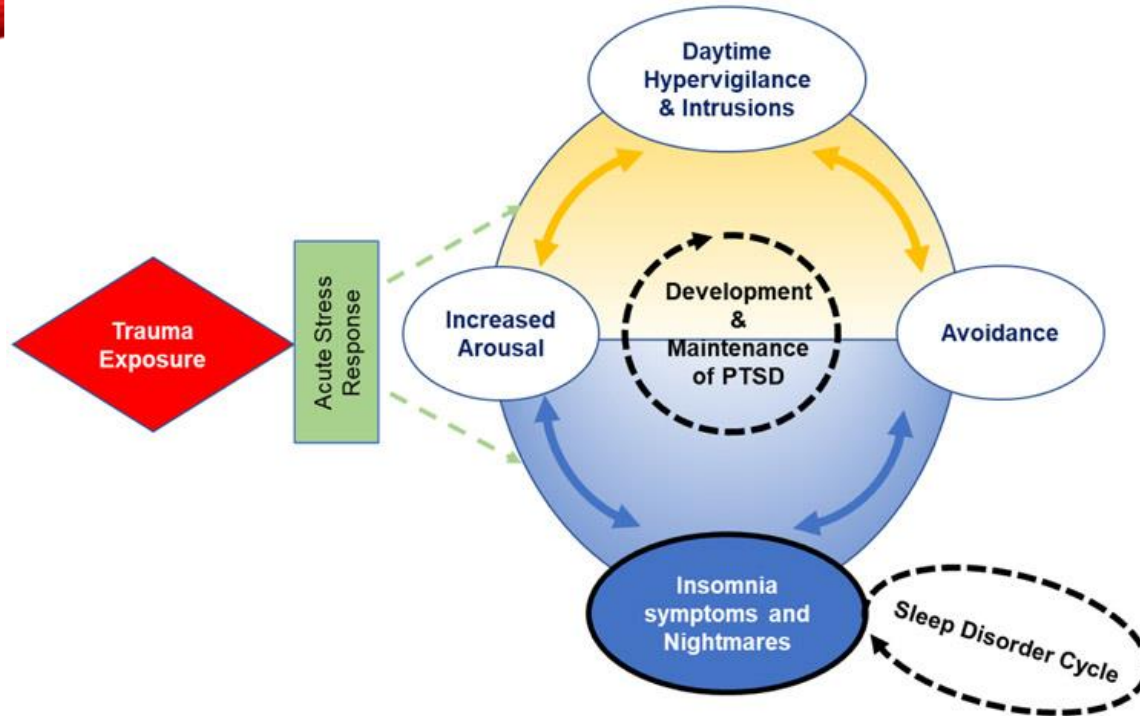
- Engaged (the opposite of burned out)
- Excited about my work
- Connected and present when with my patients – truly seeing and hearing them
- Trusting myself, following my heart
- More confident stepping outside my comfort zone – personally and professionally (I am less afraid of public speaking!)
- I am more present with my friends, family



IN THE SLEEP CLINIC:

- I am becoming increasingly aware that patients referred for sleep problems often have diagnoses of depression, anxiety, PTSD
- Patients often can feel it – that the mood symptoms, and the trauma history are connected to their sleep troubles and to other health problems such as:
 - Chronic pain
 - Chronic fatigue
 - Irritable bowel syndrome
 - Metabolic syndrome
 - Food addiction/ binge eating
 - Autoimmune disease
 - Cardiovascular disease

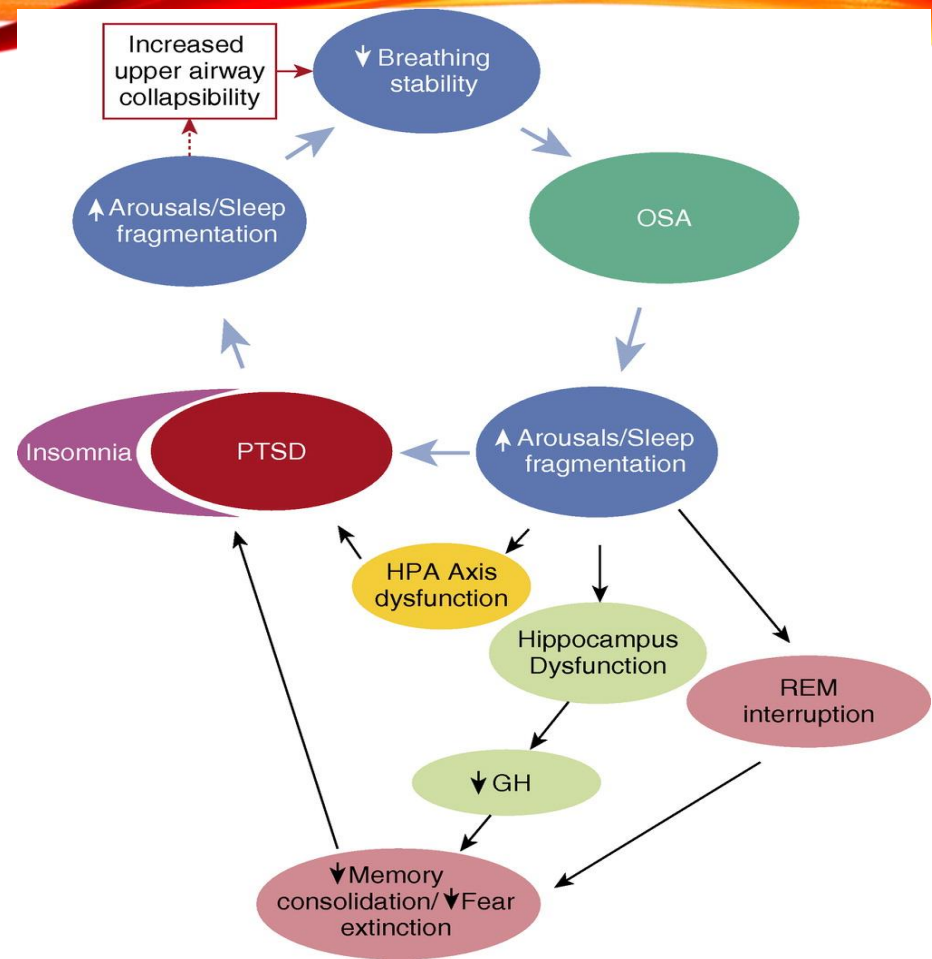
SLEEP AND POST-TRAUMATIC STRESS DISORDER



This model is a depiction of the cyclic pattern of daytime symptoms and sleep disturbances and disorders in the development and maintenance of PTSD. These cycles are potentially independent in that even if the PTSD cycle is reduced/eliminated within trauma-focused treatment, the sleep disorder cycle may remain.

OSA AND PTSD

- The prevalence of OSA in patients with PTSD is estimated to be around 50%
- Trauma-related sleep fragmentation may increase vulnerability for upper airway collapsibility and, in turn, the sleep fragmentation from the sleep breathing problems may worsen PTSD symptoms.
- Sleep fragmentation from OSA may worsen REM sleep deficits found in PTSD, and this may then impede emotional processing of trauma.



WHAT IS NEXT?

- Co-facilitator □ facilitator in Roots to Thrive
- My goal to bring this therapy to patients in my sleep practice at the lifestyle medicine clinic
- I think there is a potential role for RTT-KAT and other psychedelic assisted therapies in treating the roots causes of nightmare disorder, insomnia, and even obstructive sleep apnea, as well as other physical symptoms and health problems
- I am exploring an idea for using home polysomnography testing to study sleep in patients with PTSD who go through the RTT-KAT program.



Psychedelic Medicine

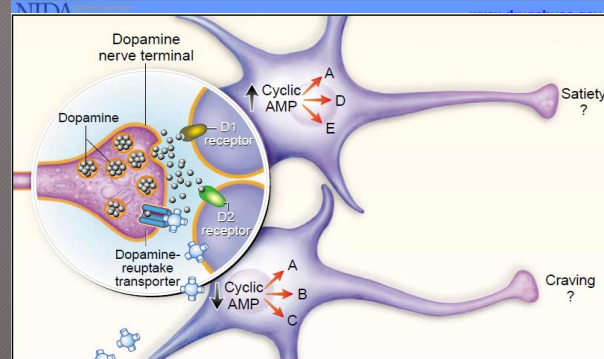
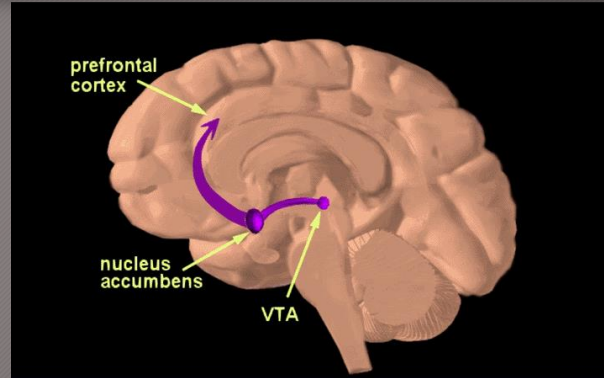
And
Substance Use Disorders
October 13th, 2021
Elizabeth Plant MD CCFP (AM) dISAM

Diagnostic Criteria (DSM-5)

1. Tolerance
2. Withdrawal
3. Cravings
4. Using more / for longer than intended
5. Persistent desire / unsuccessful attempts to cut down
6. ++ time spent in substance activities (getting, using, recovering)
7. Neglect of important activities (social, recreational, work)
8. Impairment at work, school or home
9. Persistent / recurrent social or interpersonal problems
10. Psychological / physical substance-use related problems
11. Substance use despite danger

2-3 mild
4-5 moderate
≥ 6 severe

Dopamine & The Reward Pathway



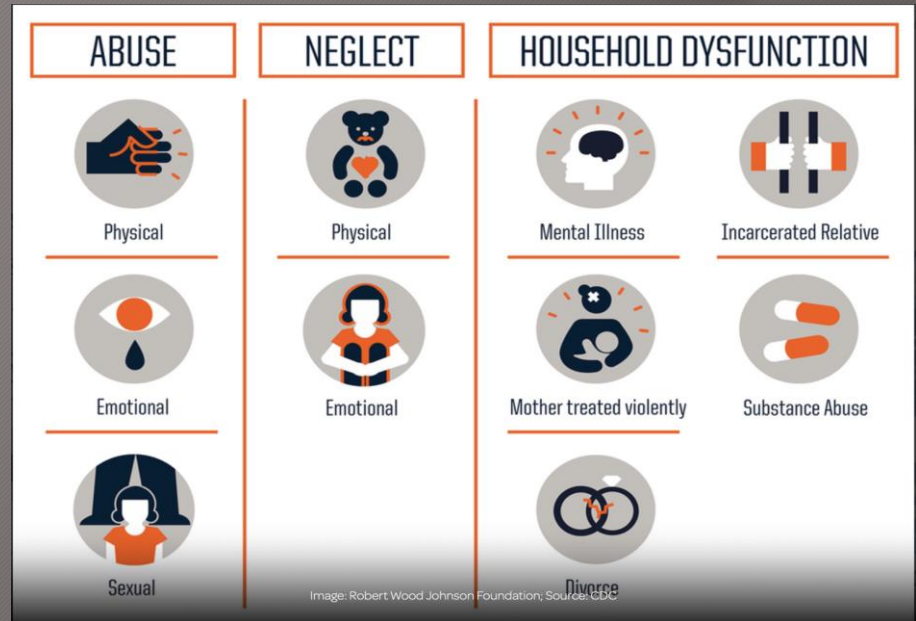
What is a substance use disorder, really?

- **Ritualized, compulsive comfort seeking**

- Dr. Daniel Sumrock
- Habitual effort to self soothe
- ACEs strong predictor of substance use disorders

Adverse Childhood Events - ACEs

- Common (physical abuse, sexual abuse)
- Toxic stress to developing nervous system
- Nervous system is set on high alert, difficulties regulating/self soothing



Upstream - Downstream of SUD

- Social determinants of health □ ACEs □ dysregulated nervous system □ mental distress □ Substance use disorders (this is where my field intervenes)
- Psychedelic medicine □ recalibrate nervous system □ less mental distress □ less need to engage in compulsive, ritualized comfort seeking

Psilocybin in nicotine addiction

Pilot Study of the 5-HT_{2A}R Agonist
Psilocybin in the Treatment of
Tobacco Addiction

Matthew W. Johnson, PhD¹, Albert
Garcia-Romeu, PhD¹, Mary P.
Cosimano, MSW¹, and
Roland R. Griffiths, PhD^{1,2}

Biomarkers assessing smoking status, and
self-report measures of smoking

behavior demonstrated that 12 of 15
participants (80%) showed seven-day point
prevalence abstinence at 6-month follow-
up.

Ayahuasca in Substance Use Disorder

Ayahuasca-Assisted Therapy for Addiction: Results from a Preliminary Observational Study in Canada

Centre for Addictions Research of British Columbia, University of Victoria, Canada

4 day retreat. First Nations community in BC

Data pre-treatment and 6 months post treatment

Findings: Statistically significant ($p < 0.05$) improvements were demonstrated for scales assessing hopefulness, empowerment, mindfulness, and quality of life meaning and outlook subscales. **Self-reported alcohol, tobacco and cocaine use declined**, although cannabis and opiate use did not; reported reductions in problematic cocaine use were statistically significant.

All study participants reported positive and lasting changes from participating in the retreats.

Conclusions: This form of ayahuasca-assisted therapy appears to be associated with **statistically significant improvements in several factors related to problematic substance use among a rural aboriginal population.**

Psychedelic Medicine in SUD

- Compelling evidence from pre-prohibition era
- LSD, psilocybin for alcohol, heroin and tobacco use disorders
- OUD as a life-limiting condition



Psilocybin mushrooms. Credit: Getty Images