Why Cannabis is NOT the solution for PTSD

Libby Stuyt MD

Psychiatrist - Salida, Colorado

International Academy on the Science and Impact of Cannabis

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Disclosures

- I have no financial relationship with any pharmaceutical company, or any part of the alcohol, tobacco or marijuana industries
- I am on the board of IASIC – International Academy on the Science and Impacts of Cannabis www.IASIC1.org
- IASIC is a division of Drug Free America Foundation www.dfaf.org

A growing number of states have identified PTSD as an approved condition for medical marijuana without any rigorous scientific studies backing this up

As of February 2025, the Colorado Medical Marijuana Registry indicates there are 61,383 individuals with medical marijuana cards and 11,095 are for PTSD

Medical marijuana statistics and data | Colorado Department of Public Health and Environment

My Experience with CUD in a 90-day Inpatient Co-occurring Treatment Program in Colorado

Year	N	%Completion of Program	% Reporting Use of Cannabis	% Reporting Tobacco Use
2014	66/83	80%	73%	88%
2015	62/86	72%	80%	89%
2016	56/85	66%	89%	89%
2019	37/70	53%	95%	91%

The numbers with cannabis use disorder as their **primary** drug problem increased significantly over last 5 years

2015 – 4%

2016 – 9%

2019 – 14%

Seeing increasing cognitive problems, psychotic symptoms, fixed delusions, cannabinoid hyperemesis syndrome, problems with violence in those using high potency THC marijuana

Commercialization has radically changed marijuana

THEN

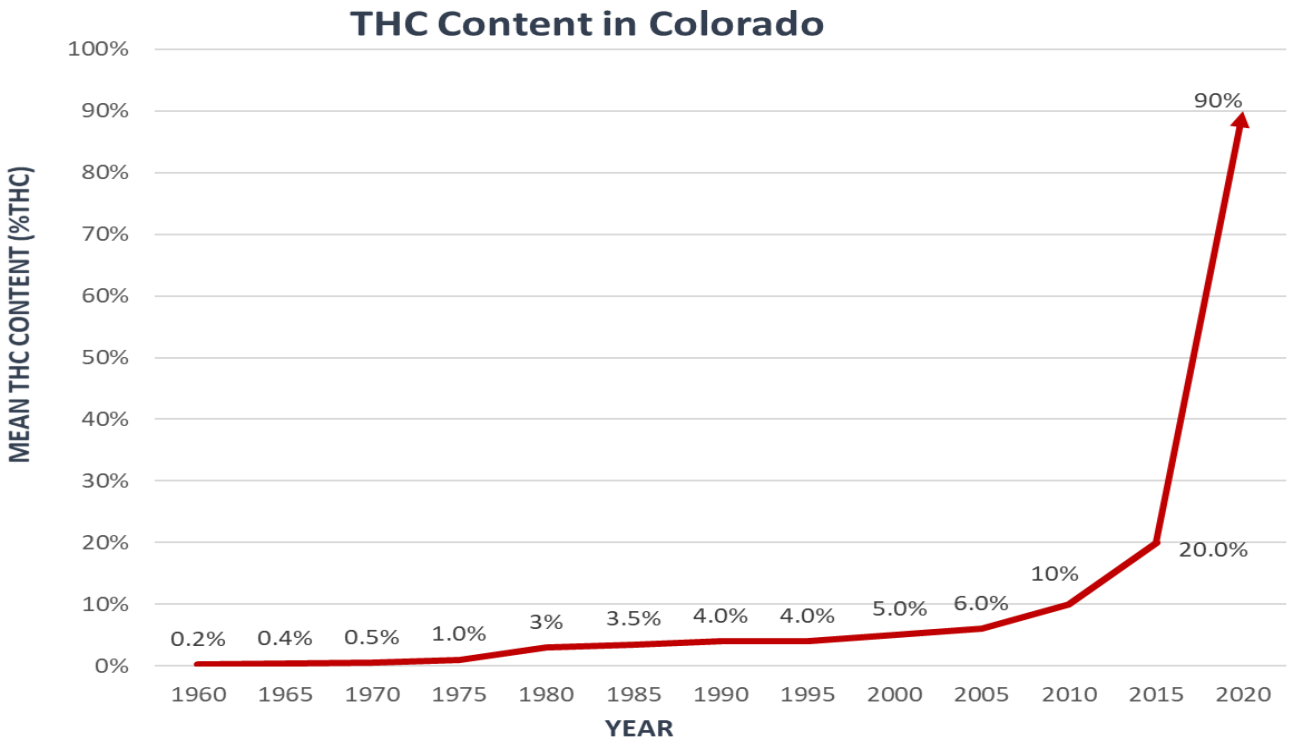
Before 2000,
THC Potency in
Marijuana was 4-5%

NOW

Today, THC potency in products like shatter can exceed 90%.

They are smoked in a rig using a butane torch.

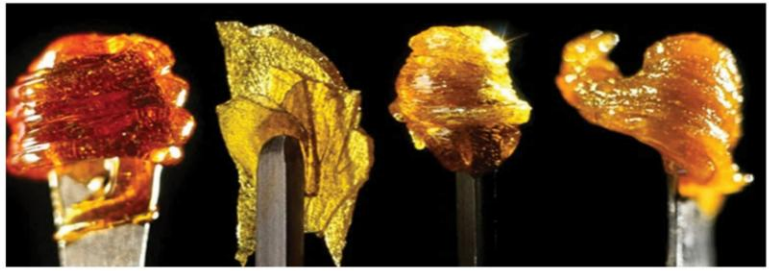
MASSIVE INCREASE IN THC POTENCY IN COLORADO



Mahmoud A. Elsohly (2014) Potency Monitoring Program, Supported by NIDA (years 1960-2015), and Colorado Department of Health and Environment, *THC Concentration in Colorado Marijuana* (year 2020)

- Research supporting the use of dispensary cannabis for medical purposes is on THC less than 10%
- We have no research that shows high potency products are safe or effective for any medical condition
- Multiple studies show serious problems with high THC: addiction, psychosis, depression, anxiety, sleep problems, suicide, violence.

KIDS AND ADULTS THINK IT'S SAFE BECAUSE IT IS AGGRESSIVELY MARKETED AND SOLD AS MEDICINE



The use of e-cigarettes and vape devices by youth has rapidly increased, driven in part by marketing and advertising

JAMA Pediatrics 2019;143(6):e20182741

Among adolescents reporting use of vape products in Colorado, 50.1% reported using marijuana in the past 30 days versus 7.6% of those not using vape products.

NEJM 2019;380:689-690

There has been a significant increase in dabbing and edible use among adolescents in Colorado since 2015.

JAMA Pediatrics 2019;173:988-989
Colorado Healthy Kids Survey, 2019

Research supporting the use of smoked cannabis for medical conditions is limited to less than10% THC

- All studies of smoked medicinal cannabis showing benefit – done with less than 10% THC
  Whiting PF, Wolff RF, Deshpande S et al. Cannabinoids for medical use a systematic review and meta-analysis. JAMA 2015;313:2456-2473
- No legitimate science exists to validate medicinal cannabis greater than 10% THC
- A study in healthy volunteers on cannabis effects in capsaicin-induced pain found a window of modest analgesia for smoked cannabis. Wallace M et al. Anesthesiology 2007;107:785-796
  - 2% THC provided no benefit
  - 4% THC provided significant pain decrease
  - 8% THC caused increased pain or hyperalgesia

By 2022 there were only 2 randomized, controlled clinical trials for PTSD patients. The first used the synthetic cannabinoid nabilone.

The efficacy of nabilone, a synthetic cannabinoid, in the treatment of PTSD-associated nightmares: A preliminary randomized, double-blind, placebo-controlled cross-over design study Jetly R et al. Psychoneuroendocrinology 2015;51:585-588.

10 military males with chronic PTSD in Canada, dosed up to 3 mg/day for 7 weeks, one daily dose one hour before bedtime, avg dose 1.95 ± 0.9 mg, 9 males in the placebo group
The nabilone group experienced reduced nightmares and improved general well being compared to the placebo group.
Very small sample size, short duration, needed to be replicated

RCT of cannabis for PTSD failed to show any benefit over placebo Bonn-Miller MO et al. PLOS ONE 2021

- randomized, double-blind, placebo-controlled, crossover trial of smoked cannabis containing three different concentrations of THC and CBD, and placebo
- High THC = approximately 12% THC and < 0.05% CBD); High CBD = 11% CBD and 0.50% THC; THC+- CBD = approximately 7.9% THC and 8.1% CBD, and placebo = < 0.03% THC and < 0.01% CBD. Participants were provided 37.8 grams (1.8 grams/day)for the three-week ad libitum treatment period
- Total cannabis withdrawal symptoms averaged in the moderate range for all treatment groups at the start of Stage 1 (despite two weeks of abstinence prior to randomization), then generally reduced to the mild to moderate range by the end of treatment in Stage 1. Participants who received High THC in Stage 1 reported a significant increase in withdrawal following one week of cessation from Stage 1 treatment, which averaged in the moderate range following cessation
- This study failed to find a significant group difference between smoked cannabis preparations containing High CBD, High THC, and THC+CBD against placebo in regard to their impact on PTSD symptoms

Medical cannabis for treatment-resistant combat PTSD Nacasch N, Avni C, Toren P. Front. Psychiatry 2023 13:1014630.

- retrospective naturalistic study, 14 relatively mature (32-68 years of age), treatment-resistant, chronic combat post traumatic patients
- All patients reported only using cannabis before going to sleep, and no patient reported or displayed any sign of cannabis misuse
- amount of cannabis did not exceed 20 grams per month (0.66 grams/day)
- Overall improvement in sleep quality and duration, as well as a decrease in PTSD symptoms reduction of at least 20% in PTSD symptoms in over 65% of patients, with nearly 80% showing improvement.
- Authors emphasize importance of selection process

Comparing FDA approved cannabinoids with dispensary concentrates from a THC dose perspective

- FDA approved drugs - pure THC - dronabinol (Marinol) recommended max dose 20 mg per day, nabilone (Cesamet) recommended 1 -2 mg 2 times a day
- Nabiximols (Sativex) each spray contains 2.7 mg THC and 2.5 mg CBD. Maximum dose – 48 sprays/24 hrs – 130 mg THC per day
- One gram shatter bag with 80% THC = 800 mg THC per bag (even with just 25% bioavailability via smoking = 200 mg THC)
- In Colorado, 18–20-year-olds can purchase 2 grams per day with a medical card (1600 mg THC), Adults can purchase – 8 grams per day (6,400 mg THC) (Prior to HB21-1317 all could purchase 40 grams per day)
- This is **not medicine**
- "THIS MUCH THC IS NOT MEDICINAL" COLORADO'S THC PURCHASING LIMITS BEFORE AND AFTER HB21-1317 - YouTube

Effects of Δ9 -tetrahydrocannabinol on aversive memories and anxiety: a review from human studies Raymundi AM et al. BMC Psychiatry 2020; 20: 420

- A review of peer reviewed studies and RCT in humans 1974-2020 of THC or THC and CBD in PTSD
- Low doses of THC (7.5 mg THC) potentiate fear memory extinction in healthy volunteers and reduce anxiety responses in anxious and PTSD patients without inducing a psychotic effect.
- High doses of THC (greater than or equal to 10% THC), however, do not facilitate fear memory extinction and are related to clinically relevant anxiogenic and psychotic effects in healthy volunteers.

Why Cannabis is NOT the solution for PTSD

- Reasons why Cannabis is not the answer
  - Temporary relief – numbing, disconnecting from the traumatic emotions
  - In order to keep symptoms at bay one must use daily, if not multiple times a day
  - This can result in cognitive impairment, a-motivational syndrome, potential for psychosis or worsening psychosis from PTSD
  - Addiction potential - CUD and a vicious cycle of withdrawal symptoms
  - False memories

Marijuana Use is Associated with Worse Outcomes in Symptom Severity and Violent Behavior in Patients with PTSD Wilkinson et al. J Clin Psychiatry. 2015 September ; 76(9): 1174–1180

- Observational study of 2276 Veterans treated in VA PTSD treatment programs 1999-2011
  - Never used marijuana – significantly lower symptom severity 4 months later
  - “Starters” – highest levels of violent behavior and PTSD symptoms 4 months after treatment
  - “Stoppers” – lowest level of PTSD symptoms at 4 months after treatment
  - initiating marijuana use after treatment was associated with worse PTSD symptoms, more violent behavior and alcohol use

Short and Long-Term Effects of Cannabis on Symptoms of Post-Traumatic Stress Disorder LaFrance EM et al. J Affective Disorders 2020;274:298-304

- Anonymous data from Strainprint® for 404 medical cannabis users who self-identified as having PTSD and who used the app to track symptoms of intrusive thoughts, flashbacks, irritability, and anxiety.
- Users indicate the strain of cannabis that they are about to use as well as the producer/distributor of that strain by choosing from a selection of over 3,000 cannabis products sold in Canada.
- Results indicate that acute cannabis intoxication provides temporary relief from intrusions, flashbacks, irritability, and anxiety. However, baseline PTSD symptom ratings did not change over time, and they detected evidence that people used higher doses to manage anxiety over time, which may be indicative of the development of tolerance to the drug.
- Collectively these results indicate that cannabis may reduce PTSD symptoms in the short-term but may not be an effective long-term remedy for the disorder.

Prevalence and Correlates of Cannabis Use in an Outpatient VA Posttraumatic Stress Disorder Clinic

- Gentes EL et al. Psychol Addict Behav. 2016 May ; 30(3): 415–421
- Male veterans (N = 719) who presented at a VA specialty outpatient PTSD clinic completed measures of demographic variables, combat exposure, alcohol, cannabis and other drug use, and PTSD and depresssive symptoms.
- 14.6% of participants reported using cannabis in the past six months.
- After controlling for age, race, service era, and combat exposure, past six-month cannabis use was associated with unmarried status, tobacco smoking, other drug use, hazardous alcohol use, and higher clinician-rated global PTSD severity, depressive symptoms, and suicidality.

Frequent cannabis use worsens PTSD symptoms in Veterans

- Hill ML et al. (2022). Cannabis use among U.S. military veterans with subthreshold or threshold posttraumatic stress disorder: Psychiatric comorbidities, functioning, and strategies for coping with posttraumatic stress symptoms. Journal of Traumatic Stress, 35, 1154–1166
- 2019–2020 National Health and Resilience in Veterans Study (NHRVS) 4,069 U.S. military veterans
- Compared with veterans who did not use cannabis or used it infrequently, those who used cannabis frequently were roughly twice as likely to screen positive for co-occurring MDD, GAD, and SI; showed small-to-moderate decrements in cognitive functioning; and were 2–6 times more likely to endorse using avoidance strategies as a primary means of managing their PTSD symptoms.

Cannabis use and posttraumatic stress disorder: prospective evidence from a longitudinal study of veterans Metrik J et al. Psychological Medicine 52, 446–456.

- Post-9/11/2001 veterans in the Northeast region of the USA returning from deployment in Iraq and Afghanistan (N=361) were recruited between February 2013 and June 2016 to prospectively examine cannabis use and related problems.
- All participants resided in a state with medical marijuana laws at the time of data collection. Follow-up visits were conducted in-person at 6 months (N=312; 86.4%) and 12 months (N=310, 85.9%) with parallel assessments.
- More frequent cannabis use was associated with greater severity in PTSD-related intrusion symptoms 6 months later and a prospective association from PTSD diagnosis to CUD diagnosis 1 year later.
- These findings do not support the widespread state sanctioned medical use of cannabis for the treatment of PTSD.

Interactive effects of PTSD and substance use on suicidal ideation and behavior in military personnel: Increased risk from marijuana use Allan NP et al. DepressAnxiety.2019;1–8.

- examined the interactive effects of PTSD symptoms and heavy alcohol use, opioid use, and marijuana use over the past 30 days, prospectively, on PTSD symptoms, suicidal thoughts, and suicidal behaviors over 12 months in a sample of at-risk service members or veterans not engaged in behavioral health treatment.
- 545 participants (av age=31.91 years; 88.2% male, 31.6% married)
- Participants completed follow-up interviews at 1, 3, 6, and 12 months. Payments up to $150 were sent via mail for participation in the study
- Heavy drinking was not predictive of increased suicidal ideation or suicidal behavior and there was no significant associations among past 30 days opioid use, and the suicide-related variables assessed.

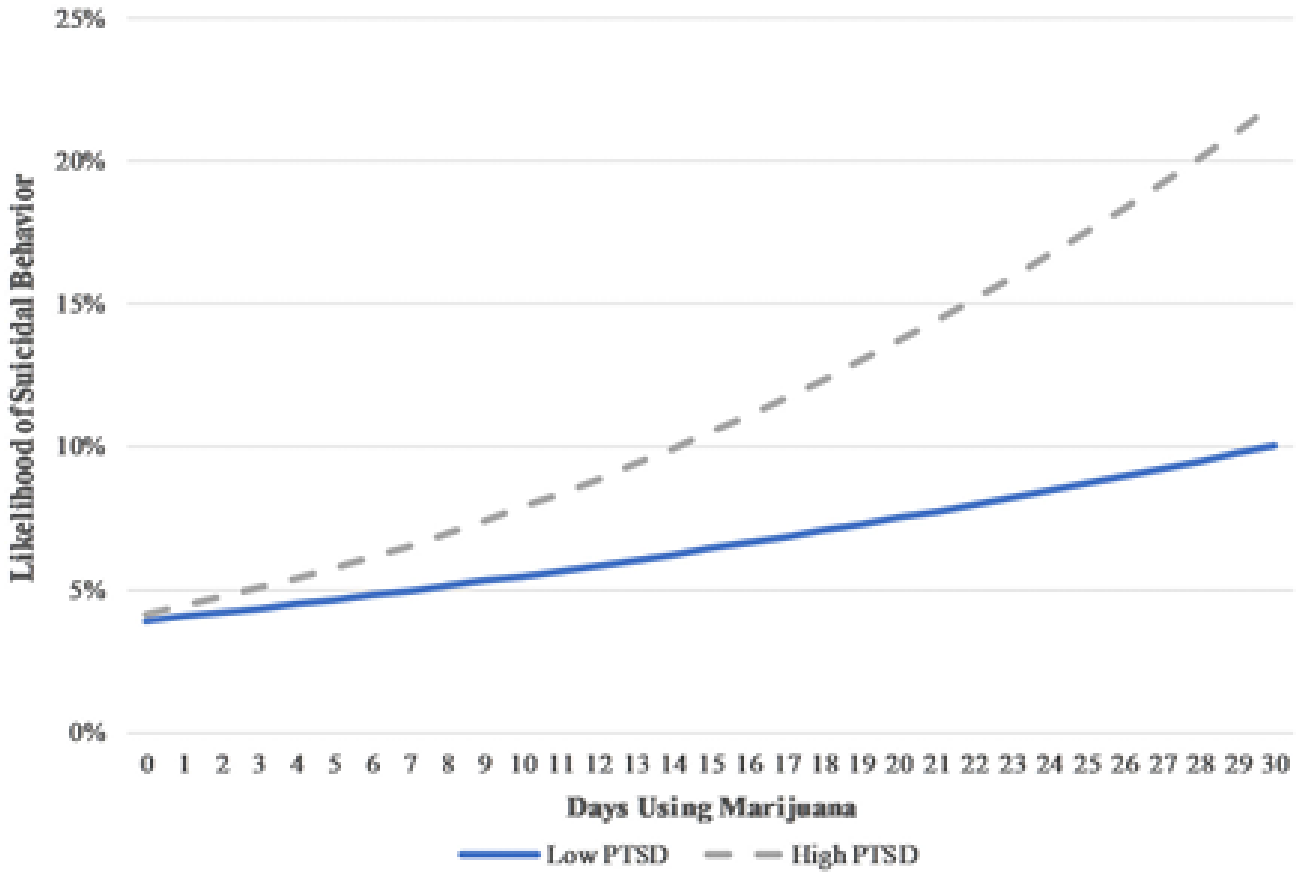
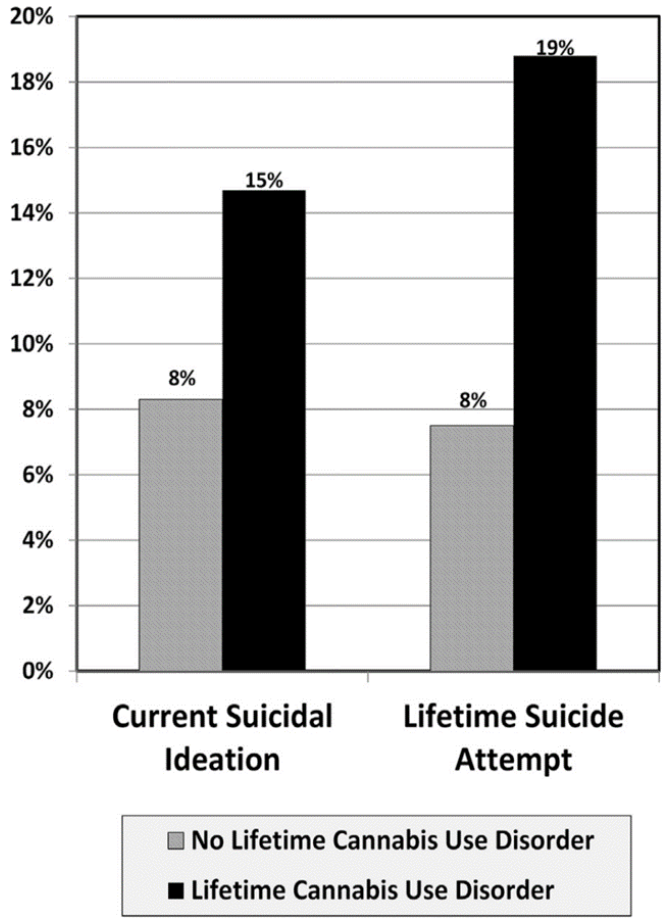


FIGURE 1 Effects of baseline marijuana use on suicidal behavior through 12 month, at ±1 SD baseline PTSD symptoms. There was a significant effect of marijuana use on suicidal behavior at 1 SD above the mean PTSD symptoms but not a significant effect of marijuana use on suicidal behavior at 1 SD below the mean PTSD symptoms. PTSD, posttraumatic stress disorder; SD, standard deviation

Days using marijuana significantly predicted an increased likelihood of suicidal ideation 1 month later. Marijuana use also predicted an increased likelihood of suicidal behavior as well as less of a decline in PTSD symptoms over the following year for those with elevated PTSD symptoms at baseline.

These results suggest that for individuals with elevated PTSD symptoms, using marijuana may exacerbate and/or maintain PTSD symptoms and increase the likelihood of suicidal behavior over time

CANNABIS USE DISORDER IS ASSOCIATED WITH SUICIDE ATTEMPTS AMONG VETERANS



- 3,233 veterans in cross-sectional, multi-site study by Veterans Affairs (VA).
- Cannabis use disorder was **significantly associated with both current suicidal ideation and lifetime history of suicide attempts** compared to veterans with no lifetime history of cannabis use disorder.
- The **significant difference persisted** even after adjusting for sex, PTSD, depression, alcohol use disorder, non-cannabis drug use disorder, history of childhood sexual abuse and combat exposure.
- Kimbrel NA et al. J Psychiatric Research **2017**:89;1-5

319 Iraq/Afghanistan-era veterans ages 21 to 67 (M = 39.6) Male = 261, Black = 50.5%, White = 38.2%, Hispanic = 5%

Lifetime cannabis dependence was specifically associated with post-deployment suicide attempts, even after accounting for the effects of gender, PTSD-depression, pain, non-cannabis SUD, and pre-deployment suicide attempts.

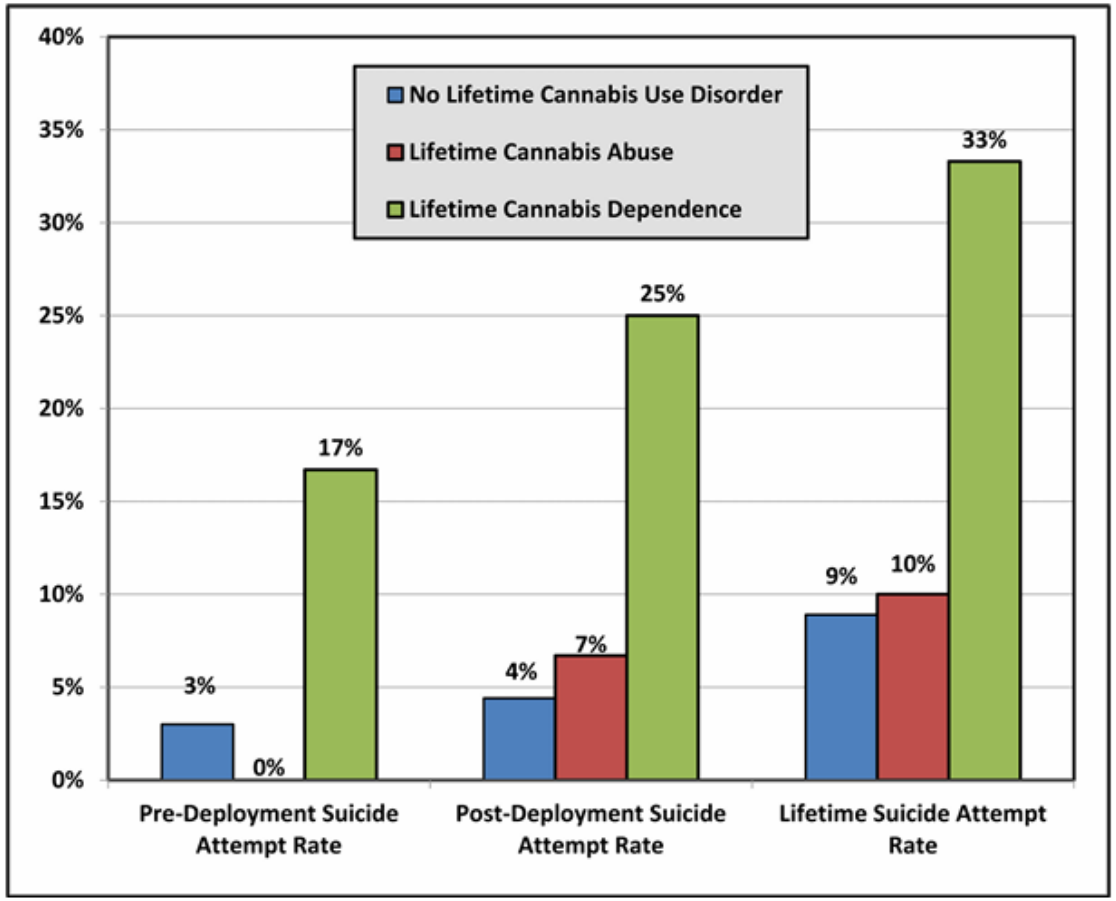


Figure 1.
Association between Cannabis Abuse, Cannabis Dependence, and Suicide Attempts among Iraq/Afghanistan-era Veterans

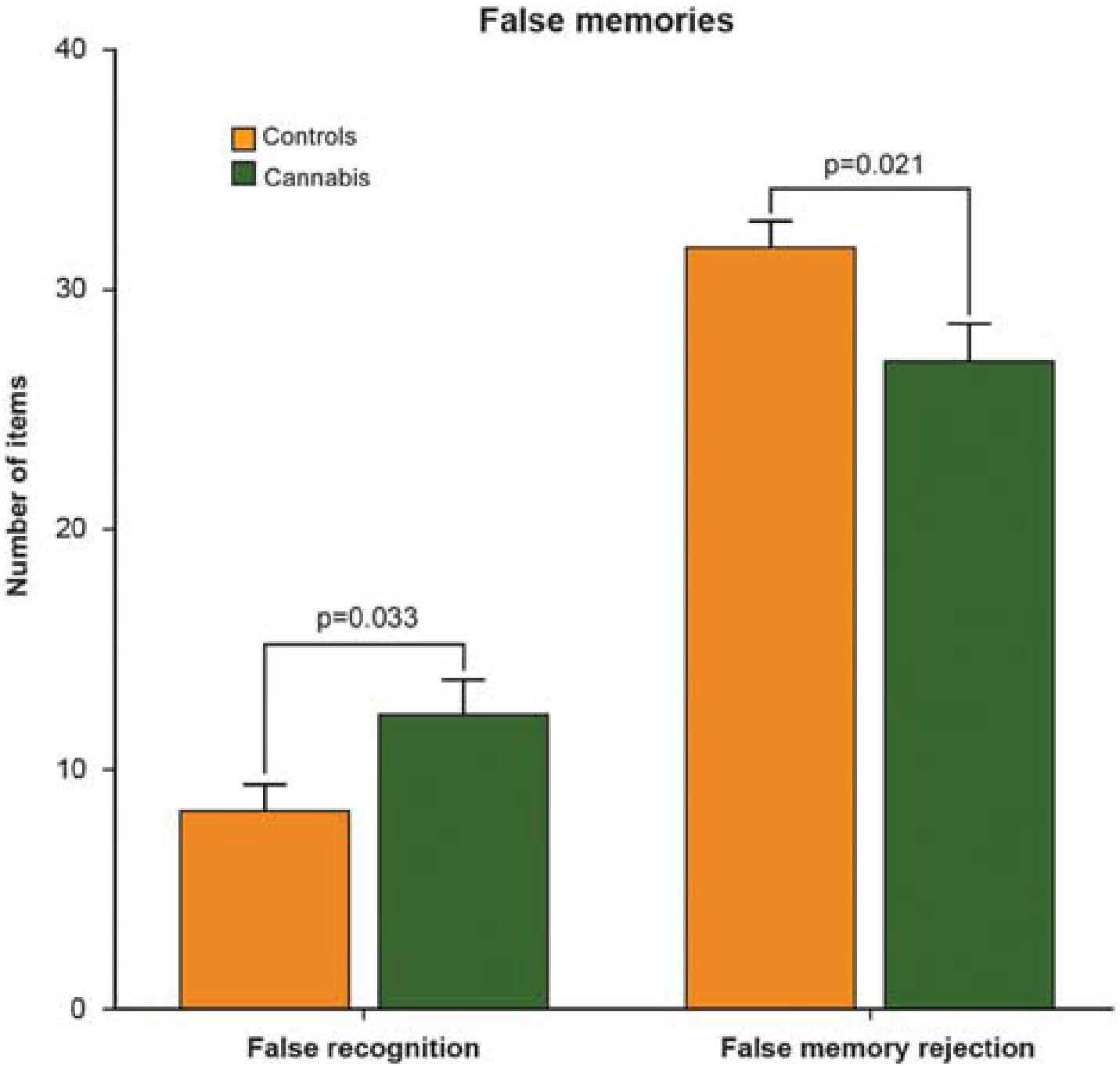
Cannabis Use Disorder and Post-Deployment Suicide Attempts in Iraq/Afghanistan-Era Veterans
Adkisson K et al. Arch Suicide Res. 2019 ; 23(4): 678–687.

False Memories

- Working and declarative memory deficits result from marijuana use and are thought to normalize with abstinence
- However, cannabis users have an increase susceptibility to memory distortions even when abstinent and drug free – compromising reality monitoring
- Riba et al. Telling true from false: cannabis users show increased susceptibility to false memories. Molecular Psychiatry 2015;20:772-777.

Cannabis and False Memories

- 16 heavy cannabis users (daily for last 2 years – average 21 years (3-39)
- 16 matched cannabis naïve controls
- Cannabis users abstained from cannabis use for 4 weeks prior to the study
- Memory paradigm included a study phase and a testing phase with participant in MRI scanner – 20 lists of 4 words


False memories
Controls
Cannabis
Number of items
40
30
20
10
0
p=0.033
p=0.021
False recognition
False memory rejection

Ann Internal Medicine 2024:177:363-374

Annals of Internal Medicine

CLINICAL GUIDELINE

The Management of Posttraumatic Stress Disorder and Acute Stress Disorder: Synopsis of the 2023 U.S. Department of Veterans Affairs and U.S. Department of Defense Clinical Practice Guideline

Paula P. Schnurr, PhD; Jessica L. Hamblen, PhD; Jonathan Wolf, MD; Rachael Coller, PharmD; Claire Collie, PhD; Matthew A. Fuller, PharmD; Paul E. Holtzheimer, MD, MS; Ursula Kelly, PhD, APRN; Ariel J. Lang, PhD, MPH; Kate McGraw, PhD; Joshua C. Morganstein, MD; Sonya B. Norman, PhD; Katie Papke, LMSW; Ismene Petrakis, MD; David Riggs, PhD; James A. Sall, PhD; Brian Shiner, MD, MPH; Ilse Wiechers, MD, MPP, MHS; and Marija S. Kelber, PhD

Description: The U.S. Department of Veterans Affairs (VA) and Department of Defense (DoD) worked together to revise the 2017 VA/DoD Clinical Practice Guideline for the Management of Posttraumatic Stress Disorder and Acute Stress Disorder. This article summarizes the 2023 clinical practice guideline (CPG) and its development process, focusing on assessments and treatments for which evidence was sufficient to support a recommendation for or against.

Methods: Subject experts from both departments developed 12 key questions and reviewed the published literature after a systematic search using the PICOTS (population, intervention, comparator, outcomes, timing of outcomes measurement, and setting) method. The evidence was then evaluated using the GRADE (Grading of Recommendations Assessment, Development and Evaluation) method. Recommendations were made after consensus was reached; they were based on quality and strength of evidence and informed by other factors, including feasibility and patient perspectives. Once the draft was

Recommendations: The revised CPG includes 34 recommendations in the following 5 topic areas: assessment and diagnosis, prevention, treatment, treatment of nightmares, and treatment of posttraumatic stress disorder (PTSD) with co-occurring conditions. Six recommendations on PTSD treatment were rated as strong. The CPG recommends use of specific manualized psychotherapies over pharmacotherapy; prolonged exposure, cognitive processing therapy, or eye movement desensitization and reprocessing psychotherapy; paroxetine, sertraline, or venlafaxine; and secure video teleconferencing to deliver recommended psychotherapy when that therapy has been validated for use with video teleconferencing or when other options are unavailable. The CPG also recommends against use of benzodiazepines, cannabis, or cannabis-derived products. Providers are encouraged to use this guideline to support evidence-based, patient-centered care and shared decision making to optimize individuals' health outcomes and quality of life.

Traumatic Experiences

- Result in traumatic memories
  - Associated with a picture, cognition, affect and physical sensation
  - If not processed/assimilated – change little from the time event occurred
- Although the memories may be of events that occurred long ago
  - If not adequately assimilated, client still responds emotionally and behaviorally in ways consistent with traumatic event
- Everyone potentially experiences traumatic events but not everyone develops PTSD
- The best way to avoid PTSD is to sleep after a trauma to process, assimilate, and digest it

PTSD

- Consequence of failed memory processing/integration
- Prolonged and inappropriate dominance of specific episodic memories of traumatic events
- Brain fails to consolidate and integrate the episodic memory into the semantic memory

Memory

- The way an experience at one time alters the way you function in the future.
- Association – “neurons that fire together are wired together” – become linked together in a neural net
- However, we “remember” only a fraction of what we experience

Multiple Memory Systems

- Perceptual representation system
  - Visual, auditory, tactile and olfactory inputs are each processed by their respective regions of unimodal sensory cortex and then passed on to higher processing regions (short lived, outside conscious awareness)
- Episodic memory system
- Semantic memory system

Episodic Memory System

- For long term memories to form the hippocampal complex is required
- Information from both the perceptual and semantic representations flow into the hippocampal complex
- Memory traces from the perceptual and semantic systems in the cortex are too weak to support direct recall

Hippocampus

- Forms a memory of an event that supports its long-term recall
- Details of the memory are not in the hippocampus – instead it stores a set of “pointers” to the information stored in other systems
- Facilitates the simultaneous reactivation of weak cortical traces in perceptual, semantic systems as well as amygdala for associated affect

Characteristics of Memory

Stickgold R, J Clin Psychology, 2002;58:61-75

	Episodic	Semantic
Content	Isolated, distinct events	Abstracted general knowledge
Brain location	Hippocampus, medial temporal lobe	neocortex
Storage density	Sparse	dense
Initial strength	High	Low
Speed of consolidation	Rapid	slow
Longevity	Relatively short (but can be years)	Relatively long (but can slowly disappear with disuse)

Example: learning math

- Episodic memories lost
- Semantic memory is not simply a degraded version of original episodic memory – instead is a separately stored memory that over time has been extracted and abstracted from the initial episodic memory

Sleep and Memory Consolidation

Power AE, PNAS, 2004;101:1795-1796

- Non-REM sleep most critical for strengthening hippocampal memories
- REM sleep most critical for strengthening neocortical memories
- Central brainstem neuromodulation of the brain shifts dramatically - domination by serotonin and norepinephrine during non-REM sleep, acetylcholine during REM sleep
- SWS and accompanying low levels of ACH may mediate a critical memory consolidation process

Sleep Architecture

- Stage 1 mixed alpha waves/low voltage
- Stage 2 low voltage, sleep spindles
- Stage 3/4 – slow wave sleep (rest for mind) high voltage, slow wave activity
- REM – rapid eye movement – dream sleep (rest for body) low voltage, mixed frequency, muscle atonia, bursts of rapid eye movement
- Average 4-5 cycles per night
- Full cycle averages 90-100 minutes

Characteristics of waking, REM and non-REM sleep

	Waking	Non-REM	REM
Mental content	Logical, progressive	Logical, perseverative	Illogical, progressive
Brain 5HT, NE	Medium to high	Medium to low	Near zero
Brain ACH	Medium to high	Low	Very high
communication	Bidirectional	Hippocampal to neocortex	Neocortex to hippocampal
Function	Form episodic memories	Transfer episodic to semantic	Integration of semantic memory, feedback to hippocampus

The Use of Addictive Substances

- Can significantly diminish/wipe out stage 3 and 4 sleep and diminish REM sleep
- This includes alcohol, benzodiazepines, opioids, cannabis, cocaine, methamphetamines

Common responses of traumatized victim

- Avoid stimuli that would reactivate memory
- Using drugs/alcohol to numb the emotional response to the stimuli
- Often no conscious recall of event because surge in cortisol can shut down the hippocampus, however there is sensory/affective recall

Consequences

- Sleep often fragmented; REM sleep often reduced
- Drugs/alcohol significantly decrease stage 3/4 sleep and diminish REM sleep
- Increased release of E/NE in hyperarousal/hypervigilant states may lead to failure to shut this down during REM sleep causing processing to shift toward stronger associations (weak associations normally activated during REM sleep)

PTSD results in

- Lack of integration of the extracted and abstracted core of episodic memories into cortical semantic memory networks
- Allowing unimpeded intrusive hippocampal replay of episodic memories

Startle Response

- Biphasic
- Initial cholinergic activation – slows heart – automatic release of attention from current source
- Fraction of second later, release of adrenaline/NE – increased heart rate – shift attention to refocus

The First Effective Tool

- NADA 5-point ear acupuncture protocol
- Used in my practice since 2000
- Safe, effective, low cost, non-verbal treatment that helps patients deal with anxiety/stress/trauma
- Licensed mental health clinicians can learn to do this and provide treatment depending on state laws
- One of the biggest benefits is it helps with sleep and balances the autonomic nervous system response, calming people down

Alternative ways to simulate REM-like state to facilitate integration

- EMDR – eye movements in both REM sleep and wakefulness activate similar cortical areas
- Visual pursuit, bilateral auditory and tactile stimulation require different mechanisms
- All alternating bilateral stimulation forces subject to shift attention across the midline

EMDR Similar to REM sleep

- Momentary cholinergic activation
- Brainstem initiates a burst of pontogeniculooccipital waves
- Only other condition know to generate PGO waves is REM sleep itself
- Having a subject repetitively reorient attention from one location to another could produce neuromodulation similar to REM sleep
- But it is important to at the same time keep the adrenaline down and the person calm when doing the bilateral movements

Many People use Cannabis to help with Sleep HOWEVER

- Sleep-promoting effects are more observable among cannabis-naïve individuals during initial use, whereas chronic cannabis use is thought to disrupt sleep due to dysregulation in ECS from prolonged exposure to THC
- Sleep disturbances such as shorter sleep duration, reduced rapid eye movement (REM) sleep, and slow wave sleep (SWS) are often reported in individuals who use cannabis at a higher rate compared to those who do not use cannabis.
- Reductions in REM and SWS are known to impair hippocampal-dependent learning, and inhibit memory consolidation, respectively.

The role of sleep in the link between cannabis use and memory function: evidence from a cross-sectional study

Brown T et al. AM J OF DRUG AND ALCOHOL ABUSE 2024, VOL. 50, NO. 4, 547–556

- 141 adults with CUD (83 men, 18–31, M = 22.78, NL: 79; US: 62) and 87 non-CUD controls (39 men, 18–30, M = 23.04, NL: 48; US: 39).
- Adults with CUD were defined as using cannabis >5 days per week during the previous year and with mild to severe CUD
- Visual special learning and memory tested - Short Visual Object Learning Task (sVOLT) and the Short Visual Object Learning Task delayed (sVOLTd), Verbal memory tested by N-back task
- CUD increased reported sleep difficulties and sleep difficulties related to poorer learning and memory performance (i.e. decreased efficiency scores), and (2) sex did not moderate these relationships

Conclusions

- Sleeping after a traumatic incident can help prevent PTSD
- Avoid the use of addictive substances including cannabis when dealing with PTSD
- Remember that PTSD is extremely treatable if not curable
- EMDR is an excellent treatment and extremely effective as long as the patient is able to remain calm and in their window of tolerance while doing the bilateral movements.

Questions?

libbystuyt@msn.com