An Exploratory Study of Medical Marijuana's Impact on Patients with Chronic Pain Beyond an Individual's Level of Function: Implications for Life Care Planning

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Abstract

Studies examining the efficacy of medical marijuana show limited evidence of its therapeutic potential and narrowly focuses on how medical marijuana improves level of functioning and ignores other key aspects of health-related quality of life. As life care planners consider disability beyond level of function, this article provides considerations for medical marijuana as a potential treatment to improve quality of life. The purpose of this study was to examine the efficacy of medical marijuana beyond the level of functioning among individuals with chronic pain. A direct content analysis was used to examine semi-structured interviews about medical marijuana use and experiences among individuals with chronic pain. Five themes were analyzed within the data: health impact of medical marijuana, cost, quality of life, social support, and accessibility. Three subthemes emerged from the data that were not initially predicted in the direct content analysis: opioids and addiction, social media and travel. Participants experienced an improvement in quality of life because of medical marijuana, and described its use as an opioid replacement in treating chronic pain. Results from this study provide a context for life care planners when considering medical marijuana as a treatment option for individuals with disabilities living with chronic pain.

Keywords: medical marijuana, cannabis, chronic pain, opioids, quality of life, disability, life care planning

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Throughout history, marijuana has been used across countries for religious ceremonies, herbal remedies, symptom relief and recreational use (Lusk et al., 2015; Pagotto, 2006). Although its medicinal use is well documented, the pharmacology of marijuana was only recently described (Lusk et al., 2015). Recent reviews show that there is substantial evidence for the therapeutic effects of cannabis in treating epileptic seizures, patient-reported spasticity in multiple sclerosis, nausea and vomiting from chemotherapy (National Academies of Sciences, 2017; Stetten et al., 2020). Although there is interest in treating other conditions (e.g. sleep apnea, fibromyalgia, Tourette's, anxiety, depression, post-traumatic stress disorder, dementia, glaucoma, spasticity due to a spinal cord injury, Huntington's disease, and Parkinson's disease) there is limited evidence to support any therapeutic benefits from treatment using medical marijuana (National Academies of Sciences, 2017; Stetten et al., 2020).

It is important to note that the majority of medical marijuana clinical trials and research narrowly focus on how medical marijuana improves level of functioning as opposed to activities of daily living and participation in society. This focus stems from the standard medical approach that views disability as a condition or problem within an individual's body that needs treatment in order to "fix the disability" (Goering, 2015). Examining the efficacy of medical marijuana beyond functioning is crucial to developing a broader scope of empirical evidence for medical marijuana which may be better captured through a theoretical lens.

The use of theory provides researchers and practitioners a larger picture of what is really going on with a health behavior or outcome (Rimer & Glanz, 2005). The Social Ecological Model (SEM) shows that "behavior both affects, and is affected by multiple levels of influence, and behavior both shapes, and is shaped by, the social environment" (Rimer & Glanz, 2005). Within the SEM there are four levels of influence on health behaviors and conditions: intrapersonal, interpersonal, community and public policy (Figure 1). The SEM can serve as a guide to understanding social and behavioral variables associated with people with disabilities and medical marijuana use. Using the SEM will allow the "interactions between and interdependence of factors within and across all levels" of using medical marijuana to be shown (Rimer & Glanz, 2005).

Although the SEM is commonly used within public health, the current canonical theory in disability research is based on the International Classification of Functioning, Disability and Health (ICF) Model. A scoping review and evidence synthesis by Berghs et al. (2016), specifically criticizes only using public health theories when creating interventions and examining behavior among people with disabilities. Within the review, some studies point out that public health professionals should only rely on the International Classification of Functioning, Disability and Health (ICF) Model, when working with people with disabilities (Berghs et al., 2016). The ICF is based on the biopsychosocial model that shows disability and functioning are outcomes of interactions between health conditions (biological) and contextual factors (psychological, social) (WHO, 2002). The ICF also identifies three separate levels of functioning: the body or body part (body function & structure), the whole person (activity) and the whole person in a social context (participation). This allows the ICF model to show that disability occurs within a range that is unique to each type of disability and individual, in turn holistically conceptualizing a person with a disability, going beyond the

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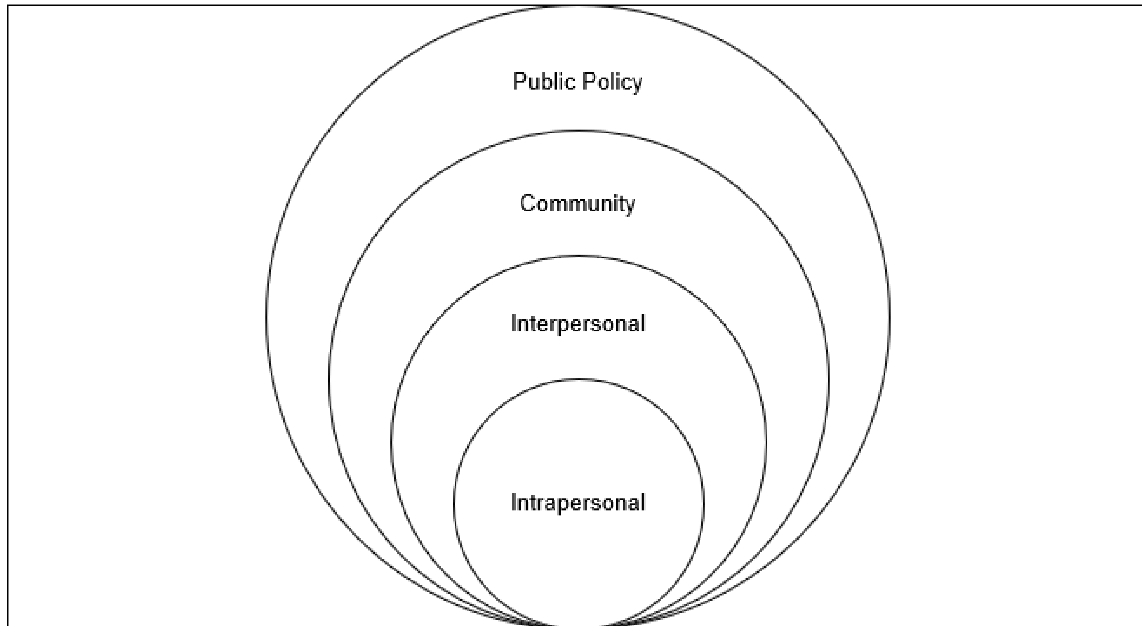
Figure 1

Social Ecological Model



traditional medical model (Berghs et al., 2016; Institute of Medicine (US) Committee on Assessing Rehabilitation Science and Engineering, 1997; Jette, 2009; McDougall et al., 2010; Pomeranz & Shaw, 2007; WHO, 2002).

Life care planners utilize this well established, frequently published, international model of disability to guide their methodology. Just as life care planners regularly rely on published research, clinical practice guidelines, and professional standards, the ICF can serve as a valuable source for substantiating recommendations included within a life care plan. The ICF can provide a very useful framework for conceptualizing and explaining the process of life care planning. The ICF model is being utilized by a number of rehabilitation professionals demonstrating its broad range applicability to injuries and disabilities. Please refer to Pomeranz and Shaw (2007) Pomeranz and Shaw (2007) for detailed examples and applicability of the ICF model within the field of life care planning.

The purpose of this study was to conduct qualitative interviews using the ICF and SEM models in order to examine the efficacy of medical marijuana beyond level of functioning among individuals with chronic non-malignant pain in Florida. Ideally a study would look at all of the disabilities and health conditions that medical marijuana is approved to treat at the state level, but to make results generalizable across all disabilities this would require a significantly large sample size. Chronic pain was chosen as an area of focus as it is the most common cause of long-term disability and can occur alongside other diseases and health conditions (NIH, 2010, 2015). Consistent with the International Classification of Diseases 11, this type of pain is associated with a condition leading to persistent pain occurring for longer than three months (Treede et al., 2015).Along with being the most common cause of long-term disabilities (Glanz & Rimer, 2005), chronic pain was estimated to affect 20.4% of

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adults in the past three months in the United States (Zelaya et al., 2020).

Methods

A semi-structured interview guide based on the ICF and SEM model was used to capture the medical marijuana use experience among individuals with chronic nonmalignant pain. Interviews ranged from 24 to 61 minutes and took place over the phone while being recorded using Microsoft's Voice Recorder©. This study was approved by the Institutional Review Board at the study institution.

Theoretical Foundations

The SEM was specifically chosen for this study as ecological models lack specificity and does not establish variables that generalize across behaviors (Rimer & Glanz, 2005). Instead, ecological models are built off of five principles that can be generalized across different behaviors (figure 2). The intention of ecological models is instead to provide a framework for other theories to fit into. The ICF was chosen for this study as it is considered the gold standard within disability research but also because the ICF fills in the gaps from the SEM specificity limitation and provides generous detail about an individual's disability. The ICF model can show the range of disability that occurs in individuals with chronic pain and the SEM can show the social determinants surrounding medical marijuana.

Figure 2

Five Principles of Ecological Models

Principle 1: There are multiple levels of influence on health behaviors.
Principle 2: Environmental contexts are significant determinants of health behaviors.
Principle 3: Influences of behaviors interact across levels.
Principle 4. Ecological models should be behavior specific.
Principle 5: Multilevel interventions should be most effective in changing behaviors.

WHODAS 2.0

To incorporate questions using the ICF model, the World Health Organization (WHO) Disability Assessment Schedule (WHODAS 2.0) 12-item version was used. The WHODAS was developed using the ICF model as a conceptual framework (WHO, 2010). The ICF provides an individualized assessment of a person with a disability at an individual, environmental and societal level and "provides a definition for its operational assessment and defines disability as a decrement in each functioning domain" (WHO, 2010). The ICF is impractical in measuring health and disability across cultures, so the WHODAS 2.0 was developed to provide a standardized generic assessment tool to measure "health and disability at the population level or in clinical practice" (WHO, 2010). The WHODAS 2.0 is considered a generic assessment as it does not target a specific disease and allows for the comparison of disability due to different diseases (WHO, 2010). As the study recruited individuals with chronic nonmalignant pain that could be caused by numerous health conditions and disabilities, the WHODAS 2.0 was the ideal tool to use, as it is etiologically neutral [15].

The WHODAS 2.0 showcases the level of functioning in six domains: 1) Cognition – understanding and communicating, 2) Mobility – moving and getting around, 3) Self-care – attending to one's hygiene, dressing, eating and staying alone, 4) Getting along – interacting with other people, 5) Life activities – domestic responsibilities, leisure, work and school, and 6) Participation – joining in community activities, participating in society (WHO, 2010). Participants were asked to assess how difficult doing the following activities were in the past 30 day, with responses ranging from none = 0 to extreme or cannot do = 4. A license approval was given by WHO to use the WHODAS 2.0 in this study.

Social Ecological Model

Questions were developed using the SEM to show how using medical marijuana for chronic pain affected all aspects of an individual's life, in order to assess the impact medical marijuana usage has on quality of life. Questions at the intrapersonal level of the SEM assess how medical marijuana has affected the disability/health condition, medical marijuana cost, and the use of recreational marijuana and other prescriptions. Interpersonal level questions focus on how family and friends affected the choice to use medical marijuana and how those relationships changed because of medical marijuana. The relationship between physician and patient was also examined. Community and societal level questions center around the accessibility associated with acquiring medical marijuana. Overall, 12 questions were asked that encompassed the intrapersonal, interpersonal, community and societal levels of the SEM (Figure 3). Questions were assessed by public health experts (JP, AB, MH, AY) to ensure construct and face validity.

Recruitment

Participants were recruited using convenience sampling from medical marijuana dispensaries, tobacco shops and online through Florida specific Facebook© groups. Recruitment was performed using an advertisement flyer depicting the study information. No contact was made to specific individuals unless they expressed interest in the study over the phone or through email communications. Locations for recruitment were chosen to ensure that rural and urban areas were covered in the state of Florida. Facebook© specifically allowed recruitment to occur across the entire state. Interested participants were emailed an informed consent through Qualtrics. After informed consent had been received, the participants were contacted to conduct the interview. Following completion of the interview, individuals were mailed a $40.00 gift card for participation. Addresses given in order to send gift cards, showed that recruitment methods were successful in obtaining participants across the entire state. Only ten participants were recruited. Qualitative research methods also show that saturation is met at around 10 participants plus or minus two (Hennink & Kaiser, 2021).

Inclusion and Exclusion Criteria

To be included in the study, participants were (1) over the age of 18, (2) had a medical marijuana prescription and (3) had to be using the prescription for chronic nonmalignant pain. Participants were excluded from the study if (1) they did not meet the proper age range defined above in the inclusion criteria, (2) did not have a medical marijuana prescription from a certified physician, or (4) could not read and/or communicate in the English language.

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Figure 3

Interview Questions Developed Using the Social Ecological Model

Intrapersonal Level

1. How has the use of medical marijuana effected your health condition (e.g. chronic pain)?
2. Do you use other substances in combination with your medical marijuana? (Probing questions: Recreational marijuana? Prescriptions? Over the counter medications/supplements?)
3. How much does medical marijuana cost you?
4. How long does the medical marijuana last before you need a refill?
5. How has medical marijuana affected your quality of life?*

Interpersonal Level

6. How did you go about seeking a medical marijuana prescription/recommendation? (Probing question: Or did your doctor prescribe it to you first?)
7. When your physician recommended medical marijuana did they give you any instructions on how to use it? (Probing questions: Dosage? How to use it? Where did you learn how to use it?)
8. How did your friends or family members feel about your decision to use medical marijuana? (Probing question: How did your choice to use medical marijuana effect any of your relationships with your friends or family members?)

Community and Societal Level

9. How accessible are the dispensaries where you currently live?
10. Tell me about your experience when you go to the dispensary. (Probing questions: How helpful were the staff? What type of information did they provide?)
11. How does having a medical marijuana prescription effect you in the workplace/recreation/daily activity? (Probing questions: Traveling out of state?)
12. How would you describe the process of obtaining a medical marijuana card? (Probing question: Did you experience any barriers (e.g. time, accessibility)).

*Question was asked at the end of the interview, not in the order listed above.

Inclusion and exclusion criteria was determined through self-report questions within the informed consent. Inclusion and exclusion criteria were also verified through interview questions.

Data Analysis

The WHODAS 2.0 data was scored based on the scoring instructions recommended by WHO (WHO, 2010). A direct content analysis was used to analyze the interview questions. This qualitative method was chosen because the process is more structured and interview questions were developed using the SEM (Hsieh & Shannon, 2005). The structure of the interview provides an initial coding scheme and relationship between codes, also known as deductive category application (Hsieh & Shannon, 2005). Initial coding categories for this direct content analysis are shown in Figure 4. Interviews were then coded into the predetermined categories, and any content that could not be placed into the original coding scheme were given a new code.

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Figure 4

Initial Coding Themes

1. Health Impact of Medical Marijuana
2. Cost
3. Quality of Life
4. Social Support
5. Accessibility

Results

Ten interviews were completed for this study. The majority of the participants were male (n=6, 60%). Participant ages ranged from 31 to 66 years old. The majority of participants had obtained some type of secondary degree (Associate degree (n=3, 30%), Bachelor's degree (n=3, 30%)), with the remaining participants obtaining either some college credit (no degree), trade/technical/vocational experience, high school or GED. Only one participant did not finish high school or obtained a GED. More than half of the participants were currently married (n=6, 60%). The remaining participants were single (never married) (n=3, 30%) or cohabitating (n=1, 10%). The majority of participant's work status was paid work (n=4, 40%) or self-employed (n=3, 30%); followed by unemployed for health reasons (n=2, 20%) and retired (n=1, 10%). Participant demographics are shown in table 1.

Table 1

Demographics

Characteristics	Frequency, n (%)
Gender	
Female	4 (40)
Male	6 (60)
Age	
18-24	0 (0)
25-34	1 (10)
35-44	2 (20)
45-54	3 (30)
55-64	3 (30)
65-74	1 (10)
Education	
Some High School, No Diploma	1 (10)
High School or GED	1 (10)
Some College Credit, No Degree	1 (10)
Trade/Technical/Vocational	1 (10)
Associate Degree	3 (30)
Bachelor's Degree	3 (30)
Master's Degree	0 (0)

Continued on next page

Table 1 – continued from previous page

Characteristics	Frequency, n (%)
Marital Status	
Single, Never Married	3 (30)
Currently Married	6 (60)
Separated	0 (0)
Divorced	0 (0)
Widow	0 (0)
Cohabitating	1 (10)
Work Status	
Paid Work	4 (40)
Self-Employed	3 (30)
Student	0 (0)
Retired	1 (10)
Unemployed (Health Reasons)	2 (20)
Other	0 (0)

WHODAS 2.0

Participant's overall WHODAS 2.0 score ranged from five to 30 (M =15.1, SD=7.68) (Figure 5). A score of zero equates to having no disability and a score of 48 translates to being fully disabled. Each of the six domains show level of functional limitation with score ranging from 0 to 4 (None =0, Mild =1, Moderate =2, Severe =3, Extreme or Cannot Do =4). Domains that showed participants on average having none to mild functional limitation included Cognition (M=0.45, SD=0.49), Self-care of (M=0.55, SD=0.93), and Getting along (M=0.40, SD=0.52). Domains that showed participants on average having mild to moderate functional limitation included Participation (M= 1.70, SD=1.25) and Life activities (M=1.95, SD=1.04). Mobility had an average score of 2.5 (SD= 1.22), showing moderate to severe functional limitation among participants. Overall domain scoring summary are shown in Figure 7 and individual domain scores are shown in Table 2. The WHODAS 2.0 also asks how many days the difficulties were present across all domains. Answers ranged from five to 30 days with the average being 24 days (SD =8.75). Responses ranged from zero to 14 days (M=3.40, SD=4.59) when asked how many days they were totally unable to carry out usual activities or work because of any health condition. When asked how many days activity was reduced (not including days unable) because of any health condition, participants responded with zero to 30 days (M=7.20, SD =8.94).

Social Ecological Model

Interviews were coded into the predetermined themes depicted in Figure 4. After the qualitative analysis was completed, additional subthemes were added that did not fit into the original coding scheme (Table 3).

Health impact of medical marijuana

When asked how the use of medical marijuana has affected their health condition, all participants responded with a positive impact statement. First responses from participants

Figure 5

Overall WHODAS 2.0 Scoring Summary

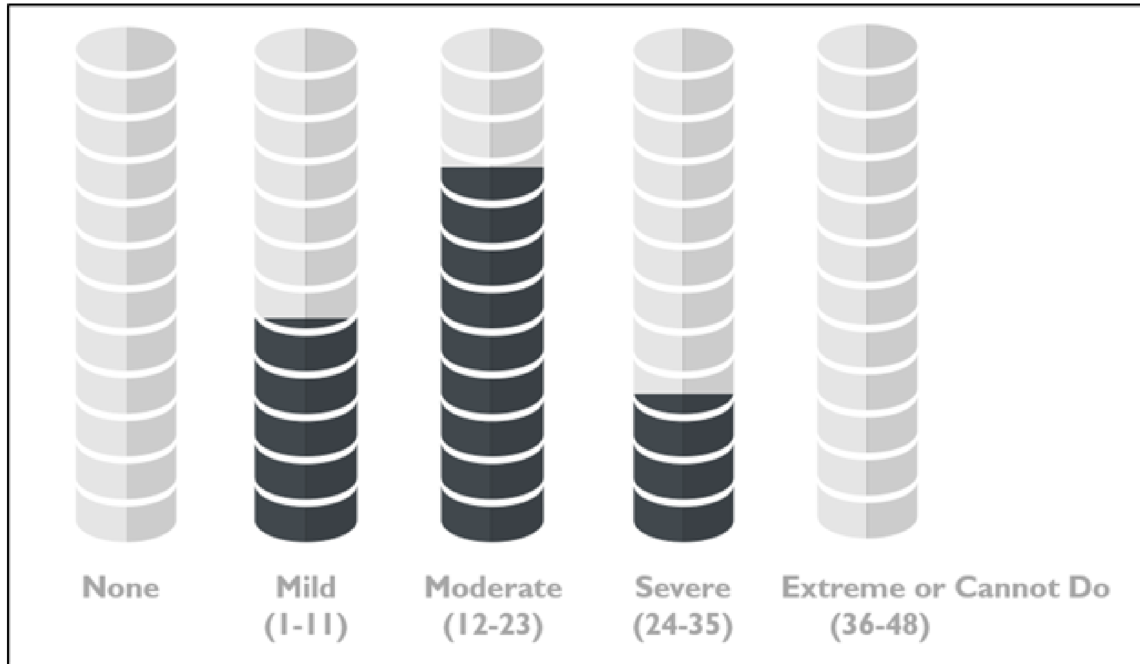

Figure 6

WHODAS 2.0 Domain Scoring Summary

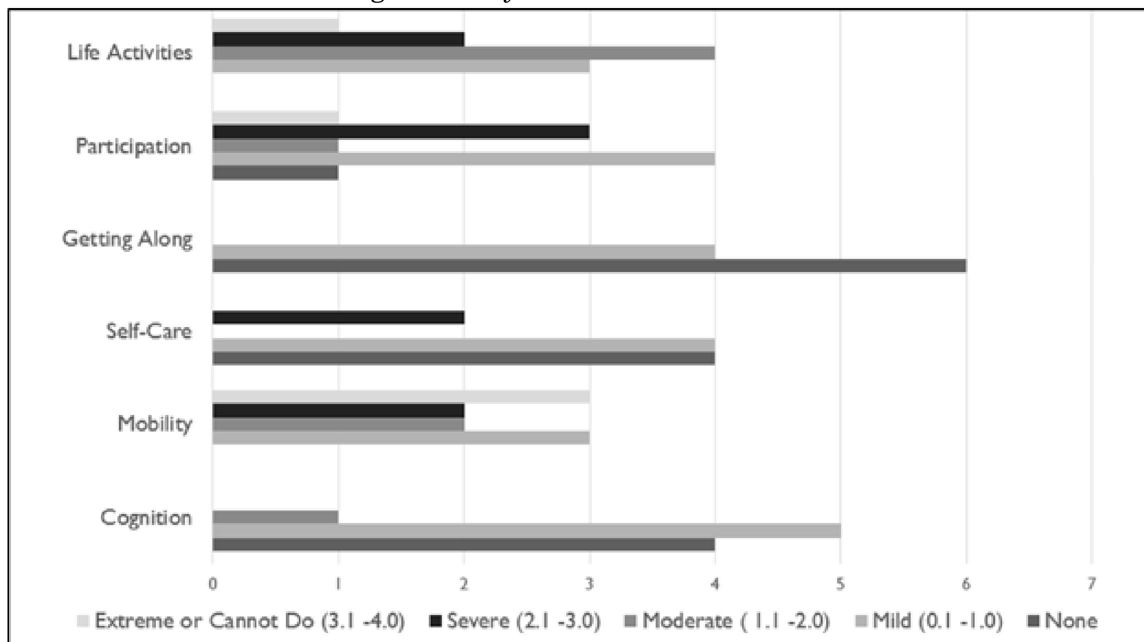

Table 2

Participant WHODAS 2.0 Scoring Results

	Overall WHODAS Score	Cognition Score	Mobility Score	Self-Care	Getting Along	Participation	Life Activities
Participant 1	8	0	2.5	0	0	0.5	1
Participant 2	17	0	3	1	0	2.5	2
Participant 3	5	0	1	0	0	0	1.5
Participant 4	18	1	4	0	1	1	2
Participant 5	16	0.5	2	0.5	0.5	2.5	2
Participant 6	30	0	4	3	0	4	4
Participant 7	17	0.5	3.5	0.5	0	1.5	2.5
Participant 8	6	0.5	0.5	0	0.5	1	0.5
Participant 9	12	1.5	1.5	0.5	0.5	1	1
Participant 10	22	0.5	3	0	1.5	3	3

Table 3

Final Themes and Subthemes of Direct Content Analysis

Themes	**Subthemes**
Health Impact of Medical Marijuana	Opioids/Addiction
Cost	
Quality of Life	
Social Support	Social Media
Accessibility	Travel

included superficial statements such as “Oh, amazing, it’s changed my life.” When asked to expand on how it had changed their life participants described experiences of increased function, weight loss and pain relief.

> “It’s enhanced my functionality.... Pretty much the reason I answered most of those questions [WHODAS 2.0] the way that I do is because I use medical marijuana.”
>
> “It’s changed my life... I’m able to eat better, I’m more socially active, I’m completely off of opiates.”
>
> “I went from always being able to walk with a cane to walking in a pair of boots with no cane. Inflammation was so bad I couldn’t hardly walk. To moving around looking like a normal person... I lost like almost 50 pounds.”
>
> “Well since I’ve been using it, I have lost weight, I feel a lot better, just overall a better person, it’s just everything”
>
> “I have lost weight, I feel a lot better, just overall better person, it’s just everything... I don’t think I can work without it.”

> "It helps with the pain in my neuropathy. It helps with the pain in my back. It helps me sleep. I have a terrible time sleeping. I'm a six hour a night guy, even with a CPAP and Ambien and medical marijuana... I don't sleep that much but when I do, I sleep very soundly, and I think the medical marijuana helps me get there."

Despite medical marijuana being described as extremely effective, some participants still used recreational marijuana. One reason for recreational use was the due to the inability to smoke cannabis. For example, one participant stated, "We don't have smokable flower available currently so of course I get my flower from other channels." Smoking cannabis results in feeling more immediate effects of the drug whereas other methods of consumption may take a considerable amount longer to feel the effects (Ashton, 2001). Other participants used recreational marijuana because medical marijuana wasn't fully relieving their symptoms or pain.

> "As far as the cannabis remedying the situation, it doesn't, but as far as treating and providing relief, it's excellent at that because when I have a situation where I'm getting spasms and I get these really bad knots, when I take it primarily something that's high in CBD or balanced equally, so if it's half CBD half THC, especially the vape pen"

> "The fact that we cannot grow our own, and eating is not the answer for me, because it's just tearing my throat up."

When asked about medical marijuana's effect, many participants also described that it helped them reduce the amount of prescriptions they have had to take daily.

> "They gave me a prescription for one 5mg pill evening. I cut them in half, so I actually use a two-and-a-half-gram pill to sleep with. And I've done that ever since I've been on it [medical marijuana] which has been years."

> "I actually still have most of those prescriptions... I think it was kind of like a safety net for me, but I don't need them... I'll maybe just get rid of them, yeah."

> "I originally got the recommendation, I was taking a lot of Advil, I was taking Advil three, four times a day. I was taking 10 Advils over the course of the day and I was really upsetting my stomach, and since I switched to the cannabis, I take Advil very sparingly.... if any way I try not to use any other medicines if I can, and just stick to the cannabis. If the pain is very high, like surgery pain has to be an opiate, that's the only thing that would cut through right after the surgery, but beyond that I try to stick to the cannabis."

Other participants expressed the desire to eventually be off all other medications besides medical marijuana.

> "My goal is to be off of those two also [current prescriptions]."

> "The reason I got on it was basically for the chronic pain and to get off the medications that were starting to affect my organs. I had the very early stages of kidney disease from taking opioids for 12 years."

Opioids and addiction

When asked about medical marijuana's impact almost all of the participants talked about opioids and addiction. A few participants sought out medical marijuana to avoid addiction that they saw in their families.

> "I just quit taking them, I was too young, and I just hated it. And there was addiction in my family, so I didn't want to go down that route."
>
> "Every doctor wants to prescribe opiates and I'm not down with that. I can't even collect disability because the disability lawyer won't touch me because the diagnosis is, you can treat your pain with opioids.... So, it is sit there and say I've refused opioids, in that case, I'm refusing treatment"
>
> "To know me, you'd know I don't drink alcohol and I don't take pills because it's killed all of my family... and I just can't go down that path."

Participants also described how medical marijuana helped them escape their own addiction to opioids.

> "I was addicted to opiates twice and taking them for chronic pain. I wouldn't say cannabis is better for you, but much less side effects, so that is a better option in my case." "My mom always took pills, but I didn't know why and now I know. For her thing it was like I have my addiction, you have yours. I'm like no, it's not the same."
>
> "I was on opiates for seven and a half years... and all kinds of other stuff, all of that shit weighing me all the time. To the point where people didn't even want to be around me."
>
> "So, for on a day-to-day basis, usually if I wouldn't have had medical marijuana, I would've had to relied on other things to help with the pain so I could still work. So, whereas before, the VA and doctors only wanted to give me pain pills, i.e. opiates, and I developed a pretty bad addiction with them. When I switched to medical marijuana, I was able to cut all those opiates out of my life. I don't have to take those any longer. I don't have to take any kind of narcotic... I think painkillers, one, I stay pretty tired, pretty slow. Whereas with the marijuana, I'm active. I'm upbeat. I'm happy. I also don't abuse the marijuana the way I did the pain pills. Towards the end, my addiction got pretty bad, and I didn't know how to take them properly."

Cost

When asked how much they spent on medical marijuana participants gave ranges of 200 to 1800 dollars per month. As it is federally illegal, health insurance will not cover any cost related to using medical marijuana (i.e. doctor appointments for medical marijuana, devices to use medical marijuana). Individuals are also required to pay cash for medical marijuana at the dispensaries in Florida.

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> “Too much... It’s probably right around 200 a month, unlike my prescription medication, which was always free. So, I’ve had to cut back in other areas in order to afford the medical marijuana... I had to cut back on my grocery bill. That’s the only place I can cut back. I’m eating less in order to stay out of pain.”
>
> “It costs me about 4-500 dollars a month... I’ve had such chronic pain issues that I have to utilize that much, and it doesn’t get you high or anything, it just does the job it needs to do to take your pain away or put you to sleep. But it’s expensive, yes.”
>
> “I could spend $300 a month no problem. I wish it was a lot cheaper. Of course, if they let us grow it, it would be, but that’s still up in the air.”
>
> “Right now, in Florida it’s very expensive... I can easily be spending 100 a week.... In Florida you were allowed to have flower, I can grow my own, then I can make my medicine so much cheaper.”
>
> “Over 600 a month... I tend to run out of it too quickly, it’s very expensive, and it needs to be offered in stronger doses.” “I can spend anywhere from $1,500 to $1,800.”

Social Support

The majority of participants described their general practitioners (GP) as supportive in their use of medical marijuana.

> “I was interested in it years ago, thinking about it for my leg pain, and my current doctor was for it. We tried different medications for my knee pain and she wrote me a recommendation to the marijuana doctor, and ever since then, it’s been great... We tried other pain medication and it just wasn’t working, and I told her I was interested in doing it. When it became legal, we decided to go that route.”
>
> “My primary care physician, which I’ve had for over 15 years, has always known that I’ve medicated and she’s always, you know, and she can’t prescribe it because we’re not at the point we are now anyways and we’re not .... She’s always been like, "If that’s what helps you, then you do it." She knows the family history.”
>
> “I was the first paying patient that my doctor, my pain management doctor allowed to try it... And it was to the point where I could, we had tried every pill, 47 steroid injections, and she just couldn’t get it. I can’t shoot anymore steroids in you. Because of inflammation. I told her, there’s no other option, let me try medical marijuana and get on the CBD.”

Another participant described their GP as not being supportive in their use of medical marijuana but still open-minded in how it personally affects them.

> “My pain management doctor is not cannabis friendly, although he is interested in how it effects my day to day life and how it’s effecting me personally, he’s not a proponent of medical cannabis at this time.”

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Another participant expressed fear in letting their GP know about their medical marijuana use.

> "My medical doctors don't know anything about it. I'm afraid to even mention it. I've heard of people telling their doctors that they are pursuing medical marijuana, and their doctors disowned them as patients."

When asked about their interactions with physicians that have undergone the required training in Florida to prescribe medical marijuana, participants described disappointment. Many felt that the medical marijuana doctors did not know a lot about marijuana and were in it more for the money.

> "They do, but it's just real vague and it's not out there like regular medication. It's basically, "Try this and see how this does, and X amount of times."

> "That's one thing I'm very disappointed about. The medical marijuana doctors, they aren't very good. I mean they don't tell you anything. They just say, "Yeah. Okay. You qualify. Here you go. Go get your license and be on your way." That's basically it."

The largest amount of social support for medical marijuana use came from family and friends.

> "I think I have about three or four friends on the train now, my mother has a card, even my best friend has a card. Cause once they saw me and how much better I was, they really wanted it. And they're were all non-utilizers, most of them. Everyone's fine with it, my daughters fine with it, she has no problem. My grandkids know it's my medicine, I teach them that."

> "I've had, for the most part, pretty good support. Me and my dad are not close, but he said he supported it and I'm closer to my wife's side, my in-laws, and they're all supportive, they think it's great. My son supports it, my wife supports it. The only thing she hates about it is it's just too dang expensive."

> "She's always been supportive of it. Most of my friends use it in some way, shape or form."

Participants also describe how some family and friends showed initial hesitation towards the use of medical marijuana, but when they saw how it had positively impacted them, they then came around to support their use of medical marijuana.

> "I have many that are really accepting of it and a few that are not very accepting of it... They're starting to come around a little bit more now that they see how it's changing my life."

> "Well, most of them aren't saying much about it. They're seeing the results and they're seeing that it's working. And they're going, "Hm, I guess marijuana isn't so bad after all."

> "I kind of opened their minds to it, especially my wife's Brazilian, and her family's from Brazil, so they have a completely different perspective with cannabis, just with the cartels and the violence that they deal with in their country... But after

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> they see it here and I've brought my mother in law to the dispensary, they just see how professional, how clean the environment is, and how ... they're able to look at all the benefits because of the way it's presented. It's not presented with the stigmas and stereotypes of the past. Pretty much everybody, once they've seen the benefit, and because it's been recommended by a doctor, and my wife came with me to the appointment, so they know that it's beneficial and they haven't seen any decline in my activity or performance or personality, so at that point they've pretty much been okay with it."

The only negative reactions participants described were from friends and not from family members. A few participants also described how their medical marijuana use changed or ended a friendship.

> "Yeah. I have a friend at work that we used to be closer and he had a ... I think it was a drug or had alcohol abuse earlier in this life, and he was kind of ... We're still friends, we still work together, but we're not as close as we used to be since I started using it."

> "People that don't like it don't like it and if you tell them about it and it rubs them the wrong way, then you get attitude. I don't keep it a secret. I don't go out of my way to tell anybody, but I keep it a secret."

> "Everyone that said that wasn't my friend anymore."

Social Media

When participants discussed how medical marijuana doctors did not provide adequate information on how to use medical marijuana, they would use social media, specifically Facebook, to learn how to use various medical marijuana products. Some people even used these Facebook groups to figure out how to find a medical marijuana doctor.

> "I learned about the different clinics on Facebook."

> "There's quite a few marijuana Facebook groups that people education themselves. We're relying on self-education because doctors and the dispensaries are all freaking clueless."

> "There's a lot of people out there that have no clue and have no clue where to begin. If it wasn't for Facebook, I'm sure a lot of people would not know about it."

> "Researching, YouTube, Facebook, my buddy, my partner... And we just discovered together."

> "It was a Facebook group we're still a part of and we pass along tips and stuff like that."

> "Well, I was on Facebook and I ran into a post about Dr. X and that's who I went to."

> "There's no reference, it's like you can search internet and everything else, other than the social media sites that people talk about what worked for them, and try this, and try that, without the social media sites."

Social media also provided a network of social support for individuals outside traditional networks, such as family and friends.

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Accessibility

Currently the majority of Florida's dispensaries are located in urban areas, specifically in bigger cities (i.e. Tampa, Miami). Participants that lived in these urban areas described dispensaries as being very accessible; "If I want to go to the one right up the road, I can get there in five minutes." Although more dispensaries are opening in Florida many participants described dispensary locations as a barrier.

> "The newest dispensary is a 90-mile round trip from my home... probably an hour and half to two hours." "The closest one is like 45 minutes away. That's very inconvenient for me."
>
> "A good, probably 20-minute ride to the closest dispensary, the best dispensary is about a 30-minute ride from me."
>
> "It's a two-hour one way, so it's a four hour to five-hour trip for me to go get it... it completely consumes a whole day."

To circumvent this barrier, many dispensaries offer delivery directly to an individual's home.

> "They're getting more accessible. Originally, I was having to have it delivered, but now within a month or so there's one right around the corner from me and then the one that I normally drive to is a 30-minute drive."

Participants also described their experiences at dispensaries as timely and pleasant, despite having to travel a considerable amount of time.

> "It's pretty efficient if you're already a patient. Basically, it's on you. You can call ahead, put in your order and when you get there it can be ready for you or your queued into the system. Then you just sit in the waiting room and you go in and you purchase your medicine."
>
> "I feel like I'm finding a reason to go just because the staff is really nice, so it's a pleasant experience. It's usually pretty quick and easy too... I really like what they do for veterans, so that's something that I'm very appreciative."
>
> "People are nice. They're friendly. You tell them what you want, and they get it. They ring it up, but you have to pay cash for it. Can't use a credit card."
>
> "Now the dispensaries are starting to do a group meeting once a month where people can come in and talk, and share stories, and ideas, or like maybe try this, maybe try that. So, it's getting better. Well, we crawled through this program, I mean crawled."

Dispensaries are also providing medical marijuana patients with the information that the doctors prescribing medical marijuana failed to give them.

> "Some are very knowledgeable and very helpful and then there are others that it seems like it's just a job for them and they don't care one way or the other."
>
> "I guess other than their lack of knowledge, it's always good. I go and get what I need and gave them all of my money and leave."

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> "The doctor, not as much, but the dispensaries are really good about providing information, counseling some things when you get the product, and also they're willing to explain everything to you."

The largest complaint from participants was that the dispensaries tend to run out of stock. Participants expressed frustration as many times their preferred products were unavailable.

> "I've found that their inventory tends to run low a lot." "At first, it was difficult because there were so many people and they ran out of product a lot." "In general, it's pretty good. The only problem I run into is they always run out of stuff." "I always call ahead and ask if they have it. I'm not gonna drive 45 minutes on a "I wonder if they're gonna have it." "They're constantly out of stuff, though, every time you go, they're out of stuff, and you got to be down there right when their delivery gets there." "So, they run out of their stock quite frequently."

Individuals that were some of the first to sign up for the program described the process of obtaining their medical marijuana card as difficult and frustrating.

> "The state refused my photo the first time, they rejected it, which was a passport photo that was taken at the post office. They rejected it. I had to resubmit the application and a new photo and then it was approved after that. It took me every bit of four months."
>
> "Oh, mine was very tedious, like at the beginning. It took three months to get it. I had to fill out the application and mail it in, I had to mail a check or money order, I had to send two passport photos in... Well now you can pay online, they extract your driver's license photo, so you don't have to do anything with that, and you can complete everything online and sign and pay online. So, it's taking 10 sometimes only five days, and you're getting your temporary card in the email, then you can go to the dispensary"

Participants that started later in the program described it as more accessible as the process has been moved completely online; "That was easy. It was all online." Participants that initially had a difficult time later talked about how the process has changed and is more accessible; "I think it's even more accessible now than it was."

Travel

Participants were also asked how using medical marijuana affected them in their daily lives (i.e. running errands and going to work. A couple of participants discussed how they scheduled their errands around their medical marijuana use.

> "The thing there is when I use medical cannabis, I do not and will not drive."
>
> "It's not preventing me from doing anything. If I know I'm driving, I usually try not to take it just in case I should get pulled over for some reason."

Other participants discussed how it did not affect them at all, because they were using CBD and not THC cannabis products, so they were never "high."

> "It doesn't affect me at all... It's not like I don't know what I'm doing or what's going on. It's not like getting drunk. It's not like you're jumping into your car and you're wasted on wine or something."
>
> "It's absolutely getting me out of the house. And start working in my yard, and start working in the garden, and being able to go and do stuff... Absolutely just day and night, to being on opiates to going to medical marijuana. Absolutely. 100%. I'd lay around the house sometimes so depressed, and so wigged out from all the chemicals, I wouldn't even take showers for four or five days. Not even get out of my pajamas. Not even leave my house."

The use of medical marijuana had more of an impact on participants when it came to the workplace. A couple of participants considered it a non-issue.

> "It actually makes me feel safer because I illegally used cannabis for a few years, and I risked my job and . . . but I couldn't not do it, because I was in so much pain."
>
> "Well, at first, I was really wary about even letting them know about it, but then I found out that my company secretly started supporting it two years ago."

Many participants expressed fear of losing their job when thinking about having to tell coworkers and when having to look for another job.

> "I am afraid that they would judge me, even though I do an amazing job and they love me and I've been there. I don't want them to judge me on the fact that I have to use cannabis as my medicine... I don't want to lose my job."
>
> "Difficult, for sure. I mean, I still have the job I've had all along. So, with my current position it's a non-issue... But I'm in the process of looking for other jobs also, and that's something that's a concern of mine because I may need to go a month without the medicine so that I can possibly pass a test if that's necessary, especially with my degree, I'm sure at some point, unless things change, I'm gonna have to pass a test and pull off cannabis during that time period."
>
> "Well, some people I know it's affecting. They're having to hide it, or they're afraid their companies are going to let them go or fire them. My brother had trouble finding a job. He's got one now that didn't care. I have a buddy, he wants to get his medical marijuana card but won't get it because he's afraid they'll take his weapons away from him."

When asked about traveling out of state with medical marijuana, a couple of participants said they would travel with their medical marijuana, but not their recreational marijuana.

> "It's like American Express. I never leave home without it."
>
> "No, not right now because, I mean the product that I use, I'm not bringing flower, I vape but people think it's a vape cigarette, it doesn't smell, it has no marijuana odor at all. And the distillate doesn't smell, and I just put that in my suitcase. And check my bag."

Most participants said they would not travel with their medical marijuana in fear of getting into legal trouble.

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> "I'd be terrified to step over the state line if I have marijuana with me. I don't know. A lot of people say they travel with it. You just take a chance I guess... I don't want to end up behind bars at my age."
>
> "I'm not going to take my medicine with me, I'll just have to wait until I get there and buy recreational marijuana there."
>
> "Well, I left it here. I didn't take it with me... I went to Pennsylvania. I wasn't sure whether they allowed medical marijuana, so I wasn't gonna have TSA find my vape pen and arrest me. I called the airport and asked them, and they said "Well, it depends on the TSA officer. You might get arrested." And I said yeah, okay."
>
> "I'm petrified to go out of state with my medical marijuana. I go to the casinos, I don't take it with me there, because it's illegal there... going from state to state with it is still illegal, and to use, I mean I've taken it, but I've been panicked the whole time that if I got in a wreck, or got pulled over, and it was found in my vehicle, what would happen to me... Well I would love to travel more if I could take my medicine with me."

Quality of life

Despite the barriers that the participants experienced personally, socially or within their communities, all the participants expressed how much medical marijuana has improved their quality of life and gave them relief from years of chronic pain. Quality of life can be defined as "an individual's or a group's perceived physical and mental health over time" (CDC, 2018).

> "My attitude is better. I still have some pain issues, but my wife says I'm not grumpy anymore, I tend to be in more of a happy mood. I think its mood elevation. I feel better, so my attitude is better. My pain levels during the day are diminished somewhat, are under control at least... When I was taking the pills and opiates, I was lethargic, I didn't want to move, I didn't want to do anything. At least now I want to do things. I want to go out and be active, I want to go out and walk. Unfortunately, I'm limited in how much of that I can do, but at least I have the will to walk and that's important."
>
> "It's affected my quality of life to where I wanted to work more."
>
> "I would cry almost to sleep, because the pain was unbearable... I guess I thought I was heading that direction [suicide], but the pot has actually helped me, and the stress has gone bye-bye. There's no stress in my life no more, very little."
>
> "It's enhanced it to where I don't have to rely on opiates to maintain the pain that I have. It makes me more functionable. It's also made me healthier in a way because as someone, who's always been overweight. I don't take medications for anything to maintain my current lifestyle. Nothing."
>
> "It's affected it in a positive way. My mood is much better, and the pain is subsided and I'm getting my sleep, which is really important to me."

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> "Not everybody is that strong, because there's you know, years of chronic pain, what it does to you. I mean it really destroys you, it's horrible... I would never have gotten off chemicals if it hadn't been for medical marijuana. I would still be in pain management, eating two, 300 pills a month, killing my liver, killing my kidneys. Changed my life."
>
> "My overall state of life. My overall mood. The cannabis helps everything that I have wrong with me. Everything. I mean, it helps me in every aspect of my life. That's not an exaggeration."

Discussion

Results from the WHODAS 2. 0 revealed that individuals' overall level of functioning ranged from mild to severe impairment, with the majority of participants having moderate impairment (Figure 5 & Table 4). Across the six domains, impairment ranged from no impairment to extreme/cannot function (Table 5). Cognition scores ranged from none to moderate, with the majority of participants having none to mild cognitive impairment. Mobility scores ranged from mild to extreme/cannot do, with the majority having extreme impairment. Self-care ranged from none to severe, with the majority of having none to mild impairment. Getting along scores ranged from none to mild, with the majority having no impairment. Participation scores ranged from none to extreme/cannot do, with the majority having mild impairment. Life activity scores ranged from mild to extreme/cannot do, with the majority having moderate impairment. Overall mobility followed by life activities and participation had the greatest level of impairment. Results from the direct content analysis further corroborate the results from the WHODAS 2.0 as many participants described having limited mobility that affected them not only in their daily life activities but participating in other community and societal functions.

Table 4

Overall WHODAS 2.0 Scoring Summary

	None	Mild (1-11)	Moderate (12-23)	Severe (24-35)	Extreme or Cannot Do (36-48)
Number of Participants	0	3	5	2	0

Results from the direct content analysis revealed that medical marijuana use had a positive health outcome when used in the treatment of chronic pain. Participants described their use of medical marijuana as "life changing" as many personally found that medical marijuana was the only form of relief for their chronic pain. Although randomized control trials show that medical marijuana is limited in its therapeutic benefits, results from this study contradict those findings (National Academies of Sciences, 2017; Stetten et al., 2020). Along with chronic pain relief, participants described that medical marijuana helped them in treating other health conditions (e.g. depression, PTSD, spasticity, insomnia), albeit evidence from clinical trials. As medical marijuana is seen is being touted as a "miracle drug," these results could simply be the result of a placebo effect. As medical marijuana research among human participants is limited, these results could show the potential medical marijuana has

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Table 5

WHODAS 2.0 Domain Scoring Summary

	None	Mild (0.1-1.0)	Moderate (1.1-2.0)	Severe (2.1-3.0)	Extreme or Cannot Do (3.1-4.0)
Cognition	4	5	1	0	0
Mobility	0	3	2	2	3
Self-Care	4	4	0	2	0
Getting Along	6	4	0	0	0
Participation	1	4	1	3	1
Life Activities	0	3	4	2	1

for treating other health conditions outside of epileptic seizures, patient-reported spasticity in multiple sclerosis, nausea and vomiting from chemotherapy (Stetten et al., 2020).

Along with finding relief from the pain many participants also found reprieve from their addiction to opioids. These results are specifically important as the US is currently facing an opioid epidemic. In 2016, opioids killed more than 42,000 individuals, with 40 percent of deaths being from prescription opioids alone (CDC, 2017). It is currently estimated that 2.1 million individuals suffer from an opioid use disorder (HHS, 2018). Research is beginning to show that as recreational and medical marijuana have been legalized, opioid related deaths, hospitalizations and overall use have significantly decreased (Boehnke et al., 2016; Livingston et al., 2017; Powell et al., 2018; Shi, 2017). With increased legalization also comes concerns as marijuana does have negative short and long-term side effects such as breathing problems (specifically from smoking marijuana), increased heart rate, Cannabinoid Hyperemesis Syndrome, temporary hallucinations, and paranoia, and the worsening of symptoms in patients with schizophrenia (NIDA, 2018)(NIDA, 2018). Despite these negative side effects, when comparing the side effects of cannabis to opioids, cannabis appears to be a safer method for treating chronic pain and could be seen as an appropriate harm reduction approach for opioids. Along with abstaining from opioids many participants also described being able to eliminate other types of medications, to where medical marijuana was their only prescription drug currently being used. A few participants used recreational marijuana in conjunction with medical marijuana, as they felt that the CBD alone did not treat their chronic pain.

Results also revealed that many participants personally sought out medical marijuana, despite their general practitioner (GP) not being cannabis friendly. Many described positive relationships with their GP's, and that they were supportive of them trying medical marijuana for treatment as no other forms of treatment were currently working. GP's that were described as not being cannabis friendly, even showed interest in the health outcomes of the patients as the pursued the use of medical marijuana. The largest form of support described from participants was from family and friends. Family members that showed initial hesitation, eventually fully supported participants when they saw how effective medical marijuana was at treating an individual's chronic pain. Participants talked about how the "stigma of marijuana was lifted" when their friends and family members saw how much it

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was improving their overall quality of life. According to the literature, social support has a significant impact on health outcomes. Therefore, the increased social support participant's experienced from family and friends, could be a reason that participants experienced health benefits outside the medical marijuana treatment of their chronic pain (Reblin & Uchino, 2008; Wang et al., 2003).

The largest barriers experienced by participants were the cost of medical marijuana, knowledge provided by medical marijuana physicians, dispensary locations and stock, and fear of traveling out of state. Participants spent anywhere from 200 to 1800 dollars a month on medical marijuana. Many described how they had to cut back on other things in their lives to be able to afford medical marijuana. Even though they had to cut out other things in their budget, participants deemed it worthwhile as the relief medical marijuana brought them was described as "priceless." Participants also expressed how they were disappointed in the medical marijuana physicians in Florida, as many of them could not give them general knowledge on medical marijuana or how to use it correctly at the time of their first appointments. Participants circumvented this barrier through their social networks. These networks consisted of family and friends, but mostly from individuals they met via social media, predominantly Facebook. They described Facebook as a place where individuals not only share their experiences on how medical marijuana has helped them but also a place to see what has worked and what products haven't worked for those with similar health conditions.

Participants also listed dispensaries as another place to find information on medical marijuana and how to use various products. Participants described an overall positive experience when discussing dispensaries, except when it came to the location of dispensaries and the overall number of products each dispensary had in stock. Many participants had to travel a fair distance (30 minutes to an hour) to dispensaries, as many are in large urban hubs. Dispensaries have begun to bypass this barrier to individuals by offering at home delivery for a small fee or for free. The only barrier dispensaries have been unable to address are that of the amount of stock they can hold at one time. Many participants complained on how the dispensaries were "always running out of stock." This barrier was elevated when participants had driven a long distance to return home without the product that worked best to treat their chronic pain. Finally, participants experienced a considerable barrier in accessibility, as marijuana is federally illegal, many participants were too afraid to travel out of state with medical marijuana.

Implications for Life Care Planning

As of February 2022, 37 states and the District of Columbia (DC) have legalized the use of medical marijuana (ProCon.org, 2022). According to Lusk and Rutherford Owen (2017), as states continue to legalize medical marijuana and evidence demonstrates the benefits of its use, further training is necessary in the advancement of life care planning. Additionally, due to the opioid epidemic, pain management plans should include alternatives to traditional pharmacologic options including medical marijuana (Albee & Penilton, 2019).

Results of this study reveal numerous implications for recommending medical marijuana within a life care plan. Each theme identified through the qualitative analysis reveal considerations for life care planners when developing their plans. Table 6 depicts the relationship between the themes identified within the results section above and their impact on

the life care planning process. As evident in the table, participants reported many examples of how medical marijuana has positively impacted their functioning while managing pain.

Table 6

Linking Results to Life Care Planning Consideration‘

Theme	**Participant Example(s)**	**LCP Consideration**
Health Impact	"It's enhanced my functionality. . . " "I actually still have most of those prescriptions. . . I think it was kind of like a safety net for me, but I don't need them. . . I'll maybe just get rid of them, yeah."	Evaluations, Routine Future Medical Care, Vocational Implication, Recreation Recommendations, Attendant Care, Therapeutic Modalities, Medications
Cost	"It's probably right around 200 a month." "It costs me about 4-500 dollars a month. . . ." "Over 600 a month. . . "	Medications, Evaluations, Routine Future Medical Care
Quality of Life	"My attitude is better. I still have some pain issues, but my wife says I'm not grumpy anymore, I tend to be in more of a happy mood. I think its mood elevation. I feel better, so my attitude is better. . . . . . . When I was taking the pills and opiates, I was lethargic, I didn't want to move, I didn't want to do anything. "It's affected my quality of life to where I wanted to work more."	Therapeutic Modalities (individual/marriage/family counseling), Leisure/Recreation Activities, Evaluations, Routine Future Medical Care, Medications, Vocational Recommendations
Social Support	"I have that are really accepting of it and a few that are not very accepting of it . . . They're starting to come around a little bit more now that they see how it's changing my life." "There's quite a few marijuana Facebook groups that people education themselves. We're relying on self-education because doctors and the dispensaries are all freaking clueless."	Intake process, Education, Evaluations, Therapeutic Modalities (Group Therapy, (Family System Therapy), Vocational Implications, Recreation/Leisure Activities

Continued on next page

Table 6 – continued from previous page

Theme	**Participant Example(s)**	**LCP Consideration**
Accessibility	"They're getting more accessible. Originally, I was having to have it delivered, but now within a month or so there's one right around the corner from me and then the one that I normally drive to is a 30-minute drive."	Transportation, Medication Needs

Due to the multidimensionality and dynamic nature of the life care plan, any impact on individual's level of disability can affect other areas of a life care plan. Results of this study illustrated how several participants reported positive impacts on overall health due to medical marijuana and decreased opioid use. This included enhanced physical functioning, increased social engagement, ability to participate in more activities, better eating habits, and ability to explore vocational options. With changes in disability due to the positive impact of medical marijuana use, life care planners need to consider addressing multiple areas of the life care plan. These authors have provided potential areas that could change if medical marijuana was recommended within a life care plan (Table 6).

Previous literature on life care planning has focused on the potential and impact of medical marijuana as a treatment option for people with disability (Albee & Penilton, 2019; Lusk & Rutherford Owen, 2017). Although this article is the first to provide empirical evidence demonstrating the positive efficacy of medical marijuana and associated implications for life care planning, it should be noted that this study is exploratory in nature. Study findings demonstrate the importance of gaining knowledge about medical marijuana as a treatment option for people experiencing chronic pain and applying such knowledge to the process of life care planning. This applies to dialogue with clients during the intake process, communication with health care providers, and making recommendations within the life care plan.

Limitations

One limitation to the study is the sample size associated with the WHODAS data. The WHODAS can be used to describe the level of disability in a population and to validate the specific tool among a specific population. As this study was only looking for the level of disability and not to validate the tool among patients with chronic pain, a small sample size is appropriate. Another limitation with the small sample size of the study, is that is not considered generalizable. However, the concept of generalizability is not valid for qualitative research, but rather validity is captured through saturation (Hsieh & Shannon, 2005). Another limitation is that the sample was only taken from chronic pain patients living in Florida. It is possible that results might change depending on states due to regulations and the legalization of recreational marijuana. Finally, selection bias may have occurred within the sample. Many of the participants were strong advocates of medical marijuana that may have biased the results to show medical marijuana in a more positive light.

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