Nutritional Considerations in Medical Marijuana Use

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Objectives

• Explore current research on medical marijuana use for two nutrition-related qualifying conditions
• Use a case study approach to demonstrate the use and impact of medical marijuana as part of an overall nutrition treatment plan
• Discuss nutritional and safety issues for consumers inquiring about cannabis/cannabinoid edibles
Questions for you.....

Question to ponder......

- Can medical marijuana lower the “resistance” so that nutritional (and overall) treatment has a chance to take hold?
- If so, what are some factors to consider in the process?
A Quick Terminology Review

Cannabis: Flowering herb. Contains over 400 active compounds.

Cannabinoids: Major components in cannabis plant.

CBD: Cannabidiol. One of the cannabinoids. Non-intoxicating.

Hemp: Derived from CBD. Contains negligible THC.

THC: Cannabinoid. Psychoactive component of cannabis.

Additive Components of Cannabis

Terpenes: Aromatic, organic compounds found in all plants.

Flavanoids: Powerful anti-inflammatory agents.

Most Common Adverse Effects

Dizziness  Hallucination
Dry mouth  Somnolence
Nausea  Euphoria
Fatigue  Vomiting
Confusion  Disorientation

THC vs CBD: Potential Nutrition-related Effects

<table>
<thead>
<tr>
<th>THC</th>
<th>CBD (Cannabidiol)</th>
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</thead>
<tbody>
<tr>
<td>Psychoactive</td>
<td>Non-intoxicating</td>
</tr>
<tr>
<td>Anti-inflammatory</td>
<td>Anti-inflammatory</td>
</tr>
<tr>
<td>Anti-spasm</td>
<td>Anti-seizure, anti-spasm</td>
</tr>
<tr>
<td>Analgesic</td>
<td>Analgesic</td>
</tr>
<tr>
<td>Bronchodilator</td>
<td>Bronchodilator</td>
</tr>
<tr>
<td>Stimulates appetite</td>
<td>Antinausea/Suppresses appetite?</td>
</tr>
<tr>
<td>Relaxes muscles</td>
<td>May improve blood sugar and bone health</td>
</tr>
</tbody>
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Qualifying Conditions in Pennsylvania

ALS
Autism
Cancer
Crohn’s Disease
Damage to the nervous system of the CNS with objective neurological indication of intractable spasticity

Dyskinetic and spastic movement disorders
Epilepsy
Glaucoma
HIV/AIDS
Huntington’s Disease
Inflammatory Bowel Disease

https://www.pa.gov/guides/pennsylvania-medical-marijuana-program/howtogetmedicalmarijuana/

Qualifying Conditions in Pennsylvania

Parkinson’s Disease
Post-traumatic stress disorder
Severe chronic or intractable pain of neuropathic origin or severe chronic or intractable pain
Intractable Seizures
Multiple Sclerosis

Neurodegenerative diseases
Sickle cell anemia
Terminal illness
Neuropathies
Opioid use disorder*

Parkinson’s Disease

• 2nd most common neurodegenerative disorder
• Chronic degenerative disease
• Average age of onset: late 50’s
• Progressive loss of dopamine-producing neurons
• Loss of 60-80% of dopa-producing neurons = loss of motor control
• Brain can’t keep up with neuron loss
**Treatment**

- Oral intake L-dopa
- Anti-depressant
- Anti-tremor medications
- Self-care
  - Diet
  - Physical activity
  - Lifestyle Modifications

**Can Cannabis/CBD help control symptoms of PD?**

Bodies make natural cannabinoids controlling sleep, appetite and mood

Bind to receptors through body and brain

Receptors plentiful in basal ganglia – control movement

Hypothesis

Can cannabinoids bind to basal ganglia instead, and change course of disease?

**Research Findings**

- Numerous case series and single case reports concluded that cannabinoids might have potential beneficial effects on PD symptoms.
- Data from randomized controlled, placebo-controlled studies less encouraging
  - 4 studies
  - Total of 49 patients
  - Do not confirm the improvements noted in case series and single case reports.
- Must weigh unsubstantiated benefits against potential side effects
  - Hallucinations
  - Orthostatic hypotension
  - Increased risk of myocardial infarction

**Parkinson’s Disease Causes: New Research**

- Gut-Brain axis
- Quality of bacteria in microbiome
- Gut microbiome may influence endocannabinoid tone
- Bacteria quality influence:
  - Mood
  - Gut motility
  - Brain health
Nutrition in Parkinson’s Disease

- Increase fruits and vegetables
- Mediterranean Diet
- Avoid excess protein
- Coffee and Tea (caffeine) may be helpful
- Promote healthy weight
- Consider probiotic food and supplements on individual basis

Mediterranean Diet

- Plant-based staples: Nuts, whole grains, beans
- Lean protein: chicken and fish
- Less dairy
- Fruit and Vegetables
- Low saturated fat
- Olive oil

Case Study: Medical Marijuana in Parkinson’s Disease

- 62 year old male
- Diagnosed with PD 2010
- Multiple chronic medical issues
  - Type 2 DM
  - GERD
  - Iron deficiency
  - Gastroparesis
  - HTN
  - Fibromyalgia

Case Study: Medical Cannabis in PD

- Ht: 5’8”
- Wt: 298.3/4 lbs
- BMI: 36.3 kg/m2
- HgA1c: 7.6 (11/16)  8.2 (5/17)
- Lactose intolerant

Diet: Erratic schedule; high in refined carbohydrates.
Reviewed carb counting 1600-1700 calories/180-200 grams distributed as 3 meals plus 1-2 snacks
Medications
- Sinemet
- Requip XL
- Lyrica
- K-Dur
- Xarelto
- Zostetrel
- Toprol
- Metformin
- Prilosec
- Zestoretic
- Toprol
- Metformin
- Prilosec
- Lipitor
- Vicadin
- Flexeril
- Pennsaid 1.5%

Supplements
- Multivitamin
- Slow-Fe
- Vitamin C
- Probiotic
- Melatonin

November 2017
- Fibromyalgia flare
- Pain significantly increased
- Medical Marijuana application submitted
- Iron deficiency anemia workup initiated
- Adhering to carb limit, some cravings
- Weight, BMI, HgA1c all improving

March 2018
- Began medical marijuana: hybrid dose
  “Munchies” during the day-ate more carbs
  Timing of dose adjusted to bedtime
  GI work up negative
  Walking 9000 steps daily

May 2018
- Weight loss 8 lbs x 5 weeks
- Normal Hg/Hct
- Normal RBC
- Ferritin levels increasing
- Walking 10000 steps daily
- Appetite dropped; intake ~1500 calories daily
- Low potassium-encourage oral intake; supplement
<table>
<thead>
<tr>
<th>Month</th>
<th>Weight Loss</th>
<th>Duration</th>
<th>Changes</th>
</tr>
</thead>
<tbody>
<tr>
<td>August 2018</td>
<td>21 lbs</td>
<td>1 year</td>
<td>Weight loss 21 lbs x 1 year, Walking 9000-10000 steps daily, Appetite fair, HgA1c 6.3, Sinemet dose changed to time release form to help with AM function</td>
</tr>
<tr>
<td>December 2018</td>
<td>24.75 lbs</td>
<td>16 months</td>
<td>Weight loss 24.75 lbs x 16 months, Fibromyalgia flare, Appetite poor, HgA1c 6.5, Walking 3 miles daily-a bit less, Medical marijuana continued-helping with sleep/pain, Diverticulitis (end of month)</td>
</tr>
<tr>
<td>March 2019</td>
<td>25.75 lbs</td>
<td>19 months</td>
<td>Weight loss 25.75 lbs x 19 months, Appetite slightly better-still suboptimal, Must remain on low fiber diet due to diverticulitis, HgA1c 6.5, Metformin dose cut by 50%, Walking less, New med for PD-Rasigiline (Azilect), Medical marijuana continues-but not always available in dispensary</td>
</tr>
<tr>
<td>May 2019</td>
<td>26.75 lbs</td>
<td>19 months</td>
<td>Weight loss 26.75 lbs x 19 months, Appetite slightly better-still suboptimal, Working on meeting protein needs with supplements, HgA1c 6.1, Starting to walk again-small amounts, Medical marijuana continued-helping with sleep/pain, &quot;I don’t like the way I feel on medical marijuana.&quot;</td>
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Weight Change Over Time (lbs)

Body Mass Index Change Over Time

HgA1c Change Over Time

Mixed Results

- Sleeping better
- Maintaining some regular activity
- Weight down
- BMI down
- A1c controlled
- Carb cravings gone

But... Doesnt like the way medical marijuana makes him feel

Appetite is poor-working hard to eat

More dietary modifications
Medical Marijuana in Inflammatory Bowel Disease

Inflammatory Bowel Disease (IBD)
- Chronic inflammatory condition
- Relapsing and remitting episodes of inflammation in GI tract
  - Crohn’s Disease
  - Ulcerative Colitis


Prevalence of IBD

- **Crohn’s disease**
  - 26 to 199 cases per 100,000 persons
  - 201 per 100,000 adults

- **Ulcerative colitis**
  - 37 to 246 cases per 100,000 persons
  - 238 per 100,000 adults


Symptoms-Crohn’s Disease
- Cramps/belly pain
- Diarrhea
- Weight Loss
- Nausea
- Bleeding
- Skin Rash
- Arthritis
- Red, swollen eyes
- Fatigue

https://aga-cms-assets.s3.amazonaws.com/2019516232350---CGHPDF_IBD.pdf

Symptoms-Ulcerative Colitis
- Diarrhea or loose stool
- Cramps
- Rectal Bleeding
- Joint pain or soreness
- Eye irritation
- Rash

https://aga-cms-assets.s3.amazonaws.com/2019516232350---CGHPDF_IBD.pdf
IBD Standard Treatment

- Anti-inflammatory medications
- Immune system suppressors
- Fiber supplements or restriction
- Low residue diet during flare
- Avoid food triggers
- Pain relievers
- Iron supplements
- Calcium/Vitamin D
- Surgery

Can medical marijuana for IBD do the following?

- Relieve symptoms and promote longer remission
- Change the course of the disease by changing the integrity of the gastrointestinal tract

Cannabis for symptom relief and promote longer remission

- 292 U.S. patients
- 12.3% reported cannabis use
- Significant improvement in abdominal pain, poor appetite, nausea and diarrhea

Medicinal cannabis for symptom relief and longer remission

- Observational study
- 13 patients with Crohn’s Disease
- 3 months treatment with cannabis (inhaled and oral)
- Improvement in pain, depression, social functioning
- No improvement in objective disease measures
- Able to gain weight from low BMI to near normal


Can cannabis use alter the course of IBD? Studies using medical cannabis in IBD

RCT #1
21 patients with moderate disease activity
No prior cannabis use
Standardized dose and administration
Outcome: clinical (symptomatic) remission at 8 weeks
No statistical significance
All patients in treatment group could stop steroids
Cannabis use associated with improved abdominal pain and quality of life
Relapse after 2 weeks off cannabis


Can cannabis use alter the course of IBD? Studies using medical cannabis in IBD

RCT #2
20 patients with active Crohn's Disease
Low dose cannabidiol by oral administration
Placebo-controlled
After 8 weeks:
No significant reduction in Crohn's Disease Activity Index (CDAI)
No significant changes in blood count, liver and kidney function


CBD Edibles

Nutritional Considerations: Cannabidiol (CBD) Products

- Medications are best as medications; foods are best as foods.
- Make sure extraction process does not include use of solvents such as butane or hexane.
- Request independent lab testing so that what you see is what you get. Get written certification of any THC content.
- Slow onset-30-90 minutes-metabolism time varies.
- Easy to be tempted to eat more while waiting for the first to kick in.
- These products contain calories-and calories add up.
- Keep out of reach of children-and pets.
- May potentially interact with medications.

What’s the Bottom Line?

• Medical cannabis can offer some IBD/Crohn’s patients symptomatic relief and improved quality of life when standard therapy fails
• None of the available studies demonstrate improvement in biochemical or disease activity scores.
• There is value in symptomatic improvement even if it’s temporary
• Provides opportunity for improved nutritional intake, nutritional status, repletion and weight gain

Take Home Messages

• Medical cannabis cannot be looked at in isolation
• Patients are on numerous medications so interactions are possible
• Medical marijuana does not take the place of dietary intervention but may or may not complement it
• Stay in touch with MD and pharmacist. Timing of dose may impact tolerance of food and diet
• Be careful you aren’t trading one problem for another

Take Home Messages

Don’t assume that medical marijuana will increase or decrease appetite. Each strain and each individual is different.

Follow patient’s weight, BMI and other nutritional parameters closely.

Medical marijuana may offer some patients some symptomatic relief, which lowers the “RESISTANCE” and makes it easier for them to gain nutritional footing.

Be open to discussing it with your patients, and learn more about it.

Thank You!!
References


References