

Design Plan Part 1-Learner Analysis and Rationale
MCST 614
Group 41
November 21, 2021

Needs Assessment

The knowledge gap that is being addressed is the benefits and/or uses of cannabis for dietary purposes. The rationale for developing this educational course is to outline the overall benefits and uses of cannabis as it relates to better health and nutrition. The course will generally teach licensed dietitians how to educate, advise and treat their cannabis qualified patients. It will also explore the use and benefits associated with treating gastrointestinal issues with cannabis. The focused conditions that will be covered include Crohn's Disease, Irritable Bowel Syndrome (IBS), Gastroesophageal Reflux Disease (GERD), Gluten Sensitivity, and overall gut health. Our goal is to ensure that Ms. Burgess and her staff will be adequately equipped with the knowledge to properly support patients who desire to implement cannabis in their traditional therapy regimen.

When we initially meet with Ms. Burgess at To Better Health several questions arose regarding cannabis. Our client stated that she finds that both doctors and patients are extremely limited in their knowledge of the field and that YouTube Videos, webinars, seminars, and brochures are some of the ways in which they attempt to educate their patients. Ms. Burgess indicated that their patients complete a questionnaire, and they are asked about cannabis use. To Better Health would like to give their patients information on some background or history on cannabis such as info on clinical trials related to a specific condition.

They know that their patients are using cannabis and that they get to a place where they feel somewhat better and then that's where they want to stay. Others are taking it hopefully to help resolve or at least minimize symptoms. The practice doesn't know about the products, and they don't know about the interaction. When the patients are taking other medications or supplements, the patient and the staff doesn't know how it is affecting their bodies.

To Better Health mentioned as a practice they would love to be able to offer their patients better education and guidance regarding cannabis and then offer a clinician that can make specific recommendations to them. The practice feels that there are people getting lots of education and would love to share this education and evidence with their patients. They are concerned with the number of patients who think they are in the know using unreliable resource like, "Dr. Google", and "Jimmy Bob" in his basement. Having the information from highly qualified and licensed or University-trained medical cannabis students would be so much better for patients and doctors.

Most of the patients coming to the practice are coming for specific issues and are often referred by their doctor. The bulk of the clients being seen suffer from diabetes and heart disease. Crohn's and colitis are also a huge amount of their patients and about 60% of the patient population has IBS issues.

Evidence-Based Research

There is very limited evidence-based research on treating gastrointestinal issues with cannabis, but we were able to obtain information from some reliable sources.

Many GI problems-is thought to be caused by an endocannabinoid deficiency or imbalance. By activating the appropriate receptors in the ECS, cannabis can help restore balance and improve gastric motility, propulsion, hypersensitivity, and inflammation.¹

In other words, pot can potentially help relieve the most common, annoying IBS symptoms, and research is beginning to confirm that it can.²

The profusion of CB₁ and CB₂ cannabinoid receptors located within the gastrointestinal system is a primary reason that cannabis has been effective for gastrointestinal disorders. Cannabinoids interact with a range of gut receptors including TRPV1. Cannabinoid receptors and their endocannabinoids maintain the integrity of the epithelial barrier and regulate GI motility and secretion. Because of the widespread occurrence of cannabinoid receptors throughout the GI tract, it is not surprising that cannabinoids provide a range of effective treatment for GI disorders.³

Gastroesophageal Reflux Disease – GERD is the most common GI problem in the United States affecting more than 50% of adults at some point in their lives. The medical evidence for the benefits of cannabis for GERD is becoming increasingly clear. Numerous animal studies and some human ones as well- have demonstrated that cannabis can decrease the secretion of gastric acid while increasing the production of protective gastric mucus.⁴

Irritable Bowel Syndrome IBS is a common condition affecting 45 million people in the US. There was one study that found that the use of dronabinol (FDA-approved synthetic cannabinoid) helped relieve diarrhea by slowing down the speed and intensity of colon contractions. Inflammatory Bowel Disease – IBD, is less common but affects approx. 3 million people in the US. Mostly younger people. There was one small survey which found that overwhelming majority of IBD patients who used medical marijuana said that it helps relieve their symptoms especially stomach pain.⁵

Crohn's disease (CD) is a chronic immune-mediated condition of transmural inflammation in the gastrointestinal tract, associated with significant morbidity and decreased quality of life. The endocannabinoid system provides a potential therapeutic target for cannabis and cannabinoids and animal models have shown benefit in decreasing inflammation. However, there is also evidence to suggest transient adverse events such as weakness, dizziness and diarrhea, and an increased risk of surgery in people with CD who use cannabis.⁶

More research is needed as we progress through the project, but the evidence-based data collected thus far proves the need for educational training on the topic.

Learner Analysis

Our audience consists of healthcare professionals in the field of dietetics. At present it is 100% woman between the ages of 30 and 65. Their marital status includes those who are single,

married and divorced. The education level ranges from some college to multiple master’s degrees to a PhD. Their socioeconomic status encompasses the middle and upper middle class. No one in our audience has any direct professional experience with medical cannabis. There are some who will admit to having used cannabis on a recreational basis in the past. One who had a “very bad” experience with cannabis in college. Their knowledge of medical cannabis is represented by their responses to the survey that we presented (Fig. 1).

The professional roles of our audience include all aspects of a registered dietetic practice. The owner of the practice is a licensed and registered dietitian who also has an MBA and many years of business experience. Her multiple hat wearing administrative assistant is a second-generation healthcare worker who spent her early years assisting her father in his medical practice. There is a mother-daughter medical billing team that specializes in working exclusively with independent dietetic practices. And not directly employed by the practice but sharing in patient care is a certified clinical psychologist and her staff.

As the analysis of the survey shows, there is admittedly limited to no medicinal cannabis knowledge in this practice. They will use the various aspects of our training/education tool to obtain a working professional knowledge of cannabis that they will use to educate and advise their patients.

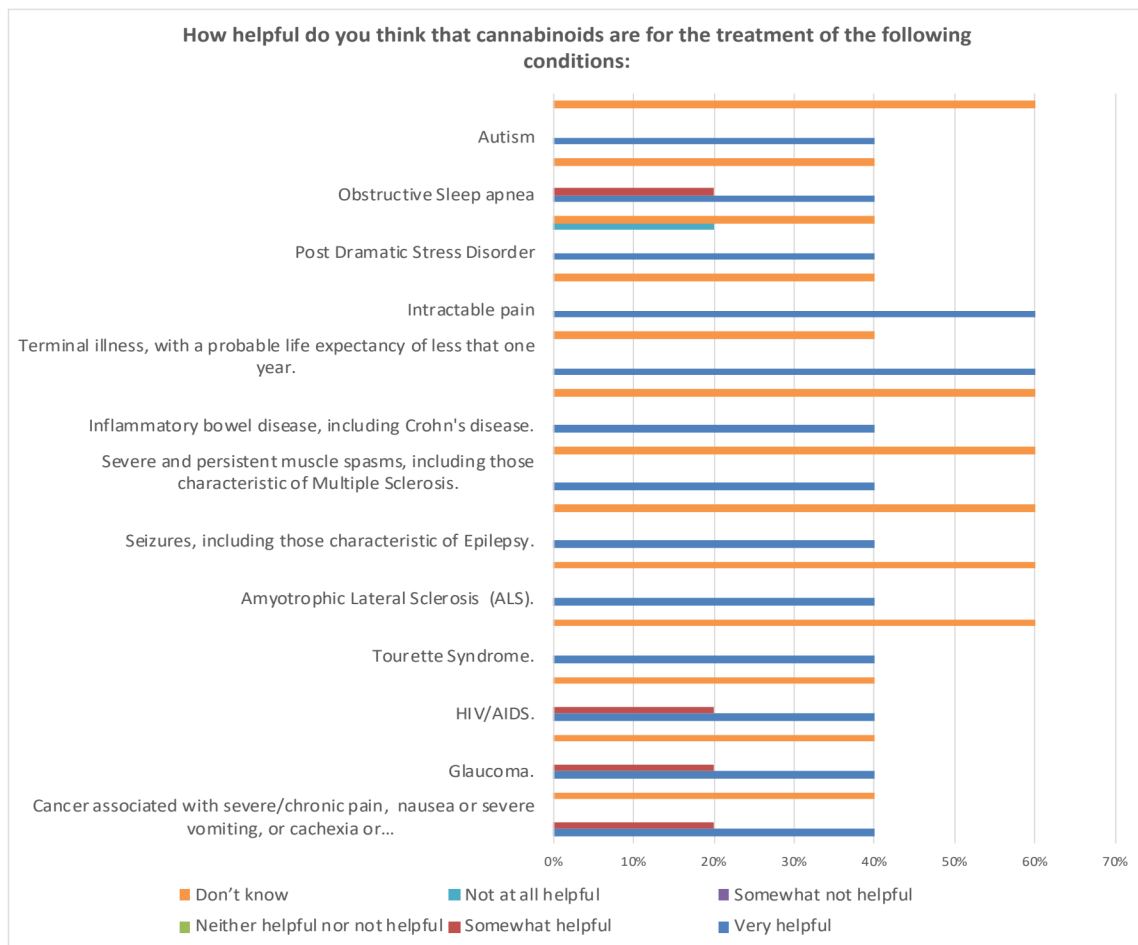


Fig. 1

Process Instrument

The survey that we used to collect our data is an adjustment of the supplemental material for the Lindsay M. Philpot, John O. Ebbert, Ryan T. Hurt article referenced below.⁷

To summarize the results of the survey we used the questions that we asked and the results that we received. Our first inquiry deals with certifying and registering patients. This is a practice that has yet to start cannabis therapy and none of the participants have had the opportunity to register or certify any patients. The first official question asks whether the practitioner agrees or disagrees with a few general statements concerning cannabis therapy. The responses varied across the board with everyone agreeing that the process of enrolling patients in a medical program is presently a deterrent to achieving any type of certification for treatment. Our second question was about cannabinoids' ability to help with certain symptoms ranging from pain to weight loss. Again, our responses were across the board ranging from cannabinoids being very helpful to not knowing whether they are helpful or not. Our third question asked how helpful cannabinoids are in the treatment of certain conditions, ranging from cancer associated with severe/chronic pain, nausea or severe vomiting, or cachexia or severe wasting to terminal illness, with a probable life expectancy of less than one year. For the most part, these responses were either "very helpful" or "don't know". Our fourth question asked to what extent does the practitioner think cannabis increases the risk for conditions like depression to diseases like cancer. Again, the responses were almost evenly spread between "a lot" to "don't know". Our final question was specifically geared towards patients and asked to what extent can medical cannabis improve patient well-being from physical functioning to sense of hope in life. These responses ranged from "a great deal" to "not at all" to "don't know". Our next question asked whether practitioners felt prepared to answer patient questions about medical cannabis. The strongest positive answer was "somewhat" with an equal number of "not at all" responses. Our last question asked if they would be interested in learning more about medical cannabis and all the respondents answered yes.

In conclusion we found that there is a gap between general cannabis knowledge and the amount of information and education that would help create a successful cannabis therapy practice. From prior knowledge of the opinions of the survey participants we concluded that there is a direct correlation between an individual's opinion about cannabis and their perceived knowledge of its efficacy. If an individual has a positive opinion of cannabis, they tend to have a higher level of both formal and informal knowledge and perceive a higher level of cannabis therapy efficacy. If they have a negative opinion of cannabis, they usually have a limited knowledge and a lower level of confidence in its efficacy.⁸

Type of Opinion = Level of interest and knowledge = Perceived Efficacy.

High Opinion = High level of interest and knowledge = High Perceived Efficacy.

Low Opinion = Low level of interest and knowledge = Low Perceived Efficacy.

The correlation between opinion and knowledge will factor in how we create the teaching product for this practice.

Population Analysis and Learning styles

The results of the surveys from our target audience show little to no cannabis knowledge based on the individual's perception of cannabis. Our project will be designed to extend the knowledge of those who are in favor of cannabis for medicinal purposes while providing education for those who are on the fence. To accomplish this goal, we first needed to understand the learning styles of adults in general as well as the target audience which consists of providers and medical staff who are willing to learn but have limited time.

While considering how to construct the learning materials, we will need to keep in mind that educating adults differs from adolescents because adults bring life and work experiences as well as self-awareness to the table. During our research, we reviewed three learning domains which are cognitive, affective, and behavioral. Cognitive which refers to the subject matter, affective which is the learners' attitudes and beliefs and behavioral is the practical applications. The table below represents examples of the three domains.⁹

Cognitive	Affective	Behavioral
Lectures	Value clarification exercises	Role plays
Brainstorms	Nominal group process	Simulations
Discussions	Consensus-seeking activities	Teach backs

Further dissecting these domains, we reviewed the learning styles that fall under these categories, visual, auditory, and kinesthetic, which mean that learner need to either see, hear, touch or a combination of them all to grasp the information being taught. Below are some examples of methods that could be used to deliver educational content.⁹

Visual	Auditory	Kinesthetic
Transparencies	Lectures	Role Plays
Videos/Slides	Group Discussions	Simulations
Flip Charts	Informational conversation	Practice demonstrations
Readings	Stories and examples	Writing/Note taking
Demonstrations	Brainstorms	Activities

Our intention is to create the program utilizing a combination of these methods to ensure that the target audience can retain the information presented.

References

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- ⁹ Principles of Adult Learning and ISD - [nhi.fhwa.dot.gov](https://www.nhi.fhwa.dot.gov).
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Appendix

Provider Cannabis Survey

We appreciate your interest in completing the following survey. We are interested in the thoughts and beliefs that providers have about cannabis in medical practice.

Please review the following definitions which will help you in completing the survey.

Cannabinoids are substances coming from the plants *Cannabis sativa* or *Cannabis indica* (also known as “marijuana”) and are used for medical purposes or recreationally.

Medical cannabis refers to cannabinoids being made available through licensed medical centers only to individuals who have a doctor’s recommendation to possess and use cannabinoids to treat a medical condition.

	Yes	No
Are you registered to treat patients for medical cannabis?	0%	100%

	Yes	No
Have you ever certified a patient for Cannabis Therapy?	0%	100%

Q1. Please indicate your agreement or disagreement with the following statements.

	Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree
Medical cannabis is a legitimate medical therapy.	40%	20%	40%	0%	0%
Medical providers should be offering medical cannabis for managing medical conditions.	20%	40%	40%	0%	0%
Medical cannabis has significant interactions with medical therapies.	20%	20%	60%	0%	0%
Medical cannabis can effectively treat symptoms associated with medical conditions.	20%	40%	40%	0%	0%
The process to certify patients in the medical cannabis program is difficult to navigate.	80%	0%	20%	0%	0%
The process to certify patients in the medical cannabis program prevents me from enrolling patients.	0%	0%	100%	0%	0%
I believe my patients not enrolled in the medical cannabis program are using cannabis illegally to treat their medical conditions.	60%	20%	20%	0%	0%

Q2 How helpful do you think cannabinoids are for the following symptoms:

	Very helpful	Somewhat helpful	Neither helpful nor not helpful	Somewhat not helpful	Not at all helpful	Don't know
Pain	40%	20%	20%	0%	0%	20%
Seizures	40%	0%	40%	0%	0%	20%
Nausea and/or vomiting	40%	20%	20%	0%	0%	20%
Loss of appetite	60%	0%	20%	0%	0%	20%
Muscle spasms	40%	0%	20%	0%	0%	40%

Anxiety	40%	20%	20%	0%	0%	20%
Depression	40%	0%	20%	0%	20%	20%
Insomnia	40%	20%	20%	0%	0%	20%
Weight loss	40%	0%	20%	0%	20%	20%
Tics	0%	0%	0%	0%	0%	100%

Q3. How helpful do you think that cannabinoids are for the treatment of the following conditions:

	Very helpful	Somewhat helpful	Neither helpful nor not helpful	Somewhat not helpful	Not at all helpful	Don't know
Cancer associated with severe/chronic pain, nausea or severe vomiting, or cachexia or severe wasting.	40%	20%	0%	0%	0%	40%
Glaucoma.	40%	20%	0%	0%	0%	40%
HIV/AIDS.	40%	20%	0%	0%	0%	40%
Tourette Syndrome.	40%	0%	0%	0%	0%	60%
Amyotrophic Lateral Sclerosis (ALS).	40%	0%	0%	0%	0%	60%
Seizures, including those characteristic of Epilepsy.	40%	0%	0%	0%	0%	60%
Severe and persistent muscle spasms, including those characteristic of Multiple Sclerosis.	40%	0%	0%	0%	0%	60%
Inflammatory bowel disease, including Crohn's disease.	40%	0%	0%	0%	0%	60%
Terminal illness, with a probable life expectancy of less than one year.	60%	0%	0%	0%	0%	40%
Intractable pain	60%	0%	0%	0%	0%	40%
Post Dramatic Stress Disorder	40%	0%	0%	0%	20%	40%
Obstructive Sleep apnea	40%	20%	0%	0%	0%	40%
Autism	40%	0%	0%	0%	0%	60%

Q4. To what extent do you think cannabis increases the risk for:

	A lot	Somewhat	A little	Not at all	Don't know
Psychotic symptoms	20%	20%	40%	0%	20%
Depression	0%	20%	60%	0%	20%
Memory problems	20%	60%	0%	0%	20%
Respiratory symptoms	40%	40%	0%	0%	20%
Accidents	40%	40%	0%	0%	20%
Low birth weight	0%	20%	20%	0%	60%

Drug overdose	40%	0%	0%	40%	20%
Stroke	0%	0%	0%	20%	80%
Diabetes	0%	0%	0%	60%	40%
Heart attack	0%	0%	20%	60%	20%
Cancer	40%	40%	0%	0%	20%

Q5. To what extent can medical cannabis improve the following for patients:

	A Great Deal	Quite A Bit	Somewhat	Very Little	Not at all	Don't know
Physical functioning	0%	0%	0%	20%	60%	20%
Energy level	0%	0%	0%	20%	60%	20%
Mood	60%	0%	20%	0%	0%	20%
Enjoyment of life	60%	0%	20%	0%	0%	20%
Social engagement (visiting with friends and family)	60%	0%	20%	0%	0%	20%
Ability to work	0%	0%	0%	20%	60%	20%
Sense of hope	40%	20%	20%	0%	0%	20%

	A Great Deal	Quite A Bit	Somewhat	Very Little	Not at all	Don't want to answer
How prepared are you to answer patient questions about medical cannabis?	0%	0%	40%	20%	40%	0%

	Yes	No
Would you be interested in learning more about medical cannabis?	100%	0%

	General	Diabetes	Kidney	Sports
What is your specialty	100%	20%	20%	20%

	Years
What is your age?	50

	Years
How many years have you been in practice?	10

	Female	Male
8. What is your gender?	100%	0%