Medical Marijuana in Florida: The Knowledge, Practices, and Attitudes of Providers

Krystal Hemingway, BSN, RN

Florida State University

Abstract

Objectives. To describe the knowledge, practices, and attitudes of Florida Medical Doctors (MDs), Doctors of Osteopathic Medicine (DOs), Physician Assistants (PAs), and Advanced Practice Registered Nurses (APRNs) regarding medical marijuana (MM).

Methods. We utilized a descriptive Web-based cross-sectional quantitative survey based on stratified random sampling to yield representation within each group. The survey questionnaire was adapted from a Washington State MM survey instrument to reflect Florida Statutes. A link to this questionnaire was sent to 10,540 providers in Florida through Qualtrics®. After evaluating the response rate, a second stratified random sample with 10,540 providers was selected and recruited based on the same distribution.

Results. A total of 561 providers completed the survey (242 MDs, 39 DOs, 221 APRNs, 59 PAs). Almost two-thirds (63.2%) of respondents were not familiar with Florida Statutes, particularly the conditions that qualify patients for MM. One-third (31.7%) have completed continuing education about MM. Many providers (86.8%) in Florida reported a lack of access to the MM registry. Provider attitudes included concern about lack of evidence-based practice. Only 8.3% (n =40) were qualified providers in the state. Of those qualified to provide authorizations, 57.5% (n =23) had provided a MM authorization. Of those who were not qualified to provide an authorization, 23.5% (n=132) had recommended a patient consult with a qualified MM provider.

Conclusions. This is the first study to report a knowledge deficit of Florida providers regarding MM. Despite legalization of MM in Florida, this research indicates providers have not educated themselves on its use nor are many offering MM authorizations. This finding is significant as it suggests limited access to MM authorizations for patients who qualify and might benefit from

MM use. Future research could investigate whether receiving MM training influences provider practices and patient access. Florida policy makers should consider revisions to law making MM more accessible such as adding APRNs as qualified providers.

Introduction

Thirty-three states and the District of Columbia have legalized marijuana for medicinal purposes (Disa, 2019). This change has had implications for many providers and patients. In the state of Florida, for a physician to be able to recommend marijuana, he/she must hold an unrestricted license as a physician or osteopathic physician (Florida Department of Health [FDOH], 2019). Marijuana is still a Schedule I classification which prevents physicians, nurse practitioners, and physician assistants from prescribing it and it can only be recommended after the patient has obtained a medical marijuana (MM) card from a qualified physician (Florida Statute, 2019). Upon the completion of a physical exam and then approval for a MM card, the patient will then pay $75 to the FDOH and present a passport photo or their Department of Motor Vehicles (DMV) photo. After waiting 10-14 days for the processing of the MM card, a patient can then go to a MM Treatment Center (MMTC) where they can access the recommended dose from the MM registry. The registry is accessible to the MMTC and the qualified physician. All providers in Florida involved in the patient's care can access to this registry per Florida Statute as well. Although this is available, it is questionable how many providers in Florida know that they can access this registry. Furthermore, the MMTC does not necessarily have licensed medical personnel who are able to explain the scientific benefits and the risks of MM to these patients nor do they have any evidence-based explanation for what strains of MM or percentages work better for one qualifying disease or the other. Legalizing marijuana for medicinal purposes is great in theory, but if providers are not knowledgeable about the uses of MM and its effectiveness, then how can they be educating their patients? Additionally, if providers are unaware of their own bias, how can they be properly educated on MM and utilizing it for the benefit of the patients? Carlini et al. (2017) surveyed 494 providers in

Washington State regarding their comfort with recommending MM and found that healthcare providers did not find educating themselves on the medicinal utilization of marijuana as being of importance. Approximately half of these providers were allowed by law to recommend marijuana and of those allowed to recommend, only 26% were comfortable with this recommendation. In a study conducted with 114 healthcare providers in Colorado, the investigators reported that although providers understood the effects of using marijuana, they were uncomfortable discussing these effects with their patients (Brooks et al., 2016). In a sample of 62 providers in Minnesota, 58.1% believed that MM was a useful medical treatment, but only 38.7% of providers believed that it should be offered as a recommendation to patients (Philpot et al., 2019). Over half of these participants wanted to learn more about MM's uses and benefits. Florida legalized the use of MM in 2016, but the knowledge, practices, and attitudes of Florida providers regarding the use of MM are unknown.

Problem Statement

Therefore, in the state of Florida, what are the knowledge, practices, and attitudes of providers regarding MM?

Purpose and Aims

The purpose of this project is to describe the knowledge, practices, and attitudes of Florida Medical Doctors (MDs), Doctors of Osteopathic Medicine (DOs), Physician Assistants (PAs) and Advanced Practice Registered Nurses (APRNs) regarding MM.

Aim 1: To describe the knowledge, practices, and attitudes of Florida healthcare providers toward MM use.

Aim 2: To identify the barriers to MM use in Florida.

Aim 3: To create a website with links to the survey results' summary and to provide educational resources for providers regarding MM.

Review of Literature

Provider Knowledge

Other states that have been using MM longer than Florida have found a disparity in the knowledge and/or educational needs in healthcare providers (Philpot et al., 2019; Carlini et al., 2017; Kaplan et al., 2019; Klein & Lugo, 2018; Mendoza & McPherson, 2018; Brooks et al., 2017). Philpot et al. (2019) conducted a quantitative study to evaluate the knowledge base and attitudes of providers regarding the benefits of MM. The sample was comprised of healthcare providers (medical doctors [MD], doctors of osteopathy [DO], Bachelor of Medicine, Bachelor of Surgery [MBBS], APRNs, and PAs) at the Mayo Clinic in Minnesota. Over 75% of the 62 respondents were interested in learning more about MM. Some limitations of this survey were the sample size and the generalizability of results as questions were referential to the Minnesota state MM program. In a study (n=310) conducted by Kaplan, et al. (2019), found providers in Washington state were aware of MM cancer and intractable pain being qualifying conditions which were attributed to mandatory provider education in that state regarding the use of opiates for management of noncancerous chronic pain. Further, it was identified that other qualifying conditions for the state of Washington varied in provider responses as there is no required education on these topics (Kaplan, et al., 2019). Another quantitative study (n=494) completed by Carlini et al., (2017) was to evaluate if providers are educating their MM patients about dosing, routes of administration, side effects and the composition of the plant (marijuana). This survey assessed providers' knowledge of, beliefs, clinical practices, and educational needs regarding MM. Of note, this survey was completed by some healthcare providers who cannot

authorize MM. Overall, healthcare providers responding to the survey reported a low knowledge and comfort level with MM further reporting not having received scientific education on MM. Furthermore, a qualitative study among Washington State Fellowship/Residency Programs was conducted with a goal to evaluate the prescribing competence in Nurse Practitioner (NP) programs offering a fellowship/residency (Klein & Lugo, 2018). The sample involved NP programs throughout the state and neighboring states. It was found by Klein & Lugo (2018) that none of the NP programs taught nor offered MM recommendation education. Moreover, Klein & Lugo (2018) speculated that one potential explanation could be that NP programs receive federal monies and as a result of receiving such funds, programs are weary about providing education regarding MM due to it being illegal federally.

With educational opportunities in a state like Washington that has had legalized MM since 1999, Colorado's legalization of MM in 2001, and Minnesota's legalization in 2014, it shows that other states like Florida may need education as well (MMP, 2019). Indeed, in Colorado a quantitative study examined providers' knowledge of marijuana laws, health implications, behaviors of professional practice and attitudes about education (Brooks et al., 2017). The survey targeted Colorado-based providers (physicians, nurses, and medical assistants). One limitation was that these providers were specifically caring for children, adolescents, pregnant and breastfeeding women. Results indicated that few providers reported feeling knowledgeable about MM health risks and did not feel comfortable talking about it with their patients. It should be noted that MM is contraindicated in pregnant and breastfeeding women, children, and adolescents (National Academies of Sciences, Engineering, and Medicine, Health and Medicine Division, Board on Population Health and Public Health Practice and

Committee on the Health Effects of Marijuana: An Evidence Review and Research Agenda, 2017).

The NCSBN (2018) warns APRNs and APRN students that although they have an obligation to be aware of MM as well as its uses and side effects, they must also be wary of the scientific research they base their knowledge on. It is important to base clinical decisions on evidence generated from high quality peer reviewed research studies. The Federal Drug Administration (FDA) has MM listed as a Schedule I drug and therefore it is difficult to study and generate an evidence-based study.

MM Educational Programs for Healthcare Providers

Education should improve knowledge of providers regarding MM, but there is currently no official educational or training requirement besides that for qualified physicians in Florida. In Washington state, they have certified MM consultants. These MM consultants are not care providers but, they are intended to assist with educating MM patients about MM. MM consultants are provided by the state of Washington 20 hours of education. However, this program focuses on how to sell MM rather than how to make good clinical recommendations (Kaplan et al., 2019). Interestingly, the certified MM consultants were unsure what diagnoses were appropriate for MM use (Kaplan et al., 2019).

Another study described hospice providers' knowledge, attitudes and perceived skills following online education on MM (Mendoza & McPherson, 2018). Although physicians and APRNs were included in this study, the majority of participants were nurses. Mendoza & McPherson (2018) speculated that the reason the majority of participants were nurses arose from the perception that the education and post-survey would take too long or that there was a lack of interest in obtaining a completion certificate. Many limitations were noted including technical

difficulties related to the online content. Of note, the hospice workers taking the online education were not necessarily in states that had legalized MM (Mendoza & McPherson, 2018).

Attitudes and Barriers of Providers

Many providers are skeptical of the utilization of MM for their patients with diagnoses that are approved for MM use unless they are seeking end-of-life care (Charuvastra et al., 2005, Luba et al., 2018, & Bega et al., 2016). Luba et al. (2018) surveyed (n=426) multiple different medical disciplines (which are identified as "medical doctors, nurses, and other") participating in end-of-life and palliative care where the majority of participants agreed that MM was appropriate for palliation of symptoms (nausea, pain, appetite stimulant, sleep disturbance, emotional suffering, and irritability). This study included multiple states and those states that had MM legalization had providers that were more accepting of utilizing MM as an end-of-life or palliative modality (Luba et al., 2018).

Charuvastra et al. (2005) identified in a survey (n=960) completed between September 1997 and March 1998 that only one-third of physicians agreed with the utilization of MM where one-third were neutral on the subject. Of note, only 4 states had legalized MM at this time. (MMP, 2019). The authors reported that a physician's personal attitudes regarding MM seemed to influence their opinion from a medical perspective as well. A loose comparative analysis by Luba et al. (2018) reported a change of attitudes with more acceptance and understanding regarding MM compared to the findings of Charuvastra et al. (2005).

Attitudes of providers in Washington state were identified as needing more educational content of MM as providers as well as nearly two-thirds of the 310 participants (62.5%) agreeing that MM should be re-evaluated at the federal level from being classified as a Schedule I drug (Kaplan, et al., 2019). In accordance, Kaplan, et al. (2019) addressed some providers having

legal concerns with recommending MM out of concern that although it is legal in the state of Washington, it remains illegal federally. A further barrier that was addressed was a concern for patients (particularly the elderly) that would utilize recreational marijuana in opposition to MM for their ailments that would qualify under MM conditions due to fear of their provider's opinions regarding it (Kaplan, et al., 2019). Ultimately if patients do this, it is concerning for drug-to-drug interactions as patient's medications would be being reviewed by a healthcare provider.

In a quantitative study using a random sample (n=56), Bega et al. (2016) expressed a concern that MM recommendation guidelines have bypassed the historic drug trials. Due to the lack of clinical trial data, it is difficult for providers to make evidence-based recommendations for MM. Lacking consensus amongst the physicians, Bega et al. (2016) reported a deficiency of information on efficacy, variability in recommendations amongst providers, and a lack of knowledge regarding the adverse effects of MM. Unlike the findings by Luba et al. (2018), Bega et al. (2016) did not find a correlation between the encouragement/discouragement of marijuana use and state legalization of MM.

Of note, the NCSBN (2018) advises that APRNs and APRN students should not be judgmental regarding MM. Furthermore, the APRN should be aware of their own beliefs and attitudes regarding the use of MM (NCSBN, 2018). When considering the beliefs/attitudes of providers regarding MM, it is important to also establish the basis for which these providers are determining their beliefs/attitudes.

Gaps

Several gaps in knowledge are identified in the study completed by Luba et al. (2018). One such finding includes providers acknowledging and accepting the utilization of MM but not

recommending it to treat symptoms of terminal illnesses. Another gap that Luba et al. (2018) identified was the lack of legalization nationally. The studies discussed throughout this literature review identified a lack of education (Philpot et al., 2019; Klein et al., 2018; Brooks et al., 2017; Mendoza & McPherson, 2018; Sinclair, 2016), training (Kaplan et al., 2019; Carlini et al., 2017; Klein et al., 2018), guidelines (Luba et al., 2018), and knowledge (Bega et al., 2016; Philpot et al., 2019; Mendoza & McPherson, 2018; Charuvastra et al., 2005) as barriers/limitations to appropriate MM recommendations. The knowledge, education, guidelines, and training gaps occurring throughout the country suggest that providers need education about MM.

Marijuana for medicinal purposes is currently being revisited and research findings suggest it has an array of medical benefits related to its analgesic, anticonvulsant, anticancer, anxiolytic, neuroprotective, anti-inflammatory, antioxidant immunomodulatory, bronchodilatory, appetite stimulant, antioxidant, and antimicrobial activities (Sinclair, 2016). Despite these scientific findings, evidence is lacking concerning educational interventions to improve provider knowledge and the appropriate utilization of MM. Due to this lack of education, providers do not necessarily have knowledge of the potential benefits and risks associated with MM and they may have preconceived beliefs and attitudes about it as well. Satterland, et al. (2015) discusses the stigmatization of those that utilize MM. Legalizing marijuana for medicinal purposes is great in theory, but if providers are not knowledgeable about the uses of MM and its effectiveness, how can they be educating their patients? Furthermore, if providers are unaware of their own bias, how can they be properly educated on MM and utilizing it for the benefit of the patients?

Each state has different laws and regulations regarding MM when reviewing the gaps to knowledge, education, guidelines, and training. Currently, no data has been reported regarding the knowledge, practices, or attitudes of providers in Florida. Much of the data that has been

ascertained about states like Washington, Colorado, and Minnesota is recent, yet their MM programs have been in place much longer than Florida. An assessment of a random sample of providers in Florida would be helpful to identify if educational needs exist regarding MM and its utilization, the state approved diagnoses to use it for, the ability to provide education to patients regarding it, and if they had received any education regarding it.

Strengths and Limitations

Other states report a lack of provider knowledge regarding MM. Consequently, a study is needed to evaluate the knowledge, practices, and attitudes of providers in Florida regarding MM. Generalizability of study findings across states is limited because each state has its own unique laws and regulations regarding MM. Other limitations include that some states have legalized recreational marijuana while still observing MM. These interstate differences make it difficult to compare findings across states.

Conceptual and Theoretical Framework

The Cultural Care Diversity and Universality theory developed by Madeleine Leininger will be used to guide this project. The goal of this theory is to provide cultural congruent practices (Leininger, 1988). Leininger (1988) developed the cultural care theory as a holistic concept. She initiated a perspective of nursing discovering patterns, processes and meanings in care that would further explain as well as predict health. The theory further identifies three core concepts: 1) Preservation/Maintenance, 2) Accommodation/Negotiation and 3) Repatterning/ Restructuring.

The first core concept of Leininger's Theory is Preservation and/or Maintenance. This concept can be defined as providing supportive interventions that will culturally preserve care beliefs beneficially to a patient facing an illness (McFarland & Wehbe-Alamah, 2019). This

construct applies to this project as MM patients can be thought of as a "subgroup" of society with many of them being stigmatized and viewed as "stoners" (Satterland et al., 2015). Satterland et al. (2015) reported that some patients do not inform their primary care providers about their MM use due to fear of this stigmatization. This project could enlighten providers in Florida to their own practices, beliefs, and attitudes or make them cognizant of their barriers regarding MM and MM patients.

The second core concept of Leininger's Theory is Accommodation and/or Negotiation. This core concept is accommodating creative provider interventions to be collaborative with others ensuring culturally congruent care for the well-being of the patient (McFarland & Wehbe-Alamah, 2019). Leininger (1988) supports that when viewing cultural care, it will be congruent with lifestyles of individual people, their families, or groups. Although Leininger (1988) mostly identifies this as nurses being open to diversity and other cultures, the expectation would be for all in healthcare to be culturally sensitive and not to push one's own beliefs, attitudes, and opinions onto another without having knowledgeable evidentiary support. This would be important in recognizing barriers to MM use in Florida as well as to understanding the practices, beliefs, and attitudes of providers in Florida regarding MM. Satterland et al. (2015) reported that MM patients worry about stigmatization and as a result they did not discuss MM use with their primary care provider. This should be a concern for Florida patients and providers as well. The current Florida statutes state that the registry is accessible to all Florida providers and the MMTCs (Florida Statute, 2019). If patients in Florida worry about what their primary care provider or specialists may say regarding their utilization of MM, then this is a cultural care concern. Even more than just the patient's comfort discussing MM with their providers, this could affect the patient's care and well-being. MM has many medicinal purposes and if a patient

is using it, all patient care providers need to be aware of this or it could have potentially negative health reactions for the patient.

The last concept of the Leininger theory is Repatterning and/or Restructuring. McFarland & Wehbe-Alamah, (2019) describe this concept as supportive of professional actions and mutual decisions helping people modify or restructure their life decisions to attain better health outcomes. For providers to receive the results of the survey via a website as well as be provided educational tools to further educate them on MM, this is a professional action for better health practices as the providers would then be educated.

Methodology

Project Design

This project used a descriptive Web-based cross-sectional design to survey healthcare providers (MDs, DOs, APRNs, and PAs) in Florida regarding their knowledge, practices, and attitudes about MM.

Participants

In the state of Florida, presently there are 88,682 providers (47,435 MDs, 5,983 DOs, 27,351 APRNs, and 7,913 PAs). Currently in Florida, the Office of MM Use (OMMU) reports 2,615 qualified physicians able to recommend MM to patients (FDOH, OMMU, 2020). Qualified physicians make up less than 5% of all physicians in Florida and represent 2.95% of all providers in Florida. As of 2019, there were 240,070 MM patients in the state of Florida (MM Project, 2019).

After consulting with a statistician, with a confidence level of 95%, a 3% margin of error, and a population size of 88,682 providers, the required sample size was 1,054 responses (snapsurveys ref). Considering an expected 10% response rate, 10,540 participants were invited.

A stratified random sample was recruited by provider type proportionate to each provider type's relative size compared to the population of providers.

Survey participants were licensed MDs, DOs, PAs, or APRNs with an active and clear Florida license, work in Florida, and have a valid e-mail address associated with their license. Additionally, other inclusion criteria included, having basic computer skills, and being able to read English.

Setting and Resources

As previously stated, only qualified physicians can make the recommendation of MM to patients after they have completed a physical exam and determined the patient has a one of the following conditions: cancer, epilepsy, glaucoma, Human Immunodeficiency Virus (HIV) positive/Acquired Immune Deficiency Syndrome (AIDS), Crohn's disease, Parkinson's disease, Multiple sclerosis (MS), medical conditions of the same kind of class as or comparable to those above, post-traumatic stress disorder (PTSD), amyotrophic lateral sclerosis (ALS), a terminal condition diagnosed by a physician other than the qualified physician issuing the physician certification, chronic nonmalignant pain caused by a qualifying medical condition or that originates from a qualifying medical condition and persists beyond the usual course of that qualifying medical condition (FDOH, 2019).

Instruments/Tools

A sociodemographic questionnaire was used along with a MM Healthcare Professional (MMHP) questionnaire that was adapted. The sociodemographic information collected included licensure, practicing full time, part time, or volunteer in Florida, total years of clinical practice, total years of prescriptive authority, current Drug Enforcement Administration (DEA)

registration, if the provider practices in rural/suburban/urban area, primary or specialty care specifications, type of organization/agency of primary practice, sex, age, and race/ethnicity.

The initial MMHP survey was created and utilized by Kaplan et al. (2019) for their study in Washington state regarding the knowledge, practices, and attitudes of providers (n=310). Kaplan et al. (2019) had content experts and their research team complete iterative reviews of the survey until all agreed. Kaplan et al. (2019) gave permission for their survey to be amended to be applicable to Florida law as this is a validated survey. Indeed, in Washington state, all providers are authorized to recommend MM to patients and further, recreational marijuana is legal. In Florida, only qualified providers can recommend MM and recreational marijuana is not legal as of the time of this project. After the adaption of items to the Florida context of practice, the survey instrument was reviewed for clarity and accuracy by two Florida State University (FSU) faculty members as well as Dr. Kaplan.

The MMHP survey instrument included 26-items with several Likert-type scales. Questions that were amended from the original 26-item validated survey (Kaplan et al., 2019) included question 1, a change in provider titles as Washington State refers to PA's as "osteopathic PA" and they allow licensure for naturopathic doctors whereas Florida does not. Questions 2 and 5 were amended to reflect the "state of Florida" instead of "Washington state". Question 10 was changed from asking "Have you ever checked the MM registry to determine if a patient has an authorization?" to say, "Do you have access to the MM registry?" because m any Florida providers may not realize they have access to the registry. Question 10b is also reflective of this difference. Question 13 was changed to inquire the hypothesis of providers if recreational marijuana were legalized in Florida as it is not yet but is in Washington State. Question 14 was changed from Washington to Florida. In Washington state, they are the only state to have MM

Consultants and question 17 was inquiring about them. This question was changed to inquire of the providers knowledge regarding MMTC's. Question 19 previously inquired if the provider had ever provided a MM authorization in Washington. This question was amended to ask, "Are you qualified to provide a MM authorization for a patient in the state of Florida?". Question 19a was omitted because it inquired why the provider had not provided a MM authorization in Washington state and all providers in Florida are not qualified to provide this recommendation. Instead of asking "How many MM authorizations have you ever provided?" in question 20, this was changed to "How often have you either recommended a patient seek a MM provider or have you provided a MM authorization?" In questions 21, 22, and 26 the question was worded similarly to question regarding "have you ever" versus "have you recommended" and they both were changed to be reflective of the same verbiage as question 20.

A website with links to the survey results' summary and to educational resources for providers regarding MM was created. All survey recipients received an email containing the link for the website. The website is an opportunity for providers to identify their own possible barriers and attitudes toward MM collectively. The website is set up so that providers can see the results of the data in bar graphs, box plots, table format, and summaries of the data analysis are presented. Additionally, links for all the journal articles and sites are present that were utilized throughout this project and a link on the website provides access to the full project. The goal of this is to illustrate the data compilation of all providers.

Data Collection Procedure

After obtaining ethical approval from the FSU Institutional Review Board (IRB), a link to an online survey was sent to 10,540 (MDs, DOs, PAs and APRNs) in the state of Florida via email distribution through Qualtrics® (see Appendix 1). The distribution was based on a

stratified random sampling so that provider types are a purposeful sample number within each group (5,640 MDs, 710 DOs, 3,250 APRNs, and 940 PAs).

Initial survey distribution and notification consisted of sending the survey link in an email to 10,540 Florida providers (MDs, DOs, PAs, APRNs) with an email address in the FDOH provider database. A survey reminder was sent 2 weeks later. After evaluating the response rate, with the assistance of a statistician, a second stratified random sample of 10,540 providers was selected and recruited. A detailed implementation plan is available in appendix II.

Human Subject and Informed Consent

Approval by the IRB at FSU was obtained along with a waiver of written consent. Informed consent was assumed by participation in the survey (i.e., clicking on "take survey"). Risks associated with participation included compromised confidentiality, although data are kept confidential through protected servers with high-end firewalls and encryption. As with any survey, some items may generate individual reactions to the content. Participation was voluntary and participants were informed they could withdraw at any time. Furthermore, participants were offered to review the results of this survey as they are posted on a website for providers which also includes opportunities and resources for MM education. As with prior arrangement with Louise Kaplan, PhD, ARNP, FNP-BC, FAANP, FAAN, Washington State University, data has been made available for her as well as her cohorts' review.

Analysis Plan

Responses to questions 9-22 and 26 of the survey will be used to address the aims of the study. Providers in questions 1-8 and 23-25 are knowledge questions specific to understanding the provider's background and patient base regarding MM. Questions 12-22 are Likert items measured at the ordinal level. In order to describe the knowledge, practices, and attitudes of

Florida healthcare providers toward MM use, responses to questions 10-14 and 16-18 were analyzed using descriptive statistics appropriate for the level of measurement (e.g. frequencies and percentages for ordinal data). Question 26 (Please share with us anything you feel would be important for us to know about your experience authorizing medical marijuana or recommending a patient seek a medical marijuana provider.) was open-ended and generated qualitative data that can reflect additional attitudes of providers in Florida.

Results

As per the data analysis plan, the initial email survey was sent to 10,540 randomly sampled Florida providers. Of that number, 10 emails failed, 173 emails bounced, 15 were duplicate emails, 304 surveys were started, and 295 surveys were finished. To obtain a larger sample size of Florida providers, a second sample was sent. A second random sample was obtained of 10,540 Florida providers. Of the second sample, 10 emails failed, 186 emails bounced, there were 62 duplicate emails, 378 surveys were started, and 365 surveys were finished. This gave a total sample of 660 respondents. Thirty-eight respondents did not proceed with the survey because they are not working full or part time or volunteering in the state of Florida. Of the 660 participants, there were only 562 that proceeded with answering questions.

Demographics

A total of 562 healthcare providers in Florida participated in the "2020 State of Florida Medical Marijuana Health Care Professional Survey". All 562 participants did not answer every question within the MMHP. Of the 562 participants, 242 (43.1%) were MDs, 221 (39.4%) were APRNs, 59 (10.5%) were PAs, and 39 (7%) were DOs. The providers boasted being in practice ranging from 0-49 years. Multiple different clinical practices were represented in the survey. Most of the providers reported working in Family Practice (19%), Adult Primary Care (8.9%),

Anesthesiology (8%), Emergency Care (7.9%), and Psychiatry/Mental Health (7.9%) (see Appendix III, Table I).

Florida Provider Knowledge

Respondents were asked to distinguish from a list of diagnoses/symptoms that would be qualifying conditions based on Florida Statutes regarding MM. Cancer was undeniably the most understood diagnosis of approved MM utilization by Florida providers with 96.2% saying "yes" it is an appropriate diagnosis. Providers responded knowing that Crohn's disease (81.1%), epilepsy (79.3%), glaucoma (76.8%), HIV/AIDS (67.4%), chronic nonmalignant pain (74.6%), multiple sclerosis (68.4%), Parkinson's disease (63.6%), PTSD (65.8%), ALS (72%), "terminal conditions as diagnosed by another provider (80.7%), and "another medical condition as determined by a qualified provider (61.5%) were correct responses. When providers were asked about non-qualifying conditions, the following answered these correctly, anxiety (29.3%), "diseases/disorders causing distressing symptoms like anorexia, nausea, vomiting, wasting, appetite loss, cramping, seizures, muscle spasms, or spasticity when these symptoms are unrelieved by standard treatments or medications" (10.3%), depression (38.4%), hepatitis C (14.9%), lupus (19.4%), neurofibromatosis (17.7%), rheumatoid arthritis (16.5%), Tourette's (19.5%), and traumatic brain injury (23.1%) (Appendix IV, Table II). Observing the correct responses by providers in Florida regarding what diagnoses were qualifying conditions for a MM authorization (question 14), the mean of correct responses was only 47.2% with a standard deviation of 0.1358. While it seemed that providers understood the qualifying conditions for MM authorization when examining their correct percentage, they did not understand the non-qualifying conditions for MM authorization when appreciating all of the data.

Question 16 asked specific legal inquiries of providers in Florida. The vast majority of providers (81.6%) knew that all adults with MM authorization are required to be in the MM registry. Additionally, providers were correct in responding "correct" to the following statements: healthcare professionals can educate on MM (71.3%), patients on probation can qualify for MM use (32.8%), children under 18 years old are required to be in the MM registry (64.1%), children under 18 years old are required to have a responsible caregiver for their MM (77.2%), seasonal residents in Florida can qualify for MM authorization (43.8%), and all Florida providers are allowed to access the MM registry (43.6%). Participants indicated correctly that the following statements were incorrect: employers are required to make accommodations in the workplace for MM use (37.2%) and all qualifying patients can possess the same amount of MM (20.3%) (Appendix IV, Table II). For question 16, the mean correct percentage was 52.3% with a standard deviation of 0.2388.

The knowledge question in question 17 asked about what MMTC's employees are permitted to provide. When participants were asked about the MMTC's, the majority (73.7%) said it was correct that MMTC employees are allowed to advise someone about the safe handling/storage of MM, marijuana-infused products, marijuana concentrates, and ways to reduce access by a minor. Other responses that respondents indicated correctly that the response was "yes" included: an employee can assist with selecting a product that may benefit the qualifying diagnosis (59.5%), MMTC employees can describe the risks and benefits of products (66.5%), MMTC employees are allowed to describe risks and benefits of the methods and administration of MM products (65.8%), and MMTC employees can provide instruction/ demonstration about the proper use of MM (62.0%). The only correct answer of "no" was regarding MMTC employees can offer to diagnose or cure any disease, injury, pain, or health

problem either physical or mental with the use of MM (69.0%) (Appendix IV, Table II). The Florida Statutes (2019) do not offer specific guidelines regarding what a MMTC employee can/cannot do but instead references the guidelines for opening/operating a MMTC. For question 17, the mean correct percentage was 66.3% with a standard deviation of 0.2388.

Looking at the results of the percentage of knowledge questions (questions 14, 16 and 17) as a whole, the mean correct answers of Florida providers was 51.8% correct with a standard deviation of 0.1474. An obvious need for education regarding MM in Florida exists among Florida providers since only approximately half of them understand the Florida Statutes concerning it.

Florida Provider Practices

A significant finding was when providers were asked if they had access to the MM authorization registry. Out of 521 providers, only 74 (13.2%) said "yes" whereas 485 (86.8%) said "no". Per Florida Statutes (2019), all providers in the state of Florida have access to the MM registry. Of the 74 (13.2%) who said "yes", 35 (6.2%) said they did not know how to access the registry, 7 (1.2%) said they did not know they could access the registry and 20 (3.6%) said they have checked the MM Use Registry. This means that of all providers who took this survey, only 3.6% have accessed the MM Registry.

Another significant finding was when providers in Florida were asked if they have ever taken a continuing education course on MM. Of the 483 respondents, 153 (31.7%) said they had, but 330 (68.3%) said they had not. When 484 Florida providers were asked about their familiarity with the Florida Statutes, only 12.9% of providers in Florida said they are very or extremely familiar with Florida statutes regarding MM whereas 63.7% said they were either not at all familiar or slightly familiar (13.9% did not answer). This is another staggering result as

MM is being utilized by patients in Florida and all their providers should be aware of how MM cannot just affect the patient but also what interactions it may have with other medications the patient could be taking. Many providers (64.9%) reported they get their information about risks and benefits of MM from continuing education. This continuing education, however, does not necessarily review the specificities of Florida Statutes regarding MM. Other information sources included other healthcare professionals (59.1%), scientific journals (37.8%), MM qualified providers (34.9%), their patients (27.8%), websites (17.3%), family and friends (11.9%), other sources (5.6%), and books (5.0%).

Attitudes of Florida Providers

To assess the attitudes of providers in Florida, providers were asked about their agreement with 11 different statements. The highest data of participants strongly or somewhat agreeing was regarding the need for education. The statement of "training about MM should be incorporated into healthcare professional education", 81.5% of participants strongly or somewhat agreed with this statement. Further, 83.8% of participants strongly or somewhat agreed that all medical providers should receive education about MM. When considering treatment for patients, participants had strong feelings about this as well. Responding to "marijuana helps patients who suffer from chronic, debilitating medical conditions", 77.2% strongly or somewhat agreed and when responding to "MM should be used to reduce the use of opioids for chronic non-cancer pain", 77.6% strongly or somewhat agreed to this as well. When considering attitudes of the participants of patients physical and mental health concerns, 54.6% reported they strongly or somewhat agreed that "there are significant physical benefits to using marijuana" and 47.8% strongly or somewhat agreed that "there are significant mental health benefits to using marijuana". Further, when participants were given the statement, "using marijuana poses serious

physical health risks", 41.2% strongly or somewhat agreed compared to 32.7% of participants that somewhat or strongly disagreed. When participants replied to "using marijuana poses serious mental health risks", 43.6% strongly or somewhat agreed compared to 28.2% that somewhat or strongly disagreed. Participants were given additional statements to assess their attitudes regarding MM. In replying to "healthcare professionals should recommend MM as therapy", 55.6% of participants strongly or somewhat agreed. An interesting response by respondents was given to "the DEA should reclassify marijuana so that it is no longer a Schedule I drug" with 66.8% responding they strongly or somewhat agreed with this statement. Lastly, a controversial statement was given to respondents, "marijuana is addictive" and 63% strongly or somewhat agreed with this statement compared to 17.7% that somewhat or strongly disagreed with this statement.

An open-ended question (question 26) allowed providers to offer any additional information they wanted to express regarding MM. Of the completed surveys, 92 providers replied to this question in a manner regarding their beliefs, practices, knowledge, or attitude (other responses were "none", "n/a", etc.). More research being needed was addressed at a minimum of 18 times in the open-ended responses of the providers. Eight times by providers it was referenced that MM has been useful for patients control of pain and in some it was "a great alternative" to opiates. Four providers thought that MM should only be used in patients with cancer. Some providers referenced their need for more education on MM and others referenced that patients need more education. Providers expressed a concern for the inappropriate and/or recreational utilization of MM as well as one provider stated, "I have often seen it used inappropriately with minimal evaluation of the patient by the authorizing physician. Often it is used for indications beyond those specified by Florida Statutes." Concern was expressed by

some providers regarding the cost of MM and the socioeconomic status of their patients not being able to afford it although they thought their patients could benefit from it. One provider said, “I do not believe in MM.”. Other providers expressed that safety of MM was a concern as there is not clear standards of how it would be most beneficial with dosages, etc. and that adverse effects can outweigh the benefits. Hyperemesis was a concern by multiple providers. Another provider said, “Nurse practitioners with a DEA license should be able to order MM for their patients.” Some providers admitted to having utilized MM for their or their own family member’s medical needs with positive disease management results.

Discussion

The nature of having MM is still somewhat taboo despite having many MMTCs and qualified physicians around the state. However, to our knowledge, this is the first survey of clinicians regarding MM use in Florida. The purpose of this project was to describe the knowledge, practices, and attitudes of providers in Florida in order to identify potential barriers to MM practices and provide indications on potential avenues for improvement. It was interesting that there were more MDs and DOs that took this survey compared to APRNs, but not surprising at the wide array of clinical practices among all providers. When assessing the knowledge and practices section of the survey, it is also not surprising that there were deficits as this was in the initial hypothesis. When considering the attitudes, it was interesting that in most of the questions the responses were all favorable to strongly or somewhat agreeing that more education and training were needed for healthcare and medical providers.

The website can be viewed at fsumedicalmarijuanainflorida.com. The website describes the project, has a link to the Florida Statutes, the MM Use Registry, and the MMHP

questionnaire as well as other information including tables and graphs regarding the results, etc. of the project.

Significant Clinical Findings

As with the literature of other states that have authorized MM, it is apparent that Florida has had similar outcomes. It is obvious that in the 4 years since Florida voters voted to allow MM in the state that providers have not educated themselves on the legal utilization of it. Regarding the attitudes of providers in Florida, some are skeptical of the use of it as evidenced by their direct comments and their expressed concerns for a lack of evidenced based practice. Participants individual comments as indicated already are supportive of barriers to the use of MM. Providers made such statements as, “MM should only be used for cancer patients”, “It dumbs people down and makes them have no ambition to better themselves”, “Not safe”, and “I do not believe in MM”. These statements all support a need for more education and available research of MM to prove/disprove their statements as they are subjective. As these are the personal quoted attitudes of these providers, it could yield concern that some providers in Florida are not legitimately considering MM as a therapeutic medication for the qualifying conditions as described in the Florida Statutes (2019).

Without the legalization of it from the FDA, limitations on research will continue to be present thus a lack of education will continue not just in Florida but nationally. Upon review of the gaps in the literature review, it was found that other states also expressed a knowledge deficit (Bega et al., 2016; Philpot et al., 2019; Mendoza and McPherson, 2018). For example, Bega et al. (2016) discussed a lack of practice of utilizing MM in Parkinson’s patients as a reflection of the general lack of knowledge as well as physicians that were surveyed reporting obtaining their MM information from the media and personal experiences. Philpot et al. (2019) identified

provider knowledge gaps regarding the effectiveness of MM for Minnesota's qualifying conditions. When reviewing the literature from Mendoza and McPherson (2018), although they surveyed multi-disciplinary hospice providers nationally not exclusive to physicians, APRNs, and PAs, they found an increase in knowledge regarding MM upon a learning module post-hoc assessment. Additionally, a lack of educational opportunities seems to be present in Florida as well as the comparable literature review in which several authors reported informal or inconsistent education of MM by providers (Philpot et al., 2019; Brooks et al., 2017; Mendoza & McPherson, 2018; Sinclair et al., 2016). Florida providers expressed a desire for and revealed a need for more training like the literature suggests (Kaplan et al., 2019; Carlini et al., 2017; Klein et al., 2018). Lastly, in the literature, a recognized gap was a lack of guidelines on MM dosage and types for varying qualifying conditions (Luba et al., 2018). In Florida, providers expressed a lack of knowledge regarding Florida Statutes and a clear deficit of knowledge for qualifying conditions. Further, Florida does not have any type of guidelines instructing on the strains and dosages appropriate for specific qualifying conditions. Like the state of Washington, there is not any widespread state specific education regarding qualifying conditions for providers that are not qualified physicians (Kaplan et al., 2019).

Implications of Results for Practice and Education

It is important to note that for the purposes of these results, the specificity of the Florida Statute is being observed and these specifics are not being viewed on a "case-by-case" scenario. While the Florida Statutes (2019) are specific to what diagnoses are/are not appropriate for MM authorization, it is important to recognize that when a provider is viewing a patient holistically and reviewing their entire medical history, a patient may be a good candidate for MM authorization. For example, a patient may have neurofibromatosis or rheumatoid arthritis and

although it is not an approved diagnosis for MM authorization, a provider may think that MM could help with the chronic nonmalignant pain that is a result of such a diagnosis at which time the provider could suggest/approve a MM authorization as chronic nonmalignant pain is an approved diagnosis for MM authorization (Florida Statute, 2019). It is significant that there is not a knowledge deficit/advantage among the knowledge questions as to provider type (MD, DO, APRN, or PA) in Florida. Due to this non-significant difference, it could be argued that all providers in Florida be allowed to recommend MM to their patients in opposition to only qualified physicians having the authority to do so.

Due to the obvious lack of knowledge/education regarding MM of Florida providers, it should be considered that multiple interventions should be implemented. One consideration would be to make a mandatory continuing education module specifically designed for Florida providers as a directive from the Board of Medicine and Board of Nursing, respectively. Another consideration would be MM Consultants that would be knowledgeable about MM and could support both Florida providers, MMTC's, and patients. Washington state does have MM consultants and in a study by Kaplan et al. (2019), they found MM consultants were knowledgeable regarding the law and practice of MM, but they needed further education in understanding health implications. Further, of interest, Kaplan et al. (2019) outlines that of the 34 states (as of 2019), the District of Columbia, Guam, and Puerto Rico, 3 states (Minnesota, New York, and Connecticut) require MM products to be dispensed by a pharmacist. This could be another potential option for Florida. Although the current situation of having MMTC's have created jobs, etc. for the economy, it could be a situation of having a pharmacist available for consult or on staff as well.

Limitations

The response rate of this survey was low at 2.67% but the strength of this study is that random sampling was completed in opposition to convenience sampling. Several limitations were noted of this study. One limitation to consider during the time of the study is Covid-19. When the survey was sent, some providers were not practicing due to restrictions that were being enforced because of the virus and may have decreased the number of responses. Another limitation was the bias of the providers when taking the survey in that they may express beliefs/attitudes that they think others would find desirable. This study was cross-sectional and therefore does not allow for a perspective of Florida providers over time. With Florida only having initiated MM 4 years ago and having vastly different practices from other states that have possessed MM authorizations for many years and this could affect the results when comparing them with other states. This survey was specifically geared toward Florida Statutes and regulations so it will make it further difficult to compare to other states. Lastly, a potential limitation to consider is the lack of FDA approval as well as it still being classified as a Schedule I Drug by the DEA as this is a concern for many providers as they do not want to risk their licenses.

Implications for Future Clinical Research

Suggestions for future clinical research based on the findings or limitations of this study would include sending the same survey out in 3-5 years to reassess the knowledge, practices, and attitudes of Florida providers, a compare/contrast study of another state regarding the knowledge, practices, and attitudes of providers regarding MM, specifically looking at the individual provider types to further assess barriers/opportunities to the utilization of MM, further evaluation of the benefits of MM utilization (based on comments made in the open-ended question), the thoughts of APRNs having authority to recommend MM, and a further assessment of the

knowledge of providers giving them a pre-test, MM education and a post-test. It is of note that since the initiation of this study, additional states have legalized MM.

Conclusion

Considering MM was introduced to Florida in 2016, patients expect their healthcare providers to be knowledgeable or know resources of how to obtain knowledge regarding MM. Florida providers have shown that they are not, but they should meet this requisite with an unbiased understanding of the law. MM should be treated as any other medication, with the risks and benefits explained as well as an indication specific to the patient's needs. Florida providers need more education regarding the utilization of MM as well as the Florida statutes outlining the qualifying conditions of MM.

References

Bega, D., Simuni, T., Okun, M. S., Chen, X., & Schmidt, P. (2017). Medicinal cannabis for Parkinson's disease: Practices, beliefs, and attitudes among providers at national Parkinson foundation centers of excellence. *Movement Disorders Clinical Practice, 4*(1), 90-95. doi:10.1002/mdc3.12359

Brooks, E., Gundersen, D., Flynn, E., Brooks-Russell, A., & Bull, S. (2016). The clinical implications of legalizing marijuana: Are physician and non-physician providers prepared? *Addictive Behaviors, 72*, 1-7. doi:10.1016/j.addbeh.2017.03.007

Caputi, T., & Humphreys, K. (2018). Medical marijuana users are more likely to use prescription drugs medically and nonmedically. *Journal of Addiction Medicine, 12*(4), 295-299. doi:10.1097/ADM.0000000000000405

Carlini, B. H., Garrett, S. B., & Carter, G. T. (2017). Medicinal cannabis. *American Journal of Hospice and Palliative Medicine, 34*(1), 85-91. doi:10.1177/1049909115604669

Charuvastra, A., Friedmann, P. D., & Stein, M. D. (2005). Physician attitudes regarding the prescription of medical marijuana. *Journal of Addictive Diseases, 24*(3), 87-93. doi:10.1300/J069v24n03_07

Desai, R. J., Jin, Y., Franklin, P. D., Lee, Y. C., Bateman, B. T., Lii, J., . . . Kim, S. C. (2019). Association of geography and access to health care providers with Long-Term prescription opioid use in Medicare patients with severe osteoarthritis: A Cohort Study. *Arthritis & Rheumatology, 71*(5), 712-721. doi:10.1002/art.40834

Disa Global Solutions. (2019). Map of marijuana legality by state. Retrieved from https://disa.com/

FLA. STAT. § 381.986 (2019). http://www.leg.state.fl.us/statutes/index.cfm?mode=View%20Statutes&SubMenu=1&App_mode=Display_Statute&Search_String=marijuana&URL=0300-0399/0381/Sections/0381.986.html

Florida Department of Health. (2019). Office of medical marijuana. Retrieved from https://knowthefactsmmj.com/

Florida Department of Health, Office of Communications. (2019). OMMU weekly update. Retrieved from www.floridahealth.gov

Kaplan, L., Klein, T., Wilson, M., & Graves, J. (2019). Knowledge, practices and attitudes of certified medical marijuana consultants in Washington state. *University of Toronto Medical Journal, 96*(3), 6-12.

Kaplan, L., Klein, T., Wilson, M., & Graves, J. (2019). Knowledge, practices, and attitudes of Washington state health care professionals regarding medical cannabis. *Cannabis and Cannabinoid Research,* doi:10.1089/can.2019.0051

Klein, T., & Lugo, R. (2018). Evaluating prescribing competence in nurse practitioner fellowship and residency programs. *The Journal for Nurse Practitioners, 14*(10), e19-e205. doi:10.1016/j.nurpra.2018.08.021

Luba, R., Earleywine, M., Farmer, S., & Slavin, M. (2018). Cannabis in end-of-life care: Examining attitudes and practices of palliative care providers. *Journal of Psychoactive Drugs, 50*(4), 348-354. doi:10.1080/02791072.2018.1462543

Marijuana policy project. Retrieved from https://www.mpp.org/states/florida/

Medical use of marijuana, (2019). Retrieved from http://www.leg.state.fl.us/statutes/index.cfm?App_mode=Display_Statute&URL=0300-0399/0381/Sections/0381.986.html

Mendoza, K. S., & McPherson, M. L. (2018). Knowledge, skills, and attitudes regarding the use of medical cannabis in the hospice population: An educational intervention. *American Journal of Hospice and Palliative Medicine, 35*(5), 759-766. doi:10.1177/1049909117738246

National Academies of Sciences, Engineering, and Medicine, Health and Medicine Division, Board on Population Health and Public Health Practice, & Committee on the Health Effects of Marijuana: An Evidence Review and Research Agenda. (2017). *The health effects of cannabis and cannabinoids*. Washington, D.C: National Academies Press. doi:10.17226/24625 Retrieved from https://www.nap.edu/24625

(The) NCSBN national nursing guidelines for medical marijuana. (2018). *Journal of Nursing Regulation, 9*(2), S5. doi:10.1016/S2155-8256(18)30082-6

Philpot, L. M., Ebbert, J. O., & Hurt, R. T. (2019). A survey of the attitudes, beliefs and knowledge about medical cannabis among primary care providers. *BMC Family Practice, 20*(1), 17. doi:10.1186/s12875-019-0906-y

Satterlund, T. D., Lee, J. P., & Moore, R. S. (2015). Stigma among California's medical marijuana patients. *Journal of Psychoactive Drugs, 47*(1), 10-17. doi:10.1080/02791072.2014.991858

Sinclair, J. (2016). An introduction to cannabis and the endocannabinoid system. *Australian Journal of Herbal Medicine, 28*(4), 107-125. Retrieved from https://search.proquest.com/docview/2050598252

Appendix 1

2020 State of Florida Medical Marijuana Health Care Professional Survey

Survey Team:

Krystal Hemingway, BSN, RN, CHPN
DNP Student, Florida State University

Geraldine Martorella, PhD, RN
Assistant Professor, Florida State University

Glenna Schluck, PhD
Assistant in Research/Statistician,
Florida State University

Louise Kaplan, PhD, ARNP, FNP-BC, FAANP, FAAN
Associate Professor, Washington State University

FLORIDA STATE UNIVERSITY
COLLEGE OF NURSING

Healthcare Professional Questionnaire

Introductory Email:

Hello and thank you for taking the time to review this email introduction regarding a healthcare professional questionnaire. The purpose of this study is to identify and understand the knowledge, practices, and attitudes of providers in Florida regarding medical marijuana. Participation in this study is voluntary and anonymous. In compensation for your time, you can be entered in a raffle to win a $50 Visa gift card (10 gift cards given away in total) by providing your email address at the end of the questionnaire.

All Florida Providers (MDs, DOs, APRNs, and PAs) are encouraged to participate.

Your participation in this questionnaire consists of reading and answering approximately 25 (mostly) multiple-choice questions and one optional open response question. This questionnaire is completed online in approximately 20-25 minutes. Questionnaire demographic questions include licensure, practicing full time, part time, or volunteer in Florida, total years of clinical practice, total years of prescriptive authority, current Drug Enforcement Administration registration, if the provider practices in rural/suburban/urban area, primary or specialty care specifications, type of organization/agency of primary practice, sex, age, and race/ethnicity. Medical marijuana related questions include questions to determine your baseline knowledge as well as your beliefs and attitudes regarding it. ***You may choose to stop participating at any time by simply exiting the questionnaire. Your consent to participate is implied by proceeding to the questionnaire link provided below.***

Please take a moment to participate in this brief questionnaire (26 questions), which ask about your knowledge, attitude, and beliefs regarding medical marijuana. This questionnaire can be completed in about 20 minutes.

This study has received approval from the Florida State University Institutional Review Board. If you have any questions, you can contact the Principal Investigator, Krystal Hemingway at kh18k@my.fsu.edu.

Follow this link to the Questionnaire:

[add link]

Background:

In the state of Florida, for a physician to be able to recommend marijuana, he/she must hold an unrestricted license as a physician or osteopathic physician. Marijuana is still a Schedule I classification which prevents physicians, nurse practitioners, and physician assistants from prescribing it and it can only be recommended after the patient has obtained a medical marijuana (MM) card from a qualified physician. A database exists where the physician will enter the recommended amount and type of MM a patient can obtain within a specified time frame. A patient can then go to a MM Treatment Center (MMTC) where they have access to the same database to be able to dispense MM as recommended. The database is only accessible to the MMTC and the qualified physician. The primary care providers or specialists involved in the patient's care do not have access to this database. Consequently, if the patient does not inform the provider that they are a MM patient, the provider may never know. Furthermore, the MMTC does not have licensed medical personnel who are able to explain the scientific benefits and the risks of MM to these patients nor do they have any evidence based explanation for what strains of MM or percentages work better for one qualifying disease or the other.

Study details

The following questionnaire will be approved by the Human Subjects Committee at The Florida State University. If you would like to speak with a committee representative, the contact information is listed below.

Confidentiality

Data that is collected for this study will remain confidential to the extent permitted by law. The collected data will be attached to codes and de-identified through FSU's survey software, Qualtrics. There will not be any questionnaire responses linked to email nor IP addresses. It will be only the members of the research team able to access the data. The responses you provide will be utilized for the specific purposes of this project only.

Risks

Risks associated with participation are minimal and are no greater than those that may occur in the course of completing another needs assessment questionnaire.

Benefits

Results from this questionnaire will be provided to participants upon completion of data collection via a website that will be created to further provide links to research articles regarding MM as well as the results. This questionnaire can be utilized for further assessment of the needs regarding MM in Florida.

With sincere appreciation,

Krystal J. Hemingway, BSN, RN, CHPN, DNP Student
Florida State University
Email: kh18k@my.fsu.edu

Geraldine Martorella, PhD, RN, Major Professor
Email: gmartorella@fsu.edu

Human Subjects Office
2010 Levy Avenue
Suite 276-C
Tallahassee, FL 32306-2742
Phone: (850) 644-7900

Follow this link to the Questionnaire:

[add link]

For technical problems, please contact our survey partner, Jamie Marsh, at jmarsh@nursing.fsu.edu.

BACKGROUND INFORMATION

Q01. What is your licensure?

☐ APRN
☐ DO
☐ MD
☐ PA

Q02. Are you currently in clinical practice full or part-time, paid or volunteer IN STATE OF FLORIDA?

1. Yes
2. No → **That is all we need to know for this questionnaire. Thank you for your participation.**

CURRENT PRACTICE

Q03. How many total years have you practiced clinically? *(APRNs include only years of practice in the APRN role.)*

_____ clinical practice years

Q03b. How many total years have you practiced with prescriptive authority?
_____ prescriptive authority years

Q04. Do you have current Drug Enforcement Administration registration?

1. Yes
2. No
3. In process of applying

Q05. Do you identify your practice setting as:

1. Urban
2. Suburban
3. Rural

Q06. Select the term(s) which best describe(s) your clinical practice location.

Primary Care

☐ Family
☐ Adult
☐ Geriatric
☐ Pediatric
☐ Women's Health
☐ Gastroenterology
☐ Hospitalist
☐ Long-term care
☐ Nurse Midwifery
☐ Neonatology

Specialty Care

☐ Anesthesiology
☐ Cardiology
☐ Dermatology
☐ Emergency care
☐ Endocrine
☐ Psychiatry/mental health
☐ Rehabilitation
☐ Rheumatology
☐ Occupational health
☐ Other *(please describe)*

☐ Neurology
☐ Ob-gyn
☐ Oncology/hematology
☐ Orthopedics
☐ Pain management

Q07. What type of organization/agency is your primary clinical practice? *(Circle only one.)*

1. Office or clinic owned by a health care system or organization
2. Independent/private office practice
3. Psychiatric/mental health center/clinic
4. Community health center
5. Federally qualified health center
6. Surgery center
7. Anesthesiologist or CRNA owned group practice
8. Health maintenance organization
9. Hospital-based inpatient unit
10. Hospital-based outpatient unit
11. Hospital emergency department
12. Military clinic/hospital
13. Occupational/employee health clinic
14. Rural health clinic
15. Tribal health center/Indian Health Service
16. Urgent care clinic
17. Veterans Administration facility
18. Other (Please specify):

Q08. To what extent is prescribing schedule II-V medications currently part of your personal clinical practice?

1. I do not prescribe controlled substances
2. Very little
3. Some
4. Moderate amount
5. A great deal

Q09. Please estimate how many patients in your current panel of patients are receiving medical marijuana authorization from any source?

1. None
2. Less than 10%
3. 10-20%
4. 21-40%
5. 41-60%
6. More than 60%
7. Unable to determine

8. We don't ask the patients about this

Q10. Do you have access to the medical marijuana authorization database?

1. Yes
2. No ⍰ Skip to Q11

Q10b. Do you check the medical marijuana database?

1. No, I do not know how to access the database.
2. No, I did not know I could access the database.
3. Yes.

Q11. Have you ever completed a continuing education course on medical marijuana?

1. Yes
2. No

Q12. How familiar are you with the Department of Health Medical Marijuana Guidelines?

1. Not at all familiar
2. Slightly familiar
3. Moderately familiar
4. Very familiar
5. Extremely familiar

Q13. Although recreational marijuana is illegal in Florida as of 2020, do you perceive there would be an increase, decrease or no change in the number of requests for medical marijuana authorizations?

1. Increase
2. Decrease
3. No change
4. Don't know

Q14. Florida law requires a patient seeking a medical marijuana authorization to have a terminal or debilitating medical condition severe enough to significantly interfere with the patient's activities of daily living and ability to function, which can be objectively assessed and evaluated. Which of the following conditions do you think qualify a patient to receive a medical marijuana authorization?
(Circle yes, no, or don't know for each one.)

	Yes ▼	No ▼	Don't Know ▼
A. Anxiety	1	2	3
B. Cancer	1	2	3
C. Crohn's disease with debilitating symptoms unrelieved by standard treatments or medications	1	2	3
D. Diseases, including anorexia, which result in nausea, vomiting, wasting, appetite loss, cramping, seizures, muscle spasms, or spasticity, when these			

symptoms are unrelieved by standard treatments or medications 1 2 3

Q14. (continued) Florida law requires a patient seeking a medical marijuana authorization to have a terminal or debilitating medical condition severe enough to significantly interfere with the patient's activities of daily living and ability to function, which can be objectively assessed and evaluated. Which of the following conditions do you think qualify a patient to receive a medical marijuana authorization? *(Circle yes, no, or don't know for each one.)*

	Yes ▼	No ▼	Don't Know ▼
E. Depression	1	2	3
F. Epilepsy or other seizure disorder	1	2	3
G. Glaucoma, either acute or chronic, with increased intraocular pressure unrelieved by standard treatments and medications	1	2	3
H. Hepatitis C with debilitating nausea or intractable pain unrelieved by standard treatments or medications	1	2	3
I. HIV	1	2	3
J. Intractable pain unrelieved by standard medical treatments and medications	1	2	3
K. Lupus	1	2	3
L. Multiple sclerosis	1	2	3
M. Neurofibromatosis	1	2	3
N. Parkinson's disease	1	2	3
O. Posttraumatic stress disorder	1	2	3
P. Rheumatoid arthritis	1	2	3
Q. Spasticity disorders	1	2	3
R. Tourette's syndrome	1	2	3
S. Traumatic brain injury	1	2	3

Q15. What sources do you use to obtain information about the risks and benefits of medical marijuana? *(Please mark ALL that apply.)*

☐ Licensed health care professionals
☐ Scientific journals. *Please provide examples:*
☐ Continuing education
☐ Books. *Please provide examples:*
☐ Websites. *Please identify:*
☐ Reports from patients
☐ Medical marijuana consultants
☐ Family and friends
☐ Any other sources. *Please provide examples:*

Q16. Next is a set of statements about authorizing the use of medical marijuana. For each statement, please indicate if you think it is correct, incorrect, or if you don't know the accuracy of the statement.

	Correct ▼	Incorrect ▼	Don't Know ▼
A. All health care professionals, even those not authorized to provide medical marijuana authorizations, shall not be arrested, prosecuted, or subject to other criminal sanctions or civil consequences under state law for advising a patient about the medical use of marijuana	1	2	3
B. A person who is being supervised for a criminal conviction by a corrections agency may never be a qualifying patient for medical marijuana	1	2	3
C. All adults with a medical marijuana authorization must be entered into the state's medical marijuana database	1	2	3
D. All children under age 18 with a medical marijuana authorization must be entered into the state's medical marijuana database.	1	2	3
E. Employers are required to provide an accommodation in the workplace for the medical use of marijuana	1	2	3
F. Health plans are liable for any claim for reimbursement for the medical use of marijuana	1	2	3
G. A heath care professional may recommend a qualifying patient be allowed to grow and possess more medical marijuana than routinely allowed	1	2	3
H. All qualifying adult patients may possess the same amounts of marijuana products as a patient whether or not entered into the database	1	2	3
I. A health care professional may sell or donate topical, non-ingestible products that have a THC concentration of less than 0.3 percent to qualifying patients	1	2	3

Q17. Medical Marijuana Treatment Centers (MMTC) per Florida Statutes are knowledgeable to:

Please indicate which of the following services a MMTC employee is permitted to provide. *(Circle one answer for each service.)*

	Can Provide ▼	Cannot Provide ▼	Don't Know ▼
A. Assist a customer with the selection of products that may benefit The qualifying patient's terminal or debilitating medical condition	1	2	3
B. Describe the risks and benefits of products	1	2	3
C. Describe the risks and benefits of methods of administration of products	1	2	3
D. Advise a customer about the safe handling and storage of useable marijuana, marijuana-infused products, and marijuana concentrates, including strategies to reduce access by minor	1	2	3

Q17. (continued) Medical Marijuana Treatment Centers (MMTC) per Florida Statutes are knowledgeable to:

Please indicate which of the following services a MMTC employee is permitted to provide. *(Circle one answer for each service.)*

	Can Provide ▼	Cannot Provide ▼	Don't Know ▼
E. Provide instruction and demonstrations to customers about proper use and application of useable marijuana, marijuana-infused products, and marijuana concentrates	1	2	3
F. Offer to diagnose or cure any disease, injury, pain, or health problem physical or mental by the use of marijuana	1	2	3

MEDICAL MARIJUANA ATTITUDES

Q18. Please indicate how much you agree or disagree with the following statements.

	Strongly agree ▼	Somewhat agree ▼	Neutral ▼	Somewhat disagree ▼	Strongly disagree ▼
A. Health care professionals should recommend marijuana as a medical therapy.	1	2	3	4	5
B. Marijuana helps patients who suffer from chronic, debilitating medical conditions.	1	2	3	4	5
C. There are significant physical health benefits to using marijuana.	1	2	3	4	5
D. Training about medical marijuana should be incorporated into health care professional education.	1	2	3	4	5
E. The DEA should reclassify marijuana so that it is no longer a schedule I drug.	1	2	3	4	5
F. Medical marijuana should be used to reduce the use of opioids for chronic non-cancer pain	1	2	3	4	5
G. There are significant mental health benefits to using marijuana.	1	2	3	4	5
H. Health care professionals should have continuing education about medical marijuana prior to authorizing its use for patients.	1	2	3	4	5
I. Marijuana can be addictive.	1	2	3	4	5
J. Using marijuana poses serious physical health risks.	1	2	3	4	5
K. Using marijuana poses serious mental health risks.	1	2	3	4	5

Q19. Are you qualified to provide a medical marijuana authorization for a patient in the state of Florida?

1. Yes → **Skip to Q20**
2. No → **Skip to Q23, page 10**

MEDICAL MARIJUANA PRACTICES

Q20. How often have you either recommended a patient seek a medical marijuana provider or yourself provided a medical marijuana authorization?

1. Less than 10
2. 10 - 50
3. 51 - 100
4. 101 - 500
5. More than 500
6. Unsure

Q21. Have you either recommended a patient seek a medical marijuana provider or provided a medical marijuana authorization for individuals in the following populations?

	Yes ▼	No ▼
Under age 18	1	2
Over age 65	1	2
Pregnant women	1	2
Breastfeeding women	1	2
People with a substance use disorder	1	2
People with mental illness	1	2
Patients using opioid medications	1	2

Q22. When either recommending a patient seek a medical marijuana provider or authorizing medical marijuana for your patients, how often do you employ the following practices? *(Circle one answer for each.)*

	Always ▼	Very Often ▼	Often ▼	Sometimes ▼	Rarely ▼	Never ▼
A. Advised a patient about the risks and benefits of medical use of marijuana	1	2	3	4	5	6
B. Have a documented relationship with the patient, as a principal care provider or a specialist, relating to the diagnosis and ongoing treatment or monitoring of the patient's terminal or debilitating medical condition	1	2	3	4	5	6
C. Complete an in-person physical examination of the patient as appropriate, based on the patient's condition and age	1	2	3	4	5	6

Q22. (continued) When either recommending a patient seek a medical marijuana provider or authorizing medical marijuana for your patients, how often do you employ the following practices? *(Circle one answer for each.)*

D. Document the terminal or debilitating medical condition of the patient in the patient's medical record and that the patient may benefit from treatment of this condition or its symptoms with medical use of marijuana	1	2	3	4	5	6
E. Inform the patient of other options for treating the terminal or debilitating medical condition and documenting in the patient's medical record that the patient has received this information	1	2	3	4	5	6
F. Document in the patient's medical record other measures attempted to treat the terminal or debilitating medical condition that do not involve the medical use of marijuana	1	2	3	4	5	6
G. Complete an authorization on forms developed by the department of health on tamper resistant paper	1	2	3	4	5	6
H. For a qualifying patient eighteen years of age or older, complete an in-person physical examination at least annually to renew an authorization	1	2	3	4	5	6
I. For a qualifying patient less than eighteen-years of age, complete an in-person physical examination at least every 6 months to renew an authorization	1	2	3	4	5	6
J. Discussed with a qualifying patient how to use marijuana	1	2	3	4	5	6
K. Discussed with a qualifying patient the types of products the qualifying patient should seek from a retail outlet	1	2	3	4	5	6
L. Performed a pregnancy test for a female	1	2	3	4	5	6
M. Provided counseling to breastfeeding women about potential effects to a child	1	2	3	4	5	6
N. Provided counseling to parents and children under 18 about the evidence-base of the long-term effects of marijuana on the developing brain	1	2	3	4	5	6
O. Performed screening for substance misuse	1	2	3	4	5	6
P. Obtained a urine or blood screening for substance misuse	1	2	3	4	5	6
Q. Performed a mental health screen for problems such as depression and anxiety	1	2	3	4	5	6
R. Advised a patient to seek advice on specific marijuana products from the retail store	1	2	3	4	5	6
S. Required a patient to sign a medical marijuana agreement similar to those used with patients prescribed opioids for chronic non-cancer pain	1	2	3	4	5	6

ABOUT YOU

Q23. What is your sex?

1. Female
2. Male
3. Other *(Please specify):* _____

Q24. What is your age?

_____ years old

Q25. What is your race/ethnicity? *(Check all that apply.)*

☐ White
☐ Black or African American
☐ Asian
☐ Native Alaskan/American Indian
☐ Pacific Islander
☐ Hispanic, Spanish, or Latino
☐ Other (please specify)

Q26. Please share with us anything you feel would be important for us to know about your experience authorizing medical marijuana or recommending a patient seek a medical marijuana provider.

THANK YOU VERY MUCH FOR YOUR PARTICIPATION!

Appendix II

Implementation Protocol

The entire project was assisted with and supervised by Geraldine Martorella, PhD, RN, FSU professor. The project will reach completion prior to April 22, 2021 when it will be presented at the Florida State University's DNP research symposium.

The plan included the completion of the survey formatting for May 24, 2020 and the International Review Board (IRB) submission was completed on June 15, 2020. The construction of the website was completed by April 22, 2021 as well. Upon IRB approval, the first surveys were e-mailed via stratified random sample on August 11, 2020 with subsequent reminders on August 18, 2020, and August 25, 2020. It was found that the number of responses was limited at 295 respondents, so a second stratified random sample was accrued, and another e-mail of the survey was sent on September 8, 2020 with reminder e-mails being sent on September 15, 2020 and September 22, 2020.

Appendix III

Table I. Florida Providers' Demographics

Variable	Responses*
Provider Type	
MD	242 (43.1%)
DO	39 (7%)
APRN	221 (39.4%)
PA	59 (10.5%)
Clinical Practice	
Family	107 (19%)
Primary – Adult	73 (13%)
Primary – Geriatric	8 (1.4%)
Primary – Pediatric	27 (4.8%)
Women's Health	14 (2.5%)
Gastroenterology	8 (1.4)
Hospitalist	14 (2.5%)
Anesthesiology	50 (8.9%)
Cardiology	9 (1.6%)
Dermatology	12 (2.1%)
Emergency Care	45 (8.0%)
Endocrine	3 (0.5%)
Psych/Mental Health	43 (7.7%)
Rehabilitation	4 (0.7%)
Rheumatology	3 (0.5%)
Occupational Health	5 (0.9%)
Neurology	10 (1.8%)
OB/GYN	11 (2%)
Oncology/Hematology	9 (1.6%)
Orthopedics	18 (3.2%)
Pain Management	5 (0.9%)
Neonatology	1 (0.2%)
Other	83 (14.8%)
Geographical Region Served	
Urban	217 (38.6%)
Suburban	289 (51.4)
Rural	42 (7.5%)
Other	14 (2.5%)
DEA Registration	
Yes	429 (76.3%)
No	120 (21.4%)
In Process of Applying	12 (2.1%)
MM Provider	
Yes	40 (8.3%)
No	376 (78.3%)
Don't Know	64 (13.3%)

*Not all participants answered every question.

Appendix IV

Table II. Florida Providers' Knowledge, Practices, and Attitudes

Knowledge - Qualifying Conditions	Responses*
Anxiety	
Yes	281 (58.8%)
No	**140 (29.3%)
I Don't Know	57 (11.9%)
Cancer	
Yes	**461 (96.2%)
No	9 (1.9%)
I Don't Know	9 (1.9%)
Crohn's Disease	
Yes	**390 (81.1%)
No	41 (8.5%)
I Don't Know	50 (10.4%)
Disease/Disorders Causing Distressing Symptoms	
Yes	394 (82.4%)
No	**49 (10.3%)
I Don't Know	35 (7.3%)
Depression	
Yes	206 (43.5%)
No	**182 (38.4%)
I Don't Know	86 (18.1%)
Epilepsy	
Yes	**379 (79.3%)
No	47 (9.8%)
I Don't Know	52 (10.9%)
Glaucoma	
Yes	**367 (76.8%)
No	45 (9.4%)
I Don't Know	66 (13.8%)
Hepatitis C	
Yes	332 (66.5%)
No	**71 (14.9%)
I Don't Know	75 (15.7%)
HIV/AIDS	
Yes	**323 (67.4%)
No	77 (16.1%)
I Don't Know	79 (16.5%)
Chronic Nonmalignant Pain	
Yes	**355 (74.6%)
No	69 (14.5%)
I Don't Know	52 (10.9%)
Lupus	
Yes	263 (55.4%)
No	**92 (19.4%)
I Don't Know	120 (25.3%)

Multiple Sclerosis	**329 (68.4%)
Yes	60 (12.5%)
No	92 (19.1%)
I Don't Know	
Neurofibromatosis	262 (55.2%)
Yes	**84 (17.7%)
No	129 (27.2%)
I Don't Know	
Parkinson's Disease	**304 (63.6%)
Yes	71 (14.9%)
No	103 (21.5%)
I Don't Know	
Post-Traumatic Stress Disorder (PTSD)	**316 (65.8%)
Yes	90 (18.8%)
No	74 (15.4%)
I Don't Know	
Rheumatoid Arthritis	309 (64.6%)
Yes	**79 (16.5%)
No	90 (18.8%)
I Don't Know	
Amyotrophic Lateral Sclerosis (ALS)	**342 (72.0%)
Yes	41 (8.6%)
No	92 (19.4%)
I Don't Know	
Tourette's	258 (54.2%)
Yes	**93 (19.5%)
No	125 (26.3%)
I Don't Know	
Traumatic Brain Injury	242 (51.4%)
Yes	**109 (23.1%)
No	120 (25.5%)
I Don't Know	
Terminal conditions as diagnosed by another provider	**388 (80.7%)
Yes	27 (5.6%)
No	66 (13.7%)
I Don't Know	
Another medical condition as determined by a qualified provider	**294 (61.5%)
Yes	65 (13.6%)
No	119 (24.9%)
I Don't Know	

Knowledge – Specific Legal Inquiries	***Responses**
Healthcare professionals can educate on MM.	
Correct	**342 (71.3%)
Incorrect	63 (13.1%)
I Don't Know	75 (15.6%)

Patients on probation can qualify for MM use.	
Correct	**157 (32.8%)
Incorrect	92 (19.2%)
I Don't Know	229 (47.9%)
All adults with MM authorization are required to be in MM registry.	
Correct	**391 (81.6%)
Incorrect	15 (3.1%)
I Don't Know	73 (15.2%)
Children < 18 years old are required to be in MM registry.	
Correct	**307 (64.1%)
Incorrect	16 (3.3%)
I Don't Know	156 (32.6%)
Employers are required to make accommodations in the workplace for MM use.	
Correct	78 (16.3%)
Incorrect	**178 (37.2%)
I Don't Know	223 (46.6%)
Children < 18 years old are required to have a responsible caregiver for their MM.	
Correct	**269 (77.2%)
Incorrect	4 (0.8%)
I Don't Know	105 (22.0%)
Seasonal residents can qualify for MM authorization?	
Correct	**210 (43.8%)
Incorrect	42 (8.8%)
I Don't Know	227 (47.4%)
All qualifying patients can possess the same amount of MM.	
Correct	116 (24.3%)
Incorrect	**97 (20.3%)
I Don't Know	264 (55.3%)
All Florida providers are allowed to access the MM registry.	
Correct	**209 (43.6%)
Incorrect	55 (11.5%)
I Don't Know	215 (44.9%)
Knowledge – Medical Marijuana Treatment Centers (MMTC)	***Responses**
Can an employee assist with selecting a product that may benefit the qualifying diagnosis?	
Yes	**281 (59.5%)
No	48 (10.2%)
Don't Know	143 (30.3%)

Can MMTC employees describe the risks and benefits of products?	
Yes	**314 (66.5%)
No	49 (10.4%)
Don't Know	143 (30.3%)
Are MMTC employees allowed to describe risks and benefits of the methods and administration of MM products?	
Yes	**310 (65.8%)
No	43 (9.1%)
Don't Know	118 (25.1%)
Are MMTC employees allowed to advise someone about the safe handling/storage of MM, marijuana-infused products, marijuana concentrates and ways to reduce access by a minor?	
Yes	**347 (73.7%)
No	22 (4.7%)
Don't Know	102 (21.7%)
Can MMTC employees provide instruction/demonstration about the proper use of MM?	
Yes	
No	**290 (62.0%)
Don't Know	44 (9.4%)
Can MMTC employees offer to diagnose or cure any disease, injury, pain, or health problem either physical or mental with the use of MM?	134 (28.6%)
Yes	43 (9.2%)
No	**322 (69.0%)
Don't Know	102 (21.8%)
Attitudes	***Responses**
Healthcare professionals should recommend marijuana as a medical therapy.	
Strongly Agree	122 (25.5%)
Somewhat Agree	144 (30.1%)
Neutral	116 (24.2%)
Somewhat Disagree	52 (11.1%)
Strongly Disagree	44 (9.2%)
Marijuana helps patients who suffer from chronic, debilitating medical conditions.	
Strongly Agree	209 (43.6%)
Somewhat Agree	161 (33.6%)
Neutral	57 (11.9%)
Somewhat Disagree	30 (6.3%)
Strongly Disagree	22 (4.6%)

There are significant physical benefits to using marijuana.	
Strongly Agree	130 (27.3%)
Somewhat Agree	130 (27.3%)
Neutral	112 (19.9%0
Somewhat Disagree	61 (12.8%)
Strongly Disagree	44 (9.2%)
Training about MM should be incorporated into healthcare professional education.	
Strongly Agree	257 (53.7%)
Somewhat Agree	133 (27.8%)
Neutral	58 (12.1%)
Somewhat Disagree	13 (2.7%)
Strongly Disagree	18 (3.8%)
The DEA should reclassify marijuana so that it is no longer a Schedule I drug.	
Strongly Agree	241 (50.8%)
Somewhat Agree	76 (16.0%)
Neutral	77 (16.2%)
Somewhat Disagree	33 (7.0%)
Strongly Disagree	47 (9.9%)
MM should be used to reduce the use of opioids for chronic non-cancer pain.	
Strongly Agree	241 (50.4%)
Somewhat Agree	130 (27.2%)
Neutral	54 (11.3%)
Somewhat Disagree	21 (4.4%)
Strongly Disagree	32 (6.7%)
There are significant mental health benefits to using marijuana.	
Strongly Agree	106 (22.2%)
Somewhat Agree	122 (25.6%)
Neutral	128 (26.8%)
Somewhat Disagree	56 (11.7%)
Strongly Disagree	65 (13.6%)
All medical providers should receive education on MM.	
Strongly Agree	292 (61.2%)
Somewhat Agree	108 (22.6%)
Neutral	44 (9.2%)
Somewhat Disagree	14 (2.9%)
Strongly Disagree	19 (4.0%)
Marijuana can be addictive.	
Strongly Agree	150 (31.3%)
Somewhat Agree	152 (31.7%)
Neutral	92 (19.2%)
Somewhat Disagree	48 (10.0%)
Strongly Disagree	37 (7.7%)

Using marijuana poses serious physical health risks.	
Strongly Agree	73 (15.3%)
Somewhat Agree	124 (25.9%)
Neutral	125 (26.2%)
Somewhat Disagree	105 (22.0%)
Strongly Disagree	51 (10.7%)
Using marijuana poses serious mental health risks.	
Strongly Agree	85 (17.9%)
Somewhat Agree	122 (25.7%)
Neutral	127 (26.7%)
Somewhat Disagree	94 (19.8%)
Strongly Disagree	47 (8.4%)

*Not all participants answered every question.
**Responses are the correct responses.