How to Talk to Patients about Cannabis Use

Presented By:
Clement Chen, PharmD, BCPS
Lynda Bascelli, MD
Carley Schaffer, MS, LCADC, CCTP

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Disclosures

Lynda Bascelli – none

Carley Schaffer – none

Clement Chen – none
Objectives

• Identify the prevalence of cannabis use in the U.S.
• Distinguish the components of cannabis and their expected effects
• Discuss the risks of THC and the growing potency of cannabis
• Summarize available literature on cannabis use on other medical conditions and the implications of legalization
• Apply principles of harm reduction in talking to patients about cannabis use
• Explain the role of the general practitioner in assessing for and reducing the risk of cannabis use
The “What” of Cannabis Use
Cannabis Use in the U.S.

- Observational cohort study of adults who made a visit to primary care clinics with annual behavioral health screening

Most commonly used federally illegal drug in the U.S.; 48.2 million (18%) with 3 in 10 having cannabis use disorder

https://www.cdc.gov/marijuana/data-statistics.htm
Cannabis Use in the U.S.

![Bar chart showing cannabis use in the U.S.](chart.png)

**Documented conditions/diagnoses**
- Tobacco use (n 2,133)
- Major depression (n 3,323)
- Anxiety (n 2,994)
- Serious mental illness (n 704)
- Alcohol use disorder (n 396)
- Other drug use disorder (n 200)

**Behavioral health screens**
- Depression [PHQ2] (n 3,582)
- Unhealthy alcohol use (n 5,863)
- Illicit drug use/Rx misuse (n 363)

<table>
<thead>
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<th>% reporting cannabis use</th>
<th>Any use:</th>
<th>&lt; Monthly/monthly/weekly use</th>
<th>Daily use</th>
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# Cannabis Benefits

## Known
- Pain
  - Neuropathic, fibromyalgia
- Cachexia
- Nausea and vomiting
- Spasticity from Multiple Sclerosis
- Resistant Epilepsy

## Possible
- Reduction in long-term use of opioids and opioid withdrawal
  - Dystonia
  - Glaucoma

## Inconclusive
- Alzheimer disease
- Parkinson’s Disease
- Anxiety and depression
- Antitumor
- Inflammatory bowel diseases
- Heart failure
- Hepatitis C
- Ischemia/Reperfusion injury
- Sleep

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Cannabis Components

Delta-9-Tetrahydrocannabinol (THC)

• **Pros**
  - Analgesic (refractory chronic pain)
  - Antiemetic (FDA-approved formulation)
  - Muscle relaxant
  - Appetite stimulant (FDA-approved formulation)

• **Cons**
  - Euphoria
  - Cannabinoid Hyperemesis Syndrome
  - Psychosis
  - Risk of worsened co-morbid OUD and associated consequences
  - Risk of dependence → addiction

Cannabidiol (CBD)

• **Pros**
  - Analgesic?
  - Anti-seizure (FDA-approved formulation)
  - Anxiolytic and antipsychotic???
  - Neuroprotective

• **Cons**
  - Decreased appetite
  - Diarrhea
  - Liver impairment

Many drug interactions and additive effects

Cannabis Withdrawal

- Anger
- Anxiety
- Restlessness
- Depressed mood
- Disturbed sleep
- Strange dreams
- Decreased appetite
- Weight loss
- Headache
- Night sweats

- Not as:
  - Painful as heroin withdrawal
  - Dangerous as alcohol withdrawal
  - Long-lasting as cocaine withdrawal

Credit: Dr. Petros Levounis
Risk of THC
Historical Timeline of THC vs. CBD Content
The average THC concentration advertised online in medicinal programs was similar (19.2% ±6.2) to recreational programs (21.5% ±6.0) when compared between states with different programs, or between medicinal and recreational programs within the same states (CO or WA).

High-Potency Cannabis and Risk for Psychotic Disorder

- 4x greater in Paris
- 5x greater in London
- >9x in Amsterdam

- High correlation between amount of drug used, age at first use, and genetic vulnerability

Data are shown for the three sites with the greatest consumption of cannabis: London (201 cases, 220 controls), Amsterdam (96 cases, 101 controls), and Paris (54 cases, 100 controls). Error bars represent 95% CIs. Odds ratio.

https://www.drugabuse.gov/publications/research-reports/marijuana/there-link-between-marijuana-use-psychiatric-disorders#:~:text=Recent%20research%20suggests%20that%20smoking,who%20have%20never%20used%20marijuana. &text=The%20amount%20of%20drug%20used,shown%20to%20influence%20this%20relationship.
Link Between Cannabis and Psychosis?

- Meta-analysis of 18 studies showed that there is a positive dose-dependent relationship of cannabis use to psychosis
  - OR of 3.90 (95% CI 2.84 to 5.34) for the risk of schizophrenia amongst heaviest cannabis users
- Population-Attributable Risk Fraction (PARF) for Cannabis Use Disorder in Schizophrenia
  - Large longitudinal population-based study of over 7 million in Denmark from 2001 to 2017
    - Increased from 2% → 6-8% since 2019
    - 3-4-fold increase in PARF score
- Daily cannabis use associated ↑ up to 5-fold amongst high-potency cannabis across Europe in a multicenter case-control study
  - 3-5 fold increase
  - 20.4% PARF for daily cannabis use

Cannabinoid Hyperemesis Syndrome

- **Chronic cannabis use** leading to cyclic, recurrent episodes of severe nausea/vomiting and abdominal pain
- 3 phases: Prodromal, hyperemetic, and recovery
- Relief can be achieved by “hot bathing”
- True resolution of the problem: Stopping cannabis use
- Cause???
- Misdiagnosis is high

The Impact of Cannabis Use on Pain Management, Opioid Use Disorder and other Comorbid Conditions
Cannabinoid and Opioid Receptors Distributed in Same Regions of CNS

Analgesic synergy?

Use of cannabis to spare-opioid consumption has had conflicting results

Use of CBD?

Effect of Cannabis Use in People with Chronic Non-Cancer Pain

- Prospective, national, observational cohort study in Australia of over 1500 people interviewed and who were prescribed opioids.
- Participants followed yearly for 4 years, starting from 2012-2014.
- 24% of participants had used cannabis for pain.
- At 4-year follow-up, participants who used cannabis had greater pain severity score (RR 1.14, 95% CI 1.01-1.29 for less frequent used; RR 1.17, 1.03-1.32 for daily cannabis use), lower pain self-efficacy scores, and greater generalized anxiety disorder severity score.

SUMMARY: No evidence that cannabis use improved patient outcomes such as reducing pain severity or exerting an opioid-sparing effect.

Effect of Cannabis and Patient Outcomes in those on MOUD

- Systematic review of 41 studies
- Primary outcome relationship
  - Opioid use, treatment adherence, treatment retention
- Majority showed no statistical significance
- Called for more studies looking at adjunctive effects of cannabis use on opioid craving and withdrawal

- Prospective cohort study of 211 participants found that the odds of same-day opioid use with cannabis was nearly 2 (aOR 1.86 95% CI 1.44-2.41) relative to opioid use on days without cannabis use
  - Cannabis not used as a substitute
Opioid and Cannabis Co-Use and Association with Substance Misuse, Mental Health, and Pain

Examined use of opioids alone compared to use of opioid and cannabis co-use in a cross-sectional study.

Opioid and cannabis co-use associated with increased anxiety and depression symptoms, as well as tobacco, alcohol, cocaine, and sedative use problems, but not pain experience.

Effect of Cannabis Use on Psychiatric Disorders

• National Epidemiologic Survey on Alcohol and Related Conditions participants interviewed 3 years apart in 2 waves
• Cannabis use assessed by whether there was cannabis use in the 12 months preceding interview
• Of 34,683 respondents, cannabis use was significantly associated with greater prevalence and incidence of substance use disorders in wave 2 but NOT any mood or anxiety disorder
  • Any SUD: OR 6.2; 95% CI, 4.1-9.4
  • Alcohol use disorder, cannabis use disorder, other drug use disorder, and nicotine dependence

Effect of Cannabis on Cerebrovascular Disease

- Population survey of nearly 7,500 people from Australia, examining risk of non-fatal stroke or transient ischemic attack
- 153 stroke/TIA cases
- Adjusting for age, those who had used cannabis during the past year (n=1,043) had 3.3 times the rate of stroke/TIA (95% CI 1.8-6.3, p<0.001)
- Elevated stroke/TIA higher only for those who used cannabis weekly or more often
- Smoking cannabis associated with peripheral artery disease

Impact of Legalization on Cannabis Use
Association Between Recreational Cannabis Legalization and Changes in Cannabis Use/Disorder

• 506,000 respondents comparing cannabis use before and after legalization of recreational cannabis across several states

Table 2. Past-Month Marijuana Use, Frequent Marijuana Use, and CUD in the Past 12 Months Among 495,796 Respondents Before vs After RML Enactment From 2008 to 2016

<table>
<thead>
<tr>
<th>Age Group, y</th>
<th>Marijuana Use</th>
<th>Frequent</th>
<th>CUD in the Past 12 mo</th>
<th>% Who Met Criteria for CUD</th>
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</thead>
<tbody>
<tr>
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<td>% Who Reported Use</td>
<td>% Who Reported Frequent Use</td>
<td>AOR (95% CI)</td>
<td>AOR (95% CI)</td>
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<td>After RML(^c)</td>
<td>Before RML(^b)</td>
<td>After RML(^c)</td>
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<tr>
<td>12-17</td>
<td>4.76</td>
<td>5.28</td>
<td>1.12 (0.97-1.28)</td>
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<td>18-25</td>
<td>13.06</td>
<td>14.03</td>
<td>1.09 (0.99-1.20)</td>
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<td>5.65</td>
<td>7.10</td>
<td>1.28 (1.16-1.40)</td>
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</table>

Data from the National Survey on Drug Use and Health


Study included >500,000 respondents

RML = Recreational Marijuana Legalization
Association of State Policies Allowing Medical Cannabis for OUD And Dispensary Marketing

Trend Towards Increase in Opioid Overdose Deaths

- **Bachhuber, et al –**
  - 1999-2010 – states enacting medical cannabis laws had lower-than-expected opioid overdose mortality rates (24.8% reduction)
- **Shover, et al -**
  - 2010-2017 – 32 states enacted medical cannabis laws, including 17 allowing only low levels of THC
  - 8 states enacted recreational cannabis laws
  - 23% increase in opioid overdose deaths

The “How” of Cannabis Use
Approaching the Patient on Cannabis Use

Opening the dialogue to cannabis
Cannabis Use – Talking Points

• General use
  • Is it being used alternatives to treat your indication?
• Indication for use
• Route of use
  • Avoid smoking which contains many of the same carcinogens as tobacco smoke
• Quantity and frequency of use
• Source of use
• Perceived benefit of use
• Risk for addiction

Be patient-centered
Harm Reduction

- Focus on reducing the negative consequences of drug use vs. drug use is “bad”
- Emphasize the importance of knowing the content and concentration of the cannabis product
- Set patient-centered goals
- Suggest alternative routes of administration that may reduce harm


BE OPEN-MINDED AND AVOID STIGMATIZING THE USE OF CANNABIS
Assessment for Cannabis Use Disorders

1) How often do you use cannabis?

2) How many hours were you “stoned” on a typical day when you had been using cannabis?

3) How often during the past 6 months did you find that you were not able to stop using cannabis once you had started?

4) How often during the past 6 months did you fail to do what was normally expected from you because of using cannabis?

5) How often in the past 6 months have you devoted a great deal of your time to getting, using, or recovering from cannabis?

6) How often in the past 6 months have you had a problem with your memory or concentration after using cannabis?

7) How often do you use cannabis in situations that could be physically hazardous, such as driving, operating machinery, or caring for children?

8) Have you ever thought about cutting down, or stopping, your use of cannabis?

Role as a Medical Provider

- Synthesize the available information
- Discuss the risks of use of cannabis
- Warn of highly potent products containing high levels of THC
- Emphasize that many conditions not supported by evidence for medical benefit
  - HIV/AIDS
  - PTSD
  - Migraines
  - Parkinson’s Disease
- Understand that many studies have variable outcome measures
Summary

• The growth of highly potent THC-containing products is fraught with risks.
• The medical literature for cannabis has not kept up with the fervor of cannabis use, resulting from both legalization and commercialization.
• Gaps exist particularly related to:
  • Appropriate dosing
  • Content of THC vs. CBD
  • Route of administration and associated bioavailability
• Harm reduction may be an essential strategy to employ especially amongst those with, or at high risk, for co-morbid psychiatric and substance use disorders.
• Further longitudinal research is necessary to justify using cannabis more broadly and for specific indications.
Questions & Discussion

Thank you to everyone who joined and participated today!