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Critical Factors That Influence Nurses' Knowledge, Perceptions, and Attitudes of Medical Cannabis Usage by Patients

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CRITICAL FACTORS THAT INFLUENCE NURSES' KNOWLEDGE, PERCEPTIONS, AND ATTITUDES OF MEDICAL CANNABIS USAGE BY PATIENTS

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Abstract

Background: From the mid-19th century to the 1930s, medical cannabis was used for the treatment of pain and many other medical conditions. In the 1970s, the United States classified medical marijuana as a Schedule 1 drug, which made it an illegal substance. Twenty-nine states and the District of Columbia currently have legalized medical cannabis at the state level in the United States. This state legalization has increased the number of patients taking medical cannabis. Nurses should become knowledgeable on the endocannabis system in order to educate this growing population of patient users.

Purpose: The purpose of this qualitative grounded theory study was to explore the critical factors that influence nurses' knowledge, perceptions, and attitudes of medical cannabis usage by patients.

Philosophical Underpinnings: The study was grounded by constructivism, symbolic interactionism, and pragmatism.

Methods: This research study was based on Strauss and Corbin's (1990, 1998) grounded theory approach. Phase 1 included individual nurses with 1 year or more of nursing experience from different nursing specialties. The nurses were interviewed in a semi-structured fashion with open-ended questions. Data analysis was completed with constant comparison of the data to develop concepts. The conceptual categories, subcategory, and theory were developed in Phase I and then were verified with the focus group in Phase II.

Results: The categories that emerged from the data—*personal knowing, lacking education, advocating, stigmatizing* and *regulating* with the subcategory of *lacking uniformity* all contributed to the critical factors that influence nurses' knowledge, perceptions, and attitudes of medical cannabis usage by patients. The critical analysis of

these categories and the subcategory led to the social process of *restructuring.* *Restructuring* emerged as what grounds the social process of critical factors that influence nurses' knowledge, perceptions, and attitudes of medical cannabis usage by patients.

Conclusions: The theoretical framework constructed in this study can be useful to inform nursing education, practice, research, health and public policy. This study provides insights that could demonstrate usefulness in nursing management of patients using medical cannabis in the United States.

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DEDICATION

I dedicate this work to all nurses and those yet to come. Special thanks to all the nurses who volunteered their precious time and participated in this study. Your voices have been heard! Thank you for your contribution to the body of nursing knowledge and the profession. It is my hope that this study becomes the gateway for future nurses to do further research on medical cannabis. As nurses, we must remain committed to life-long learning and continue advocating for all patients and standing up for what we believe in.

Let us not become weary in doing good, for at the proper time we will reap a harvest if we do not give up. Galatians 6:9

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CHAPTER ONE

PROBLEM AND DOMAIN OF INQUIRY

Medical cannabis continues to be on the forefront of controversy in the United States as a political, ethical, and medical issue. Twenty-nine states and the District of Columbia are currently allowing patients to use medical cannabis for certain clinical conditions in their home at the state level even though cannabis continues to be a Schedule 1 drug that has no medical use and is considered to be highly addictive at the federal level. Despite the federal ban on medical cannabis, a rise in patients using medical cannabis for their medical illness is evident in the literature. One to 1.5 million patients were using medical cannabis in 16 states and the District of Columbia in 2011 (Bellville, 2011). Medical cannabis was approved in 24 states including Hawaii and the District of Columbia for chronic illnesses in 2014. Florida's governor signed a bill in 2014 referred to as the Right to Try Act, which allows terminally ill patients to have access to medical cannabis to ease suffering in the home setting. The Right to Try Act includes addressing and supporting the usage of medical cannabis for severe forms of epilepsy. Medical cannabis is also currently being reviewed for approval in other states including Mississippi, North Carolina, Ohio, and Missouri, thereby increasing the number of patients who will be using it for their illnesses. With growing populations using medical cannabis, health care providers will have to consider medical cannabis as a treatment regimen option in their facility.

Medical cannabis has been state approved for use in several chronic conditions such as chronic pain, HIV-related illnesses, multiple sclerosis, and relief of Parkinson's symptoms, glaucoma eye pressure, and children's seizures. Despite the growing number

of states approving medical cannabis for usage in chronic illness and a fast-growing population using medical cannabis for their medical conditions, the federal government has banned the use of medical cannabis in federally funded facilities. This new trend will result in requiring nurses knowledgeable in how patients use medical cannabis as treatment for their chronic illnesses.

Nurses are expected to care for this already growing population by providing education, promoting health and safety, and improving the quality of health care in the use of medical cannabis. The nursing profession would be fulfilling its professional and ethical responsibility to this vulnerable population by developing a framework to guide practice in addressing these patient's needs. A theoretical framework of nurses' knowledge, perceptions, and attitudes warrants formulation to assist nurses in implementing care for patients using medical cannabis. Several issues need to be addressed to gain an understanding of how medical cannabis is being used by patients. The following topics were explored in the background of this study: the endocannabinoid system, the cannabis plant, global impact of medical cannabis usage, medical cannabis usage in the United States, and medical cannabis usage by patients and health care professionals.

Background of the Study

There is currently no consensus to the origin of people's initial association with cannabis. The cannabis plant naturally evolved in Central Asia prior to human contact. Today, cannabis is widely distributed globally as both a consequence of human distribution and long-distance transporting of the seeds by the migration of birds. It is endemic in several regions of Eurasia, a landmark located between Europe and Asia

(Clarke & Merlin, 2013). The first use of medical cannabis occurred in Central Asia and later spread to China and India. The Chinese surgeon Hua Ta'o used a mixture of hemp and wine as an anesthetic during surgery in A.D 110-207 (Lowe & Morrison, 2013). The Chinese emperor Shen-Nung is also known to have prescribed cannabis nearly 5 millennials ago. Between 2000 and 1400 BC, medical cannabis spread from India to Egypt, Persia, and Syria (Bostwick, 2012). The medieval physician Avicenna included medical cannabis in his practice from the mid-19th century to the 1930s. Medical cannabis was listed in the literature for the United States Dispensary from 1930 through 1937 for a plethora of indications such as pain, vomiting, convulsions, and spasticity. In 1937, a Marijuana Tax Act was passed, which placed a criminal fine on cannabis possession.

Cannabis was removed from the United States pharmacopeia in 1941. The Controlled Substance Act was passed in 1970, and the federal government classified cannabis as a Schedule 1 drug, making it an illegal drug with high abuse potential and without any medical use. The Controlled Substance Act of 1970 was passed because of increased usage of cannabis by young adolescents. From 1970 through 1995, medical cannabis remained illegal in the United States. Robert Randall, a college professor, was the first American to gain legal access to medical cannabis usage for his diagnoses of glaucoma in 1976.

Randall is known as the, "Father of the Medical Marijuana Movement" in the United States. Through his initiative, the federal government launched a program called "Compassionate IND" in order for patients to gain access to non-approved drugs. The Compassionate IND program was discontinued in 1992, with six of the 15 patients who

enrolled in the program still remain alive today. Randall is also the founder of Alliance for Cannabis Therapeutics. Its mission is to legalize medical cannabis for medical purposes. The State of California became the first to allow legal medical cannabis under state regulation in 1995. As of 2016, 28 states and the District of Columbia have legalized cannabis for medicinal purposes, with 17 states approving low THC and high CBD medical cannabis. The federal government nevertheless maintains its resolute stance of criminalizing any use of medical cannabis in the United States.

In spite of this controversy, "The Institute of Medicine concluded in 1996 that the data on medical cannabis supported therapeutic benefits, particularly in pain relief, control of nausea and vomiting, and appetite stimulation primarily from cannabinoid Tetrahydrocannabinol (THC)" (Philipsen, Butler, Simon-Waterman, & Artis, 2014, p. 637). The American Nurses Association (ANA) has supported therapeutic use of medical cannabis for 20 years. The 1996 ANA's Congress on Nursing Practice supported research and education for evidence-based therapeutic use of cannabis and related cannabinoids (ANA, 2016). In 2003, the ANA also declared their support of "ethical obligation to be advocates for access to health care for all" including patients in need of medical cannabis for therapeutic purposes. The Congress on Nursing Practice and Economics developed a position statement, titled, "In Support of Patients' Safe Access to Therapeutic Marijuana," which was approved by ANA's Board of Directors in December 2008 (Trossman, 2010). The American Nurses Association advocated support for the education of registered nurses (RNs) regarding current evidence-based therapeutic usage of medical cannabis as of 2008. The American Nurses Association revised the position statement, "Therapeutic Use of Marijuana and related Cannabinoids" (ANA, 2016). The

goal of the position statement was to develop an evidence-based approach to the use of medical cannabis in the treatment of disease and symptom management (ANA, 2016). The ANA (2016) also recommended a shared responsibility of professional nursing organizations to speak to nurses collectively in order to promulgate change to improve health and health care. The ANA (2016) strongly supports relisting medical cannabis from a Schedule I control substance to a Schedule II control substance. Prescribing standards that include indication for use, route, specific dose, indications for stopping the medication, expected effect, possible side effects and indications for stopping the medication for use in health care.

For thousands of years, medical cannabis was widely used for medicinal purposes. Currently, there is an increase of patients using medical cannabis for their chronic illnesses, requiring nurses to become educated on the subject of medical cannabis. Research on nurses' knowledge, perceptions, and attitudes may provide insight on how nurses will care for these patients holistically. Nurses need to be knowledgeable about the endocannabinoid system and become advocates for patients who benefit from the use of medical cannabis.

The Endocannabinoid System

In the 1990s, tetrahydrocannabinol (THC), a specific membrane receptor, was discovered, which opened the way to the endogenous signaling system, also referred to as the endocannabinoid system (De Petrocellis, Cascio, & Di Marzo, 2004). The endocannabinoid system includes two cannabinoid receptors called cannabinoid, CB1 and CB2. Cannabinoid receptor (CB1) is predominantly present in the nervous system, connective tissues, gonads, and glands, and (CB2) is found in the immune system (Sulak,

2015). Other cannabinoids are cannabidiol (CBD) and cannabinol (CBN) shown to improve the immune system. The endocannabinoid system is also comprised of the endogenous ligants (the endocannabinoids), which are substances in our bodies to stimulate receptors called anandamide and 2-arachidonoylglycerol. The endocannabinoids and the cannabinoids are both found in the body's system, allowing the body to communicate between different cell types in order to calm and stabilize the immune system (Sul, 2015).

Phytocannabinoids is a plant substance in cannabis that stimulates cannabinoid receptors, which have antioxidant properties that protect the cannabis plant from ultraviolet rays and harmful free radicals (Sulak, 2015). In humans, free radicals cause cancer and impair healing. The antioxidants found in the cannabis plant are natural supplements that can prevent free radicals in humans and maintain a functional cannabinoid system that is essential for hemostasis in the body. The cannabis plant can signal the body to make more endocannabinoids in order to build more cannabinoids receptors, which assist the human body to maintain balance.

The Cannabis Plant

Swedish botanist Carl Linnaeus named Cannabis Sativa in 1753 (Lowe & Morrison, 2013, p. XVI). According to the literature, the cannabis plant is called many different names in various parts of the world including *"weed"* or *"ganja"* in Jamaica, *"bhang"* in India, *"kief"* in Morocco, and *"dagga*" in South Africa (Lowe & Morrison, 2013). In the United States, it has been called *"weed", "pot," "Mary Jane," "dope," and "reefer."* There also are numerous slang words used to classify cannabis. On social media, these terms include *"420 friendly," "feeling," "firework," "flower," "gash," and*

"grass." The cannabis plant grows in tropical and temperate areas of the world. The plant grows 7 centimeters per day, and maturation takes from 4 to 10 months (Lowe & Morrison, 2013). The leaves and the buds of the cannabis plant have natural therapeutic properties that have been used for illnesses for centuries. The cannabis plant serves three main purposes: hemp fiber from its stem, oil from its seeds, and the psychoactive substances from its flower. There are various grades of cannabis. In Jamaica, *Kali* is the most potent and expensive grade; *Speed Bush* is when the cannabis plant is in the stage of full maturity; *Green Ganja* has its greatest use in medicinal prescriptions and tea; *Bush Weed* is the least potent and not as smooth for smoking; and *Cured Ganja* is the cannabis plant that is dried by the sun for up to three months to enhance its potency (Lowe & Morrison, 2013).

The cannabis plant is either female or male; however, the flowering tops of the female plant are considered the primary psychoactive substance, which was isolated in 1964. The higher the delta-9 tetrahydrocannabinol (THC) levels, the more psychoactive effects the person can experience. The male cannabis plant is not pharmacologically active, and as soon as flowering begins, the male plant needs to be uprooted and destroyed because it can contaminate the crop of cannabis. The cannabis plant leaves, small stems, and female flowering head typically contains a THC level of 1.0-3.0 %. The *Sinsemilla,* which is the sterile female flower head, contains 3.0-6.0 % of THC. The *Hashish*, which is the cannabis resin, contains 10.0-15.0 % of THC. Cannabis oil, which is the alcoholic extract of resin, contains 20.0-60.0 % of THC (Lowe & Morrison, 2013). The hemp fiber from the stem contains very little THC even though it holds a large

amount of CBD, which has been shown to have anti-inflammatory properties that improve the immune system.

Other factors that increase the potency of medical cannabis is how it is administered (smoking or oral), the technique of preparation, and the grade of the cannabis plant. Smoking of the cannabis plant is not recommended in the literature because harmful toxins are delivered to the lungs. The plant contains a variable mixture of biologically active compounds that cannot provide a precise drug effect. For this reason, the future of cannabis lies not in the smoked cannabis, rather in the edible cannabis (Lowe & Morrison, 2013).

Global Impact of Medical Cannabis Usage

Medical cannabis usage has been a controversial issue. On the global level. Canadian hemp fiber was cultivated in 1606. In early 2018, Canada legalized medicinal cannabis. Production of sale of medical cannabis in Canada is controlled by The Access to Cannabis for Medical Purpose Regulation. Distribution of medical cannabis is done directly by a licensed supplier and not through dispensaries, which are illegal in Canada (Watts, Austin, Kingdom, & Mack, 2017).

Medical cannabis usage in Europe has acquired little success in Norway (Pedersen & Sandberg, 2013). Healthcare professionals in Norway have not accepted the notion that users are more knowledgeable about medical cannabis than they are. Patients are treated with Marinol and Sativex, a synthetic form of medical cannabis (Pedersen & Sandberg, 2013). Medical cannabis is prohibited, with zero tolerance toward using it in Sweden. Medical cannabis was legalized in 2017 in Germany for seriously ill patients who have consulted with a medical doctor and have no therapeutic alternative. The

Federal Health Minister of Germany Hermana Grohe has suggested the need for health insurance to cover the cost of the medical cannabis (Senthilingam, 2017).

China is well positioned to dominate the global market of medical cannabis because it is already the leading exporter of hemp fiber and the seeds of the cannabis plant. Cultivation of the cannabis plant is only legal for personal usage in China. Consumption and possession in small quantities is also legal; however, large consumption and possession is illegal in China (Lowe & Morrison, 2013). Cannabis is also used in China to make rope and clothing from the hemp fiber. Cultivation for these purposes remains legal.

Very liberal policies exist in North Korea toward cannabis (Stuart, 2013). Cannabis grows widely there, with no laws against the sale and consumption of cannabis. Cannabis is mostly grown for medicinal purposes and workers smoke marijuana as a way to relax or sooth tight muscles. Guam is a U.S. island in Micronesia in the Western Pacific where medical cannabis has been legalized since 2014. A proposal for medical cannabis regulation was released in 2015. This regulation allows patients with debilitating conditions such as cancer, glaucoma, epilepsy, multiple sclerosis, and HIV to qualify for the medical cannabis program (Clarke, 2015).

"*Cannabis sativa*, is also known as *Cannabis indica* or Indian hemp, is an annual herb of the family (Kuddos, Ginawi, & Al-Hazimt, 2013, p. 736). "Cannabinaceae has been used by humans throughout recorded history for its food, fiber and medicine" (Kuddos, Ginawi, & Al-Hazimt, 2013, p. 736). Medical cannabis is illegal in India, but people buy it on the black market and use it for self-medication. In addition, *cannabis*

has been used for religious purposes especially by some Hindus as well as in numerous other minority religions group (Kuddos et al., 2013).

The possession of cannabis has been legal since 1974 in Uruguay, located in South America. Then in 2014, the sale of cannabis for recreational purposes was legalized. The government of Uruguay is seeking contractors to grow cannabis on government-owned fields that would be protected by state security forces. Once the fields have enough cannabis to supply, patients using medical cannabis will be allowed to access 40 grams per month (Ramsey, 2016).

The largest medicinal cannabis farm was built in a small town called Colbun in Chile in January 2016. This medicinal cannabis farm will help treat 4,000 patients from across Chile with chronic pain, complications from cancer and epilepsy, and other medical conditions (Reuters, 2016). In Columbia, President Sen. Juan Manual Santos legalized the use of medical cannabis in 2016 for domestic use and export. In 2017, President Pena Nieto from Mexico signed a decree to legalize medical cannabis, he also advocated for the United States and Mexico to follow policies on cannabis legislation (Erickson, 2017).

Africans have been smoking cannabis for over six centuries. The cannabis plant was used as a remedy for snakebites, malaria, blood poisoning, anthrax, fevers, and asthma. African women also use cannabis to induce a state of euphoria before going into labor (Lowe & Morrison, 2013). South Africa is currently indecisive about medical cannabis usage in patients. They have completed research on the benefits and harm of medical cannabis and concluded that they still need to strengthen their empirical evidence

to minimize the risk before they could recommend legalizing medical cannabis in South Africa (Perry & Myers, 2014).

Cannabis, acknowledged as *"ganja"*, was brought to Jamaica in the mid-19th century by Indian workers (Lowe & Morrison, 2013). *Ganja* in Jamaica is used in different forms as folk medicine; it is commonly brewed; and the tea is used as a tonic, ointment, for cooking, or baking. The leaves are soaked in rum to be used for relief of general joint aches and pains, stomachache, toothache, and symptoms of asthma (Lowe & Morrison, 2013). Jamaica launched the opening of a company called MediCanja in December 2013, which focuses on the research and production of cannabidiol, or CBD, a compound in medical cannabis that has medicinal effects. MediCanja will also provide a legitimate source of revenue for Jamaica (*South China Morning Post*, 2015). Puerto Rico's governor Alejandro Garcia Padilla signed a 2015 executive order legalizing medical cannabis (Kampia, 2015), but in Trinidad, Tobago and Haiti, medical cannabis continues to be illegal.

The United Nation's International Narcotic Board (INCB) is an independent body of experts established by the United Nations International Narcotic Control Board which currently does not support the legalization of cannabis (Lowe & Morrison, 2013). However, with the legalization of medical cannabis at the state level in the United States, many international countries have legalized medical cannabis while others are looking to the United States to make future decisions on legalizing medical cannabis. Issues related to the lack of research on medical cannabis have created a delay in legalization even though many international countries have been using medical cannabis as an alternative medicine for cooking and making clothing.

Medical Cannabis Usage in the United States

The English spread hemp cultivation among the colonies of North America; Virginia in 1611 and other colonies of New England in 1632 (Lowe & Morrison, 2013). Cannabis was used for many chronic illnesses as a sedative, to improving appetite, and decreasing female and male impotency during the 20th century. The U.S. district Court of Appeals issued findings in 1970 that cannabis had no medical value, but medical cannabis was proven to relieve antiemetic symptoms in AIDS patients in 1980. Today, medical cannabis is used by patients in 29 states for chronic illness, and research is being conducted for other usage that could also benefit patients. Recent polls showed that the majority of Americans believe cannabis should be legalized for medical purposes (Troutt & DiDonato, 2015). According to the literature, 286,243 persons were registered in 2010 for medical cannabis in the United States when 16 states passed laws to legalize cannabis for medical purposes. Of 29 states, the District of Columbia and Guam have legalized cannabis for medical purposes, while three states have legalized cannabis for recreational purpose, and 17 states allow non-euphoric strains of medical cannabis. This type of medical cannabis is low in THC and high in cannabidiol or CBD, which is known to have anti-inflammatory effects (National Conference of State Legislatures, 2015).

Every U.S. state has district laws regarding the registration process. Each state has specific regulatory measures regarding purchasing, growing, and dispensing medical cannabis. Washington state does not have a registry, but in California, registration for medical marijuana is voluntary. The percentage of THC and CBD allowed in every state is also different. Gender is not reported in some states, but it is reported in Arizona and Colorado. This makes it difficult for health professionals to be knowledgeable on the

subject of medical cannabis and to understand the health policies regarding medical cannabis usage with patients in the United States. Figure 1 illustrates this condition as 29 states and The District of Columbia have allowed laws allowing medical cannabis.

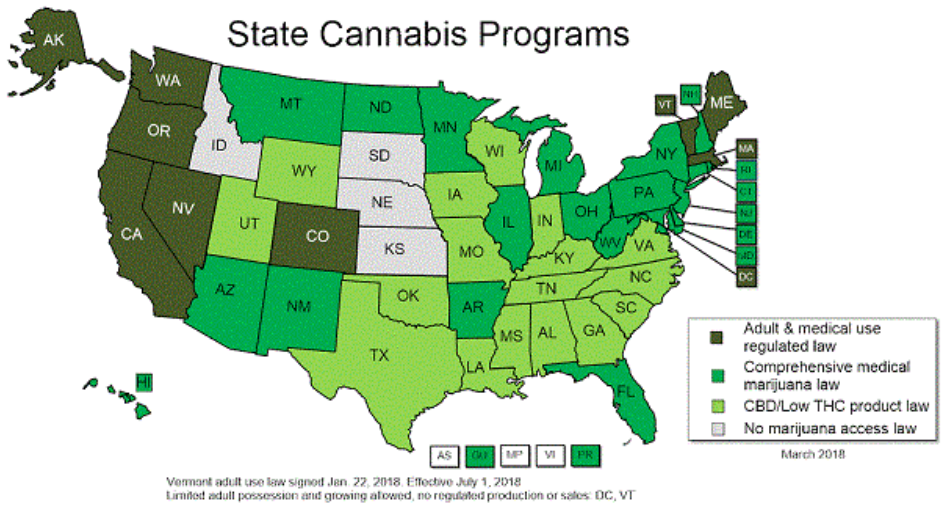

Figure 1. 29 States and the District of Columbia medical cannabis states (National Conference of State Legislators, March 2018).

There are basically two types of state laws currently in effect: those that allow access to the full plant (in various delivery forms) and those that allow access to CBD-only drugs (ANA, 2016). The majority of persons registered for medical cannabis usage in the United States appear to be young, male, and those experiencing severe or chronic pain. Research studies on patients' characteristics have been conducted in California and Arizona while scientists have now begun studying patients living in the state of Washington (Reinarman, Nunberg, Lanthier, & Heddleston, 2011).

Troutt and Didonoto's (2015) study examined the characteristics, perspective, and behavior of medical cannabis patients in Arizona. This quantitative study included 367 patients recruited from four medical cannabis dispensaries in Arizona. The aim of the study was to examine the characteristics, perception, and behaviors of patients in Arizona

using medical cannabis whereby participants with a history of cannabis use were questioned regarding their experience with cannabis before and after legalization. The study measured patient conditions, patterns, and methods of cannabis use and perceptions of prior medical cannabis users using a five-point Likert-type scale where 1 = *no relief at all* and 5 = *almost complete relief*. The use of using other medication since using medical cannabis was analyzed (1= *I use other medications much less frequently* to 5= *I use other medications much more frequently*). Higher scores indicated more frequent use of other medications. Patterns and methods of cannabis use were analyzed using a single item measure regarding their preferred method of consumption.

To the study used a five-point Likert scale (1= *much more dangerous* to 5= *much safer*) to measure patient perceptions of risk. The author's results concluded that patients were male, 35 to 45 years of age, Caucasian, and consumed one-half of an ounce of medical cannabis or less per month (78.1%). The study found that a large majority of patients (83.7%) used medical cannabis several times a week, and inhalation was the most popular method of intake by smoking or vaporization (67.2%). Fewer patients used the edible oils or tincture form of medical cannabis. The results also reported that patients used medical cannabis for anxiety, depression, headaches, muscle spasms, stress, and nausea. Previous studies showed that patients consumed six to nine grams per week, which is equivalent to 0.85 to 1.25 ounces per month. Another result from the study led researchers to conclude that patients in Arizona were older and consumed less cannabis than patients in California. Patients in Arizona reported using fewer medications while using medical cannabis. The study was limited in reporting the negative effects of medical cannabis legalization, which may prevent some participants from taking

advantage of the Arizona program, leaving some individuals to illegally obtain medical cannabis.

Reinarman et al. (2011) conducted a quantitative study in which researchers interviewed patients who used medical cannabis and access their medical histories from nine California clinics. The researcher examined the growing population of patients who use medicinal cannabis in California. The sample size included 1,746 patients; 27.1% who used medical cannabis were female, with 72.9% of male patients using medical cannabis. Patients self-identified as White (61.5%), Latino (14.4 %), African American (11.8%) , Native American (4.5%) and Asian/Pacific Islander (4.2%). The majority of the patients were age 25 through 34, younger than Arizona patients with the majority employed (64.8%). Data were analyzed using a standardization evaluation form completed by the patients. The evaluation instrument included a history questionnaire with demographic information, including present symptoms and conditions, a brief medical history, alternative medical treatment, and drug history. An International Classification of Disease Codes (ICD-9) form was used to interview the physicians.

The results concluded that medical cannabis patients were three-fourths male and three-fifths Caucasian. The patients in California using medical cannabis were younger, had some formal education, and were employed. The results of the study also concluded that medical cannabis was used once a week by 67.0% of the patients, and 86.1% ingested the cannabis by smoking it. Many studies in the literature have shown the inhalation of cannabis smoke is more harmful than tobacco smoke; cannabis smoke delivers 50% to 70% more carcinogens. The study underrepresented women, Latinos,

and Asian Americans. Individuals who had an undocumented status in the United States may have caused this under-representation.

According to Ghosh et al. (2015), Colorado has legalized medical cannabis since 2000 for chronic illnesses including glucoma, HIV-AIDS, seizures, cancer, and severe pain. From 2000 to 2004, medical cannabis was only available from plants grown in noncommercial home settings. In 2010, the state law allowed commercial production and distribution of medical cannabis. The number of registraints grew from 4,819 to 115,467 in December 2014. Colorado subsequently became the first state to allow sales on receration cannabis with no state model to follow in 2014. Colorado currently has 500 medical cannabis dipensaries, and the users of medical cannabis can purchase up to two ounces of cannabis. Patients can grow up to six plants in their homes or register with a designated caregiver who can grow six plants for them. The patients using medical cannabis in Colorado must register, and a physician's recommendation is required. However, there are current public health concerns in Colorado because of the limited testing of patients and the increase of cannabis availability to the general public.

The prevalance rate of adolecent usage of cannabis after state legalization of medical cannabis is controversial. Data have not revealed an increase in cannabis usage of adolescents after the legalization of medical cannabis in Colorado. However, the new consumable cannabis products include edibles, lozenges, baked goods, and beverages with little standardization and infrasturcture for adressing food safety and contamination issues. The percentage of THC in these products is more potent, and the effects of ingestion can last up to 8 hours. This avaliability to young children puts them at risk of poisioning. There has been an increase in calls to the poison control center due to

unintentional cannabis exposure to children. Two deaths have been reported from ingestion of edible cannabis.

Imparied driving is also a concern in Colorado. National studies have conflicting evidence on whether states with medical cannabis have seen an increase in traffic fatalities, but it has been reported that Colorado has seen an increase in traffic fatality rates attributed to cannabis usage. Colorado has set limits of 5mg of THC per milliter to be operating a vehicle under the influence. The Colorado Department of Transportation lauched a public education campaign on impaired driving and Colorado is also proposing a regulation on edible products of no more than 10mg of THC per serving and creating guidelines for labeling of the products. Colorado has become the model for other states currently deciding whether to legalize medical cannabis.

Florida's Right to Medical Marijuana Initiative (Amendment 2) was defeated on the November 2014 Florida election. The majority vote was 57.62% in favor of medical cannabis, 60% of approval was required for the amendment to be passed. However, as of November 2016, the state of Florida proposed a legislation to allow medical cannabis to be used for a wide variety of medical conditions including *cancer, glaucoma, epilepsy, HIV, post-traumatic stress disorder,* and *Parkinson's disease*. The proposed constitution received 71% approval and allowed the dispensary of high CBD medical cannabis for people who suffer from *cancer, HIV/AIDS,* and *epilepsy* under the Compassionate Use Act (Austin, 2016). The Florida Department of Health will regulate centers that distrubute medical cannabis. This new inclusion in the amendment was added because Florida residents wanted to make sure that minors were protected.

Several organizations in the U.S. support medical cannabis for patient usage for chronic illness. A nurse, Mary Lynn Mathre, founded The American Cannabis Nurses Association (ACNA) in 2010. The ACNA mission is "to advance excellence in cannabis nursing practice through advocacy, collaboration, education, and research and policy development." This organization sponsors seminars and webinars for nurses to become more knowledgeable in the endocannabis system and to put into practice the safe use of medical cannabis for their patients. "Patients Out of Time" is another association that partners with The Medical Cannabis Institute. Both organizations provide educational courses and evidence-based forums for health care professionals, patients, and caregivers about the therapeutic use of cannabis and the endocannabinoids system.

Medical Cannabis Usage and Health Professionals

This growing population of medical cannabis users in the United States will require that health care providers become knowledgeable about the endocannabis system. Health care providers must educate patients about cannabis usage, side effects, adverse effects, contraindications, different strains of medical cannabis, and various routes of administration. Health care providers also should know about safety concerns and gain a better understanding of medical cannabis and its overall effects. They should also consider the 100 different strains that are available and their usage to treat a variety of chronic illnesses. Health care providers need to be knowledgeable about these different strains and the routes of administration for medical cannabis in order to more effectively guide patients. Health care providers also need to be aware of potential side effects and adverse effects of medical cannabis including anxiety, depressive, psychotic, neurocognitive, and substance use disorder in patients (Nussbaum, Thurstone, McGarry,

Walker, & Sabel, 2015). In addition, "Cannabis users also experience cognitive deficits, which manifest dose-related impairments in reaction time, information processing, motor performance, and attention. Finally, long-term marijuana smoking is associated with increased respiratory symptoms suggestive of obstructive lung disease" (Kondrad & Reed, 2013, p. 53).

Alexandre (2011) conducted an exploratory study that evaluated the effectiveness of the Rhode Island Medical Marijuana Program. Alexandre stated, "Nurses, especially those caring in states that sanction the use of cannabis for medical purposes, should ask about cannabis use at each patient encounter" (p. 111). The study also suggested that nurses' associations should consider sponsoring continuing education programs for nurses regarding the care of patients using medical cannabis (Alexandre, 2011).

Norberg et al. (2012) conducted a quantitative study in five Australian cities. The study compared general practitioners' (GPs') and nurses' knowledge, beliefs, and behaviors in screening and managing cannabis usage. The participants completed a 31-item questionnaire. Of 1,925 participants, only 664 completed the surveys; 76 % for those taken by general practitioners, and 24% were completed by nurses. The researchers concluded that nurses reported less knowledge, skills, and role legitimacy, and the GPs engaged more in cannabis-related services. Essentially, GPs were significantly more likely to receive a small amount of training in cannabis usage ($p = 0.006$), while the nurses were more likely not to have received any cannabis usage training ($p < 0.001$). This quantitative study was limited to nurses in Australia and may not have represented nurses in other countries. However, the results correspond with international articles that

also report on the lack of nurses' knowledge related to the subject of managing cannabis usage.

Maythrone's (2010) qualitative study explored the attitudes of eight Alaskan palliative care nurses regarding the use of medical marijuana. The author pointed out that attitudinal research in nursing on medical cannabis in the literature was limited. Data analysis was conducted utilizing the process of interpretative analysis that occurred simultaneously with data collection until saturation achieved. The researcher used the principles of content analysis and classifying groups of text into categories of theoretical importance. The themes gathered from these eight nurses were access to marijuana, clinical efficacy of marijuana, potential for marijuana abuse, patients' willingness to use cannabis as a medicine, and the use of Marinol in clinical practice. The participants supported medical cannabis for palliative patients; however, they had conflicting beliefs about marijuana. Results of the study yielded several recommendations for future research regarding nurses in states where medical marijuana is illegal. The study increased the understanding of the nurses' perspective on the issue of medical cannabis. However, the study was limited to nurses in Alaska.

Over 35 years ago, physicians Seipp, Chang, Shiling, and Rosenberg (1980) researched the efficacy of cannabis as an antiemetic. These researchers conducted a second quantitative double blinded study, a component of the first study to explore 24 oncology nurses' attitudes, using an attitudinal survey. The nurses were asked, "Which of the following statements best describes your attitude toward people using marijuana as a recreational drug?" Twelve of the respondents identified recreational use as a private matter, a "harmless diversion." Some of nurses viewed it as an activity that may show

value in medical research (Seipp et al., 1980). From the 20 oncology nurse participants, 19 indicated that it was appropriate to test cannabis on oncology patients with uncontrolled nausea and vomiting by conventional therapy. Five of the 20 nurses reported that they thought cannabis would be effective for the patients; however, 15 participants expressed a "wait and see" attitude. One year later, 16 out of the 20 nurse participants agreed to repeat the survey, and attitudes were unchanged. The study found no evidence of biases in oncology nurses with conservative or liberal views toward cannabis. The study was seminal work; however, it was limited to the findings of that particular time. This further justifies the reason that the phenomenon of interest needs to be explored in order to investigate nurses' knowledge, perceptions, and attitudes toward the current trend on the subject of medical cannabis usage. (Seipp et al.,1990)

Physicians' attitude toward medical marijuana has been studied before. Kondrad and Reed (2013) conducted a quantitative study using a three-part online survey seeking information on demographics and use of medical cannabis. The questionnaire used a 5-point Likert scale (1 – *agree* to 5 – *disagree*) with 17 statements about cannabis policy nationally and in the State of Colorado. The survey was sent to 1,727 physicians, including 520 family physicians who responded to the online survey. The results concluded that 31% of the physicians recommended medical marijuana to patients: 71% recommended medical cannabis between one and five patients, and only 1% (two physicians) had recommended medical cannabis to more than 50 patients. However, none of the physicians recommended cannabis to more than 100 patients. Results also indicated that family physicians were not fully convinced of the health benefits of medical cannabis and that further educational training on medical cannabis was needed

for physicians. Among the participating physicians, 80% agreed that training should be incorporated into medical school curriculum, and 82% felt that it should be a part of the curriculum for family physicians; 92% agreed that continuing education should be available for primary care physicians, while 81% agreed that physicians should be required to have formal training about medical cannabis before recommending it to patients.

Moeller and Woods (2015) conducted a quantitative study aimed at determining pharmacy students' knowledge and attitude toward medical cannabis to establish whether or not they needed additional education on the topic. Using a 23-point Likert-scale questionnaire, 311 pharmacy students were asked to complete a survey to assess their knowledge of medical cannabis usage, adverse effects, and attitude toward medical cannabis. Data were analyzed using a 23 five-point Likert scale (1 = *strongly disagree* to 5 = *strongly agree*). Nominal variables were compared using chi-square. Scale data were compared using independent *t*-tests between marijuana use status and analysis of variance (ANOVA) that was used compare the means between the three professional years. Statistical analysis was performed using SPSSv20 with a p -value less than 0.05 defined as significant. The results of the study concluded that 58% of the pharmacy students felt that medical cannabis should be legalized. The pharmacy students also reported that they were not comfortable answering questions to consumers on efficacy, safety, or drug interaction related to medical cannabis. The study also reported that with an increase in states legalizing medical cannabis, pharmacy schools need to evaluate the adequacy of medical cannabis education in the pharmacy schools' curricula.

Health care providers need to be in the forefront of this new patient usage of medical cannabis paradigm. However, the literature regarding nurses, general practitioners, physicians, and pharmacists all support the caution that education is lacking on the subject of medical cannabis within school curriculums; and continuing education courses. Courses need to be made available to health care professionals who render care to patients using medical cannabis. In particular, nurses' lack of knowledge may contribute to the lack of patient teaching which may compromise patient safety. This deficit may hinder effective care by the nurses as well as providing daily care of the patients using medical cannabis for their medical condition. Given this lack of education, health care providers will not be equipped to meet the needs of this growing patient's population.

Statement of the Problem

According to the literature, patient usage of medical cannabis in the United States has soared due to an increase in the number of states legalizing medical cannabis. The number of people since March 2011 registered in 16 states and Washington D.C. with legal medical cannabis usage were 1 to 1.5 million (Belville, 2011). The American Nurses Association actively supports nurses who promote medical cannabis to improve the quality of life for patients using such therapy. They revised their position statement in 2016 titled, "Therapeutic Use of Marijuana and Related Cannabinoids" in order to address the roles and responsibilities of nurses related to the use of medical cannabis for health care (ANA, 2016).

Current reports have identified that nurses' knowledge deficit in rendering care to patients using medical cannabis is due to lack of education about different state

guidelines. There is a dearth of research on nursing management for patients using medical cannabis in practice. This lack of knowledge on medical cannabis usage impacts the nurses' perceptions and attitudes and can also affect how nurses provide safe effective nursing care and education to this vulnerable population. A theoretical framework addressing this phenomenon has not been established to help guide the management of these patients. Webinars and seminars focusing on nursing management of medical cannabis patients need to be provided for all nurses to increase awareness on the current issues related to patients using medical cannabis. Nursing school curriculums need to be inclusive of medical cannabis information so investigating this phenomenon is paramount because it will determine how nurses are caring for patients using medical cannabis in their treatment regimen.

Purpose of the Study

The purpose of this qualitative study was to explore the critical factors influencing nurses' knowledge, perceptions, and attitudes toward patients using medical cannabis.

Research Questions

The research questions used to ground this study were as follows:

1. What are the critical factors influencing the knowledge, perceptions, and attitudes of nurses toward medical cannabis usage in patients?
2. What are the social elements that influence the practice of nurses caring for patients using medical cannabis?
3. What are the barriers affecting the current regulations in the United States regarding medical cannabis usage in patients?

Philosophical Underpinnings

The problem under investigation was a social problem that steered itself to a grounded theory qualitative approach. "The procedure of qualitative research, or its methodology is characterized as inductive, emerging and shaped by the researcher's experience in collecting and analyzing the data" (Creswell, 2013, p. 22). Qualitative research is an approach for generating knowledge that emphasizes the meaning of an experience (Fain, 2013). It is rooted in philosophy, anthropology, and sociology and focuses on understanding social problems using a purposive sample to answer open-ended questions. It is also subjective and emphasizes in attempting to understand a phenomenon from an individual's perspective. The participants in a qualitative research study are interviewed in their natural setting in order to capture a holistic view, analyze their words, and create themes from the participants' responses. This process allows for an in-depth understanding of the problem and allows an open conversation between the participant and the researcher.

Quantitative research was directed at the discovery of relationship in cause and effect (Fain, 2009). Data collected were objective and narrow in its scope. Quantitative research is derived from an empiricist foundation, wherein the theoretical perspective is positivism. "From a positivist viewpoint, objects in the world have meaning prior to, and independently of, any consciousness of them" (Crotty, 2003, p. 27). Immanuel Kant, a philosopher from the age of Enlightenment who focused on the natural sciences, challenged quantitative research. Kant proposed a shift in the philosophy of knowledge for arguing that important concepts such as hope, spirituality, empathy, presence, and caring cannot be understood through empirical means alone (Rodgers, 2005).

Max Weber (1864-1920) is often linked with Interpretivism, which suggest that human science is concerned with *Verstechan* (understanding) (Crotty, 2003). The interpretivist approach leads the investigator to look for culturally derived and historically situated interpretations of the social-life world (Crotty, 2003). Both philosophers rejected the quantitative approach positivist worldview as the only means to acquire knowledge. Qualitative research is rooted in social constructivism. Social constructivism is relativist, meaning that different people may well inhabit different worlds. Their different worlds constitute for them diverse ways of knowing, distinguishable set of meanings and separate realities (Crotty, 2003). Meaning is not discovered; in social constructivism, instead, it is constructed through the voices of the participants. Their many voices must be heard in order to construct meaning of the world they are interpreting. In the constructivist paradigm, meaning is constructed from the multiple realities of the participants.

Constructivist Paradigm

According to Kuhn (1962), a paradigm is a theory of beliefs collected into a unitary package about science and scientific knowledge (Crotty, 2004). The role of a paradigm is to create inquiry, define relevance, and establish and create meaning. It allows the researcher to formulate questions and select a method to examine questions. A paradigm embedded in grounded theory is constructivism such that it is conducive to understanding of the social processes being explored. The constructivist paradigm will provide the framework to explore the multiple views of the participants through a subjective lens as rooted in psychology, philosophy, education, and sociology. Constructivism is treated as objective nor subjective, but rather as an amalgam indicating

the understanding the kind of understanding in the making of meaning. It is viewed that all knowledge, and therefore all meaningful reality as such, is contingent upon human practices, being constructed in and out of interaction between human beings and their world and developed and transmitted within a social context (Crotty, 2004). People do not create meaning; they construct meaning according to constructivism rather, people construct meaning (Crotty, 2004). "Charmaz (2014), a philosopher of grounded theory, is a supporter of constructivism who states: "The constructivist paradigm has a relativist ontology in which reality is believed to have multiple constructions" (Griffiths & McKenna, 2013, p. 18).

An exploration nurses' different viewpoints about medical cannabis should provide the researcher with the critical factors influencing nurses' knowledge, perceptions and attitudes toward medical cannabis usage. Understanding how nurses construct and reconstruct meaning of medical cannabis usage should assist the researcher to comprehend how this knowledge is acquired, maintained, and changed. It also indicates the attitude toward medical cannabis usage in patients, how significant the knowledgebase was, and how nurses implemented care to patients who use medical cannabis in their daily nursing practice.

There are five significant philosophical assumptions in the constructivist paradigm: ontological, epistemological, axiological, methodological, and rhetorical. The ontological assumption is related to reality as "It is concerned with 'what is', with the nature of existence, with the structure of reality as such" (Crotty, 2004, p. 10). Ontology includes the concept of multiple realities of the participants in the research study, the researcher and the reader of the research itself (Creswell, 2013). The researcher listens to

and records the views of the participants through a subjective lens: in the instance of the current study, the researcher took into account multiple views of nurses in the United States regarding this phenomenon. Issues related to ontology and epistemology tend to emerge together (Crotty, 2004). Relativism represents an amalgam of multiple realities in a person's interpretation and social constructions of reality. This assumption allows the researcher to accumulate subjective data from the participants as their; individual experiences. The researcher in this study acknowledged that multiple views existed within each participant's worldview (Creswell, 2013).

Epistemological assumptions of qualitative research are subjectivism and constructionism. It is inherited from the theoretical perspective and the methodology chosen by the researcher. "Epistemology deals with the nature of knowledge" (Crotty, 2004, p. 8.). Individuals construct knowledge in different ways for the same phenomenon. Finding knowledge is created and co-created by an individual. In subjectivism, meaning is created from no prior knowledge, and in constructivism, meaning is constructed (Crotty, 2004). The knowledge of patient usage of medical cannabis was constructed from prior knowledge from both the participants and the researcher who remained near the participants in their natural setting, in order to collaborate with and become trusted by the participants.

The axiological assumption involves how the researcher brings value to the study reporting the value and biases as well as the value-laden nature of the study from the field (Creswell, 2013). The researcher is free to include interpretation of the collected data by reporting the participants' interpretations of the value of the study findings. Axiology enables an explanation of how valuable the study of medical cannabis is to the body of

knowledge of nursing from the interpretations of the researcher and the participants. Personal biases of the researcher are discussed openly in order to mitigate influence on the results of the study. Memoing, journaling, and reflexivity were used continuously in this study in order to disclose the researcher's personal belief and allow the themes to emerge from the participant's views and not from those of the researcher.

The characteristics of a methodological assumption were inductive, emerging, and shaped by the researcher's experience in analyzing and collecting data for the study (Creswell, 2013). Methodology was driven by the research question, which started out broad and then became more specific in order to bring forth the viewpoints of the nurses. The research question for the focus group allowed the researcher to confirm the categories from the individual interviews. In this study, the methodology was a grounded theory guided by Strauss and Corbin (1990, 1998), which allowed categories of themes to emerge from data collected from the nurse's experiences.

The rhetorical assumption is based on the personal voice of the investigator when reporting the themes and results of the study (Creswell, 1994). The vivid, deep, and rich descriptions of the nurses' voices allowed meaning of the story to emerge. The researcher in this study documented these descriptions from the account of the participants and reported the reality of their experiences through the eyes of the participants.

The following research designs are associated with a qualitative tradition: *narrative research, phenomenology, ethnography, case study,* and *grounded theory.* Narrative research is a design that collects stories from an individual. The stories collected consists of an individual's life and told experiences (Creswell, 2013). The

researcher in this study used individual stories, pictures, documentations, and observations to gather the data. The primary source was the individual interview. There are many different types of narrative research: biographical study, auto ethnography, life history, and oral history. The narrative design would not apply to this study as a research design because the research question for the phenomenon of interest required interviews of many nurse participants.

Phenomenology leads the researcher to focuses to describe what all participants have in common as they relate their thoughts on a phenomenon or lived experiences (Creswell, 2013). The phenomenological the researcher may use bracketing to discuss participants' experiences regarding the phenomena of interest. The phenomenological design did not apply to this study because the study was not looking for lived experiences, but rather patterns of a particular social process.

"Ethnography research tries to understand the meanings of social action within cultures" (Munhall, 2012, p. 316). The goal of ethnographic research is to understand the culture and reveal what that culture means to that person or group of people in a particular culture, to understand their way of life. The researcher goes "emic" by becoming immersed in the culture under investigation. This type of research requires field notes, participant observation, interviews, and participation of events for the researcher. Gatekeeper from within the culture who is well respected by the culture being investigated is sought to mediate between the researcher and subjects of study. An ethnography design did not apply to this study because the research question did not focus on the social action of the nurse's culture.

A case study design is well suited when the researcher's aim is to understand a phenomenon and provide meaningful characteristics of a real-life event (Munhall, 2012). Case study design researchers focuses on exploratory research, inductive or deductive, reasoning, hypothesis, and theory. A key characteristic of a case study design is that the methodology stems from the researcher's research question which is key to its design and method used to answer the question. Various types of designs include single case study, multiple case study, case studies with emphasis on social process, and explanatory case studies. This design model did not apply to this study because it does not allow the researcher to generate a theory based on the findings.

The goal of grounded theory research study is to generate a middle range theory. Social processes and contexts are captured in a grounded theory study (Munhall, 2012). The research question formulated for this current study led the researcher to a grounded theory design as it was the research design that should answer the following research question: What are the critical factors that influence nurses' knowledge, perceptions and attitudes of patient usage of medical cannabis?

Grounded Theory

Grounded theory is a qualitative research approach in which the inquirer generates a general explanation (a theory) of a process, an action, or an interaction shaped by the views of a larger number of participants (Creswell, 2013). Grounded theory was evaluated as the research approach that should answer the following research questions: What are the critical factors that influence nurses' knowledge, perceptions and attitude of patient usage of medical cannabis? What are the social elements that influence the practice of nurses caring for patients using medical cannabis? What are the barriers

affecting the current regulations in the United States regarding medical cannabis usage in patients?

"Grounded theory is particularly useful when little is known about the area to be studied or when what is known from a theoretical perspective does not satisfactorily explain what is going on" (Creswell, 2013, p. 230). This characteristic renders grounded theory as an effective model in the current study, as this study addresses a gap in the literature. Studies on medical cannabis are starting to evolve; however, these is a dearth of research studies regarding nurses. Exploration of this phenomenon using the grounded theory design should lead to a theory that could influence educational and political policies, integrate the issues surrounding medical cannabis in academic nursing curriculums and enhance the nurses' knowledge regarding medical cannabis usage by their patients.

Grounded theory was developed in 1967 by Barney Glaser and Anselm Strauss. Glaser was a graduate of Columbia University, while Strauss graduated from the Chicago School of Sociology. Glaser's paradigm is situated in the positivist tradition, while Strauss' paradigm was positioned in the interpretivist tradition. Glaser and Strauss' classical grounded theory method is useful in providing a perspective in behavior and is used in practical applications. Two classical books, *Time and Dying* and *The Discovery of Grounded Theory,* has led to effective use of the grounded theory method in research studies.

Glaser and Strauss' (1967) grounded theory process uses a constant comparison approach to compare categories and their properties. Glaser's approach to data analysis is less structured than Strauss's (Cooney, 2010, p. 20-21). Glaser and Strauss eventually

parted ways even though they continued to collaboratively refine grounded theory. Strauss believed that induction, deduction and verification are "absolute essentials whereas Glaser maintained that grounded theory was inductive only" (Cooney, 2010, p. 20-21). The evolving methodology as developed by Strauss resulted in differences in Glaserian and Straussian approaches of grounded theory. Both Glaserian and Straussian versions of grounded theory use coding, constant comparison, questions, theoretical sampling, and memos in the process of generating theory (Walker & Myrick, 2006). The difference between Glaserian and Straussian and their methods of grounded theory is in "how the process is carried out" the methodology was used during analysis of data (Walker & Myrick, 2006 p. 550).

Juliet Corbin (1998), Strauss' former student shared the same views of grounded theory and joined Strauss in 1998 to move grounded theory to a method of verification. Verification of data is achieved through constant comparison for evidence to verify our statements of relationships and the capturing of multiple views by which the theory can be verified (Strauss & Corbin, 1990). Strauss and Corbin collaboratively proposed a systematic approach where in the developed theory occurs from constant comparison of the data. The relationship that the researcher should have with the participants became an essential component for this research in order to capture the richness of the data.

This genre of relationship with the participants was more active than in the classical grounded theory method, which is more of an independent approach toward the participants. The emergence of the postmodern approach that transpired from Strauss and Corbin's approach is more subjective and non-linear. Data collection for both classical grounded theory and Strauss and Corbin's grounded theory methods are both

semi-structured. They both follow the same basic research process using coding, memos, constant comparison, and theoretical sampling.

Strauss and Corbin proposed a systematic approach to data analysis in semi-structured interviews with both individual and focus group participants. The data collected in the interviews are analyzed using: open, axial, and selective coding. Open provides for concepts and categories to emerge from the data collected from the participants in the individual and focus group interviews. Axial coding requires the categories to be examined, from which core categories are developed before being linked together until a theoretical framework is achieved. Selective coding requires the researcher to examine how the categories link to the core category. Constant comparison occurs as data is collected, compared, and then analyzed by the researcher. This process continues until the researcher reaches saturation, or a point which new data emerges. A theory is then developed through this process for the phenomenon being studied (Strauss & Corbin, 1990)

According to Strauss and Corbin (1990), grounded theory research involves the following features:

- The need to get out into the field if an individual wants to understand what is going on
- The importance of theory grounded in reality to the development of a discipline
- The nature of experience and undergoing as continually evolving
- The active role of persons in shaping the worlds they live in
- The interrelationships among conditions, meaning and action. (p. 25)

Strauss and Corbin's version of grounded theory is compatible with contemporary thinking, as the researcher pays attention to broader environmental and contextual factors and aims to produce a theory to guide action and practice (Cooney, 2010). The subject of medical cannabis usage in patients is a contemporary issue in nursing practice and requires a systematic approach to understanding current trends of this phenomenon.

Another approach of grounded theory is by Charmaz (2006) who moved grounded theory to a constructivist approach. The researcher under constructivist grounded theory aims to counteract a traditional objectivist position by building in-depth meaningful relationships with participants, which is another advantage for health care professionals. Co-construction and reconstruction of data takes place between researcher and researcher participants that eventually form a theory. Charmaz's approach leads the researcher to bring about mutual understanding through collaboration with the study participants. This approach positions the researcher into the experience, relationships, and hidden networks with a greater emphasis on views, values, feelings, assumptions and beliefs of the individual than on the methods (Creswell, 2013).

Symbolic Interactionism

The philosophical underpinnings of grounded theory are embedded in symbolic interactionism and pragmatism. "Symbolic interactionism is one of several theoretical schools of thought in the social sciences. It involves a set of related propositions that describes and explains certain aspects of human behavior" (Berg & Lung, 2012, p. 9). This is how humans communicate through language. Mead, Dewey, Cooley, and Parks have contributed to the basis of symbolic interaction theory. Blumer is the father of

symbolic interactionism (Berg & Lune, 2012). In an often-cited formulation, Blumer (1969), Mead's student, illustrated three basic interactionist assumptions:

> That human beings act toward things on the basis of the meanings that these things have them; that the meaning of such things is derived from, and arises out of, the social interaction that one has with one's fellows; and that these meanings are handled in, and modified through, an interpretative process used by the person in dealing with things they encounter. (Crotty, 2003, p. 72)

Snow (2001) expanded these tenets, reframing the principles of symbolic interactionism as interactive determination, symbolization, emergence, and human agency. "Interactive determination suggests that phenomena exist only in relation to each other and can only be understood by considering interactions and interactional context" (Munhall, 2012, p. 228). Symbolization emergence refers to ascribing meaning to things as those things can prompt feelings. Snow identified this emergence as focusing on what is going on in a specific social context. Snow (2001) identified the principle of human agency as an active willful nature of human actors (Munhall, 2012, p. 228). Glaser believed that symbolic interactionism should not be the dominant theoretical code that guides analysis in grounded theory; however, he agreed that grounded theory's underlying assumptions are symbolic interactionism and pragmatism.

> Symbolic interactionism directs grounded theorists to assume that meaning is made and constantly changes through interaction and becomes embedded in social context. Both meaning and social context influence the way that human agency is enacted. (Munhall, 2012, p. 229)

According to Strauss and Corbin (2008), 16 assumptions with symbolic interactionism links it to grounded theory methodology. These 16 assumptions are based on the Strauss and Corbin interpretation of the work done by three sociology scholars: George Herbert Mead, John Dewey, and Herbert Blumer from The University of Chicago. They are the founders of qualitative methodology who adapted a naturalistic observational approach for the study of human conduct such as symbolic interactionism. Meaning, action and interaction, self and perspectives are the key themes of this approach featured in the various interpretation of symbolic interactionism. Meaning results from the process of interaction. The researcher ascribes meaning to the data through codes and the process of constant comparative analysis. According to Chamberlain-Salaun, Mills & Usher (2013):

> The symbolic interactionism theme of action and interaction is a feature of all the assumptions, and interacting with participants, the data, and with one's self are key activities in grounded theory research. (p. 6)

Self-reflection is the act of developing theoretical sensitivity and memoing that allows the researcher to reflect back on the data collected by the participants. Perspective is how an individual's actions are influenced by their interpretation of the world (Blumer, 1969). Becoming aware of the participant's multiple perspectives should enable the researcher to build variation in to data analysis (Corbin & Strauss, 2008). The following points are pertinent to this type of investigation:

Strauss and Corbin's 16 Assumptions of the Symbolic Interactionist Themes (Nitti, 2016, adapted from Strauss and Corbin, 2008)

- The external world is a "symbolic universe." This and the interior worlds are created and recreated through interaction. In effect, there is no divided between external or interior world (Blumer, 1969). Symbolic interactionism theme is meaning and action/interaction.
- Meaning (symbols) are aspects of interactions and are related to others within systems of meanings (symbols). Interactions generate new meaning as well as alter and maintain old ones (Mead, 1934). Symbolic interactionism theme is meaning and action / interaction.
- Actions are embedded in interactions past, present, and imagined future. The actions also carry meanings and are locatable, within systems of meanings. Actions may generate further meanings, with regard to further actions and the interactions in which they are embedded (Mead ,1934). Symbolic Interactionism theme is meaning, action and interaction. Contingencies are likely to arise during a course of action. These can bring about change in its duration, pace and even intent, which may alter the structure and process of interaction (Dewey, 1929). Symbolic interactionism theme is action and interaction.
- Actions are accompanied by temporality, for they constitute courses of action of varying duration. Various actors' interpretations of the temporal aspects of an action may differ according to the actor's respective perspectives; these interpretations may also change as the action proceeds (Mead, 1959). Symbolic interactionism theme is meaning, action/ interaction and perspective.

- Courses of interaction arise out of shared perspectives, and when not shared, if action/interaction is to proceed, perspectives must be negotiated (Blumer, 1969). Symbolic interactionism theme is action/ interaction and perspectives.
- During early childhood and continuing all through life, humans develop selves that enter into virtually all their actions and in a variety of ways (Mead, 1959). Symbolic Interactionism theme is action and interaction.
- Actions (overt and covert) may be preceded, accompanied, and/or succeeded by reflexive interactions (feeding back onto each other). These actions maybe an individual's own or those of other actors. Especially important is that in many actions, the future is included in the actions (Dewey, 1929). Symbolic interactionism theme is meaning, action /interaction and self.
- Interactions may be followed by reviews of actions, an individual's own and those of others, as well as projections of future ones. The reviews and evaluations made along the action/interaction course may affect a partial or even complete recasting of it (Dewey, 1929). Symbolic interactionism theme is action/interaction and self.
- Actions are not necessarily rational. Many are nonrational or, in common parlance, "irrational." Yet rational actions can be mistakenly perceived as not so by other actors (Dewey, 1929). Symbolic interactionism theme is action and interaction.

- Action has emotional aspects. To conceive of emotion as distinguishable from action, as entities accompanying action, is to reify those aspects of action. For us, there is no dualism. An individual cannot separate emotion from action; they are part of the same flow of events, one leading into the other (Dewey, 1929). Symbolic interactionism theme is action and interaction
- Means-ends analytic schemes are usually not appropriate to understanding action and interaction. These commonsense and unexamined social science schemes are much too simple for interpreting human conduct (Strauss, 1993). Symbolic interactionism theme is action and interaction.
- The embeddedness in interaction of an action implies an intersection of actions. The intersection entails possible, or even probable, differences among the perspectives of actors (Strauss, 1993). Symbolic interactionism theme is action / interaction, and perspective.
- Many participants in an interactional course necessitate the "alignment" (or articulation) of their respective actions (Blumer, 1969). Symbolic interactionism them is meaning and action/interaction.
- A major set of conditions for actors' perspectives, and thus their interactions, is their memberships in social worlds and sub-worlds. In contemporary societies, these memberships are often complex, overlapping, contrasting, conflicting, and not always apparent to other interactants (Blumer, 1969). Symbolic interactionism theme is action and interaction.

- A major set of conditions for actors' perspectives, and thus their interaction, is their interaction is their membership in social worlds and sub worlds in contemporary societies. These memberships are often complex, overlapping, contrasting, conflicting, and not always apparent to other interactants (Strauss, 1993). Symbolic interactionism theme is action/interaction and perspectives.
- A useful fundamental distinction between classes or interactions is between the routine and the problematic. Problematic interactions involve "thought," or when more than one interactant is involved then also "discussion." An important aspect of problematic action can also be "debate"– disagreement over issues or their resolution. That is, an arena has been formed that will affect the future course of action (Dewey, 1929 & Strauss, 1993). Symbolic interactionism theme is action and interaction.

The concern of the researcher in the present study is that meanings nurses ascribe to medical cannabis is the result of previously acquired meaning. In order to develop an understanding of the interactional processes that occur between nurses and their patients regarding their knowledge, perceptions, and attitudes of medical cannabis usage in patients, the researcher must interview, listen, and observe the participants' interactions. The researcher thereby becomes embedded in the data and understands perceptual changes that have occurred regarding the issue of medical cannabis. This process enabled the researcher to explain the lack of knowledge by the participants and construct a theory that will stabilize, maintain, and acquire new knowledge of nursing care of patients using medical cannabis.

Pragmatism

William James and Charles S. Pierce (1870) founded American pragmatism, which is recognized by Strauss and Corbin as a framework of their methodology. Pragmatism is defined as a worldview that individuals hold an interpretive framework that provides a lens through which to focus on the outcomes of the research, actions, situations and consequences of inquiry (Creswell 2013). The philosophical assumptions of pragmatism associated with the interpretive framework are as follow:

- **Ontological Assumption**: Reality is what is useful, is practical and "works."
- **Epistemological Assumption:** Reality is known through using many tools of research that reflect both deductive (objective) evidence and inductive (subjective) evidence
- **Axiological Assumption:** Value are discussed because of the way that knowledge reflects both the researcher' and the participants' views.
- **Methodological Assumptions:** The research process involves both quantitative and qualitative approaches to data collection and analysis (Creswell, 2013, p. 36)

There is not one system of reality form a pragmatic viewpoint. Pragmatists employ multiple methods of asking research questions, so they are free to choose the best method, technique and procedure that meet their needs and purpose of the research (Creswell, 2013). Pragmatist researchers look at the "what" and "how" of the research and considers the social, cultural and historical viewpoints that shapes people's lives, perceptions and experiences. Pragmatist supports seeking revised understandings for the

purpose of making useful change through inductive exploration of diversely situated human experience with reflexive confirmation and use of applicable existing knowledge (Munhall, 2012). For the pragmatist, the focus is on the research problem. The practicality of the findings of the research is an essential component of pragmatism. Pragmatists also maintain that in order to interpret meaning the researcher must interact within the natural setting of the participants.

Pragmatism is a philosophical underpinning of these interrelated types of critical theories: feminist, critical and critical race, queer and disability theory. The feminist theory draws of pragmatic orientations, different international context, and different dynamic development (Creswell, 2013). Feminist research focuses on issues related to women's diverse situation. Critical theory and critical race theory focus on empowering human beings to rise above issues related to race, class and gender. Queer theory explores methods of individual identity. The disability theories address parents, children and schools who have disabilities and focuses on the disability as a dimension of human differences and not a defect (Creswell, 2013). The research study supports the philosophical approach of pragmatism by providing nurses new knowledge, perceptions and attitudes of medical cannabis usage in patients.

Relationship of Grounded Theory to the Study

Constructivism guides grounded theory, which is an inductive approach to research, as hypotheses and theories are generated from the data collected (Charmaz, 2006). The nurses in this study were from different backgrounds and ages, worked in different specialties of nursing, with varying demographics, and possessed different educational backgrounds. Subjectively, the nurses had different experiences with patient

usage of medical cannabis and expressed their views on their current nursing practices. These subjective interpretations by the participants constructed a meaning of their differences between their knowledge, perceptions and attitudes of medical cannabis. "In the constructionist view, as the word suggest, meaning is not discovered but constructed" (Crotty, 2003, p. 42). The researcher remained objective in order to interpret the participants' meaning of reality. In constructionism, objectivity and subjectivity need to be brought together indissolubly (Crotty, 2003). A substantive theory may emerge from the meaning constructed by the researcher and may acquire new knowledge, perceptions, and attitudes of medical cannabis nursing care.

Significance of the Study

A growing population of patients using medical cannabis is currently apparent in the literature, which will require that nurses be knowledgeable of the endocannabinoid system in order to care for this vulnerable population. This study explored what nurses currently knew, the social process that occurred between the nurses and patients using medical cannabis, patterns of behavior, their values of medical cannabis, and how they could implement awareness of medical cannabis in their daily practice. The findings of this study stand to assist in guiding nurses' clinical practice, education, research, and health public policy for nurses caring for patients using medical cannabis.

Significance of the Study to Nursing

It stands to reason that as medical cannabis becomes approved in states where it is now illegal, the number of patients using medical cannabis will increase. The Institute of Medicine (IOM) concluded in 1999 that the data on medical cannabis supported therapeutic benefits, including pain relief, control of nausea and vomiting, and appetite

stimulation “primarily from cannabinoid Tetrahydrocannabinol (THC)” (Philipson et al., 2014). Additional studies have shown that medical cannabis is effective in treating HIV-related conditions, seizures in children, multiple sclerosis, cancer, and glaucoma. A literature search conducted from 2010 through 2017 found a dearth of research studies regarding nurses and their awareness of medical cannabis with the exception of medical cannabis usage in palliative care patients. Most of these studies were conducted outside of the United States.

Since there is limited evidence-based research in the United States as reported in nursing journals, a gap in the literature is evident. In order to improve and enhance the knowledge of nurses and fulfill the commitment of nursing in regard to the subject of medical cannabis for patient usage, a theory should be developed to guide the education, research, nursing practice, and health policies in the discipline of nursing. This researcher is convinced that complex realities exist in nursing knowledge, perceptions and attitudes of medical cannabis usage by patients. These differences in reality might explain the deficit in nursing knowledge of medical cannabis. A substantive theory should aid in the identification of deficits that exist in nursing regarding the knowledge, perceptions, and attitudes in the subject of medical cannabis usage in patients.

Implications for Nursing Education

The results of this study create a framework that could be incorporated into nursing school curriculum across the United States. Hospitals could be enabled to create policies and procedures that guide nurses to develop tools that can be incorporated in the discharge planning of patients using medical cannabis at home. Educational initiatives

by nurses need to include assessments of patient knowledge and usage of medical cannabis.

Implications for Nursing Practice

As a result of this study, nurses may become knowledgeable on the subject of medical cannabis, in order to fulfill the standards of the Nursing Practice Act for patients seeking medical cannabis usage. Nurses can enhance their nursing practice by advocating and educating patients and become involved in research and policy development of medical cannabis patient care. This study opens the option of nurses to make solid critical decisions regarding the care of patients using medical cannabis and clearly identify their roles caring for this population.

Implications for Nursing Research

There is widespread agreement among health care providers for the need of future studies and education regarding medical cannabis (Capriotti & Hartmann, 2013). Medical cannabis research is limited in the literature. State approval of medical cannabis has allowed more research to be conducted in the United States; however, most of the research in the literature is international. A broader range of research can contribute to the discovery of new indications for the use of medical cannabis. This study should contribute to evidence-based data that debunk issues related to medical cannabis. This. in turn, stands to encourage continued researching into medical cannabis and identify how nurses are impacted by the changes in their scope of practice. Nursing research on medical cannabis can enhance the knowledge of nurses who care for this population and assist nurses in remaining current on the subject.

Implications for Health and Public Policy

It behooves nurses to become informed about health policy analysis through the study of public policies that have implications for access to health care services (Alexandre, 2011). The knowledge, perceptions, and attitudes of the nurses in this study provided the foundation to create health policies for hospitals, clinics, nursing curriculums, nursing homes and assisted-living facilities. Hospital policies adjusted to this new information will become a driving force for the federal government to legalize medical cannabis usage in patients in federally funded medical facilities. Nurses can become advocates of medical cannabis patients by encouraging legislators to pass resolution in their support.

Scope and Limitations of the Study

The scope of this study involved registered nurses who are licensed in the United States. A purposive sample was selected, and additional participants were recruited using a snowball sample for individual interviews. The participants selected were registered nurses across the United States who were practicing in states with and without current state regulation on medical cannabis laws. The focus group was selected from active registered nurses who were members of the American Cannabis Nurses Association or who had published on the subject of medical cannabis. This study used a grounded theory method to explore this phenomenon in depth. The aim of the study was to guide nurses caring for patients using medical cannabis in their nursing practice, nursing education, research and health policies across the United States. A limitation of this type of study was that it used a purposive sampling of registered nurses excluding the license practical nurse. Licensed practical nurses were not interviewed thus the study may lack

representation of all nurses. Transferability of the findings was limited since the sample was comprised of only registered nurses. Another limitation was that the researcher was a novice in the grounded theory methodology.

Chapter Summary

Chapter One presented the background of the study, which included a discussion of the cannabis plant, as well as medical cannabis usage globally and in the United States. The statement of the problem, the purpose of the study, and the research questions were discussed in this chapter. The philosophical underpinnings of qualitative research approach were also highlighted, including the philosophical tenets of constructivism guided by symbolic interactionism and pragmatism. The significance of the study as it relates to nursing was presented, including how the study should impact implementation to clinical nursing, nursing education, nursing research, health and public policy. The scope and limitations of the study were also delineated. Chapter Two follows with a review of the literature and identification of the gaps that exist on the phenomenon of interest.

CHAPTER TWO

REVIEW OF THE LITERATURE

The purpose of this qualitative study was to explore the critical factors influencing nurses' knowledge, perceptions, and attitudes toward patients using medical cannabis. A literature search was conducted to explore where the gaps exist on the subject. Using first search EBSCO and ProQuest Direct search engines, the following databases were engaged: PubMed, Cumulative Index to Nursing and Allied Health Literature (CINAHL), Medline and Google. The key words and phrases used in this search were *medical marijuana, medical cannabis, medical cannabis usage in patients, cannabis sativa, medical cannabis in nursing, medical cannabis and the laws, medical cannabis usage in chronic illness, medical cannabis and alternative medicine, medical cannabis and therapeutic effects, substance abuse and recreational marijuana, medical cannabis and children, medical cannabis in pregnancy, medical cannabis and driving,* and *medical cannabis and smoking.*

The focus of the literature review on the topic of nursing, knowledge, perception, and attitude was limited from 1990 through 2017 except for seminal work. The researcher was forced to use seminal work on the topics to assist with placing the study into context. The search was broadened to include 1980 because of the dearth in the literature. The care patients received from nurses was embedded in their current knowledge, perceptions, and attitudes of medical cannabis. The researcher found there were many articles written about how patients are using medical cannabis but a paucity of writing on nurses' knowledge, perceptions, and attitudes toward patients using medical cannabis. A deficit also exists in qualitative studies on nursing and medical cannabis

using the grounded theory methodology. Many of the research studies conducted were seminal work dating back to the 1980s, which assisted this researcher with understanding the history and background of medical cannabis. The literature review was then synthesized and was presented in the following categories, historical context, therapeutic usage of medical cannabis, effects of medical cannabis usage, and regulations associated with medical cannabis.

Historical Context

Cannabis has existed and has been a part of the medical practice in many cultures including China and India for over five millennia. Other cultures that have historically used cannabis include Egypt, Sumer, and India as far back as 2350 B.C. (Russo, 2007). The earliest use recorded in the literature occurred in China by Emperor Shen-Nung who prescribed medical cannabis to relieve symptoms of chronic pain. Medical cannabis usage then spread from China to India. An ancient Indian healer called Sushruta prescribed cannabis for congestion, fever and inflammation of the mucus membranes in 1400 BC (Aldrich, 1997). Pliny (77AD) the Elder used cannabis for analgesia; however, he cautioned against using an excessive consumption of it, believing it could lead to impotence. Pedacius Dioscorides (1934), a Roman physician in Nero's army recommended cannabis juice for earaches. Galen (AD 130-200), an ancient Greek doctor who practiced in the Roman Empire also used medical cannabis to relieve pain and flatulence. Medical cannabis was also used in child labor to relieve pain as far back as 2400 B.C. By the 12th century, cannabis had reached Egypt and the rest of Africa.

Cannabis received its name during the 18th century. A Swedish naturalist known by the name of Linnaeus(date), classified the plant as *Cannabis sativa*. Linnaeus then

made the distinction between cannabis in Europe and India, indicating the latter as *Cannabis Indica* because of its short stature and greater quantities of resin. A physician named William O'Shaughnessy (1840) who conducted animal studies in 1833 using medical cannabis in the Medical College of Calcutta discovered that cannabis was an effective analgesic and anticonvulsant. O'Shaughnessy's research sparked European and America interests in medical cannabis. He further conducted research on humans and administered cannabis to people with rheumatism, rabies, cholera and epilepsy (Earlywine, 2002). While cannabis did not cure the illnesses, it eased the symptoms accompanying the diseases such as pain, nausea, and spasms.

Ohio State Medical Society summarized the medical usage of cannabis in 1860. The U.S Dispensatory listed the medical use of tincture of cannabis as an extract in 1868. Cannabis accordingly was used for appetite, sexual interest, mental disorder, cholera, gout, insomnia facial tics, asthma, and mental problems (Earlywine, 2002). However, in 1911, cannabis was banned from the Commonwealth of Massachusetts (NORML.org, 20

Cannabis was prescribed in the United States during the 1930s and remained in the United States Dispensary from 1930 through 1937. In 1937, a tax was placed on cannabis, and in 1941, once again cannabis was removed from the United States pharmacopeia. The federal government classified cannabis as a Schedule 1 drug in 1970 because of high usage among young adolescents. In March 1971, Richard M. Nixon announced congressional passage of the Control Substance Act of 1970, which classified cannabis as a Schedule 1 drug. From 1970 through 1995, cannabis remained illegal in the United States.

According to the National Organization for the Reform of Marijuana (NORML), data suggested as early as 1970 that cannabis was effective treatment of glaucoma. Robert Randall, a glaucoma patient, became the first legal medical cannabis patient in America (NORML, n.d.). The Shafer Commission, which was created by President Nixon to review cannabis laws in 1971, recommended the decriminalization of cannabis for personal use. In 1973, Oregon became the first state to pass cannabis decriminalization legislation (NORML n.d). California legalized medical cannabis at the state level for certain chronic illnesses in 1996. Cannabis was legalized in 23 states, the District of Columbia, and Guam during 2015 for certain chronic illnesses. Each state has different allowable medical conditions, limits on cultivation, possession, and restrictive policies (Bestrashniy & Winters, 2015). The federal government has not legalized medical cannabis in federally funded facilities and it remains a Schedule I drug, meaning it has no medical use. Medical cannabis has remained illegal for most countries on the international scale. However, with current research on cannabis many countries are reconsidering their medical cannabis laws.

Therapeutic Usage of Medical Cannabis

Therapeutic usage of medical cannabis exists in a variety of ways, and the following studies address these variations. Webb and Webb's (2014) quantitative study was conducted in the state of Hawaii, which has legalized medical cannabis. The purpose of the study was to discover the benefits and adverse effects perceived by medical cannabis patients regarding chronic pain since limited studies exist in the literature on this topic. The sample included 100 patients who were certified for the medical use of cannabis for at least one year and were reapplying for certification between July 2010 and

February 2011, respectively. The participants completed an anonymous survey. Open-ended questions were asked to ascertain the following: (a) "Any adverse effects you have had from using medical cannabis?" and (b) Does medical cannabis help you with any other problems? If so, what?" Data were collected using an anonymous questionnaire hand delivered to the subjects with a stamped addressed return envelope to be mailed back to the researcher. A universal pain scale was used to assess pain before and after treatment (0 = *no pain*, 10 = *worst pain ever*). Average pain improvement on a 0-10 pain scale was 5.0 (from 7.7-2.8), which translates to a 64% decrease in average pain. Half the participants noted a relief from stress and anxiety, and 45% reported relief from insomnia. Most patients (71%) reported no adverse effects, while 6% reported a cough or throat irritation. No serious adverse effects were noted; however, 5% of the patients feared a possible arrest.

The overall response was 94% with a mean respondent age range of 49.3 years and a median age of 51. From the sample, 97% used medical cannabis for chronic pain and reported a pain scale from zero to 10 to be 7.8 pre-treatment. However, in post-treatment of medical cannabis, the pain scale was 2.8, with a 64% decrease in pain. Fifty percent reported relief of stress and anxiety, 45% reported improved appetite, 10% decreased nausea, 9% reported increase with focus and concentration, and 7% reported relief from depression, while 6% reported that medical cannabis helped them decrease other medications. Of the participants, 71% reported no serious adverse effects, but 6% of the participants reported a cough and throat irritation. The researchers recommended that medical cannabis be re-scheduled to a less restrictive status than a Schedule I in order to allow for needed research and increase cannabinoid medicine to patients that can

benefit from it. The researchers also advocated that medical cannabis be re-scheduled to Schedule III status of synthetic THC to increase the availability of medical cannabis to patients.

Walsh et al. (2013) conducted a quantitative cross-sectional research study in 2013. The purpose of the study was to compare authorized and unauthorized use of cannabis for therapeutic purpose (CTP) in Canada across medical conditions. The sample was obtained from medical cannabis dispensaries and organizations that supported CTP users. The study nationally and regionally recruited 628 participants from 2011 to 2012. The national participants completed a survey online while regional participants completed a survey in a local cannabis dispensary in the interior region of British Columbia. The survey consisted of 414 adaptive questions that had to be completed in 1 hour online. The survey queried access, perceived effectiveness, pattern and history of cannabis use, medical diagnosis, symptoms, mood, and demographics.

Data were analyzed using a tool from another study that queried access, perceived effectiveness, patterns and history of cannabis use, medical diagnosis and symptoms, mood and demographics. Of the national participants, 541 (77%) reported current CTP use, and all 87 (87%) regional participants reported current CTP use. The study results concluded that between the authorized and unauthorized users, patients used cannabis to treat multiple symptoms including insomnia, pain, and anxiety. It was perceived that cannabis promoted relief of these medical symptoms. The only difference between the authorized users and unauthorized users was mode of access for the cannabis. The study made recommendations that future studies of CTP should compare users of CTP across symptoms and across medical conditions with regards to pattern of use, and perceived

effectiveness that may help direct future research on the efficacy of CTP for specific conditions.

Bottorff et al. (2013) conducted a qualitative descriptive study that described how individuals self-reported the use of cannabis for therapeutic use and perceive health effects. The researcher interviewed, transcribed, and analyzed data from 23 individuals of different genders in order to understand gender roles and identify the differences in perception on therapeutic cannabis use. Data were analyzed using an inductive thematic approach. Interview transcripts were read and re-read and the passages that emerged from the data significant themes were highlighted. These emergent themes were descriptions of the health benefits of cannabis, which included: life preserving, a disease therapy, a medicine for the mind, a means of self-management, and a way to manage addiction. Self-management of risk focused on the potential effects of excess use, smoking-related risk, and purchasing precautions. The results of the study concluded that men and women were similar; however, differences in patterns and practices of use reflected gender influences. The study established that gender specific information was necessary in order to support decision-making and usage for therapeutic use of cannabis. The researchers' recommendation was to conduct further research to determine how assessment of the health effects of CTP use may change overtime with different social and legal environments. Research should also be conducted on the influence of gender in patterns of the use of CTP, which should assist in developing gender-specific informational resources and provide decision support.

Green and Devries (2010) conducted a comprehensive literature review from 1996 using the key term of *cannabis, cannabis and palliative care, symptoms*

management, cancer, chronic illness, motor neurons disease, and *multiple sclerosis.* These authors reviewed the existing literature on the use of cannabis for people experiencing palliative care, life-threatening chronic illnesses, multiple sclerosis, and motor neurons disease in the United Kingdom. The authors also examined the pharmaceutical qualities and historical overview of cannabis usage. The findings of the literature review determined that cannabis improves quality of life which leads to an increase in the use of cannabis. The drug was usually obtained illegally, which can create consequences for those who choose to use it for its therapeutic value. The role of the nurses was questioned when caring and supporting a person using cannabis for therapeutic purpose. These authors recommended that additional studies be completed on gender use of CTP and that information resources need to take a new direction regarding gender in order to provide suitable decision support.

Naftali, Lev, Yablekovitz, Half, and Konikoff's (2011) conducted a quantitative retrospective observational study described the effects of cannabis use in patients suffering from Crohn's disease. The study examined disease activity, use of medication, need for surgery, and hospitalization before and after cannabis use in 30 patients. The sample was comprised of 26 males and four females with Crohn's disease, whose average ages were 36 and the average duration of the disease had been 11.3 years (ranging from 1-41 years). The study measuring disease activity before and after cannabis use was estimated by using the Harvey Bradshaw Index for Crohn's disease. The patients assessed their general well-being before and after cannabis using the Visual Analog Scale. The scale ranged from 0, which represented *very poor general well-being* to 10, which indicated *excellent well-being*. The data was duly analyzed by using the Visual

Analog Scale, which increased from 3.1 to 7.3 and the Harvey Brandshaw index, which decreased from 14± 6.7 to 7± 4.7 ($p<0.001$). The results concluded that 21 patients out of 30 improved significantly after treatment with cannabis. The average Harvey Bradshaw Index improved from 14 ± 6.7 to 7± 4.7 ($p < 0.001$). Patients also reported a significant decrease in the need for other medications, while 15 of the patients had 19 surgeries during a period of nine years before cannabis use. However, only two patients required surgery during their 3-year period of cannabis use. This study supported an indication that cannabis usage by patients with Crohn's disease had a positive effect on disease activity. However, the study recommended a placebo-controlled study in order to fully investigate the therapeutic value of cannabis for the treatment of Crohn's disease.

Zajicek, Hobart, Slade, Barnes, and Mattison's aim in their 2012 clinical quantitative study was to report the Multiple Sclerosis and Extract of Cannabis (MUSEC) study results and to substantiate the patient-based findings of a previous study. The goal was to demonstrate the superiority of cannabis extract over a placebo in the treatment of muscle spasms in multiple sclerosis patients. Patients met the McDonald criteria for the diagnosis of multiple sclerosis, were in the age range between 18 and 64 with stable multiple sclerosis for 6 months, with 3 months of muscle stiffness or more, and a disability score of 4 on a 11-point category rating scale. The enrolled patients were recruited from 22 centers in the United Kingdom. Of 279 randomized patients, 144 were medicated with oral cannabis extract and 135 were medicated with a placebo. A category rating scale was used to measure patient reporting changes in muscle stiffness, sleep quality, body pain, and spasms. The data were analyzed using SAS/STAT software (V.8.02). The most common symptom reported by 90% of the patients was muscle

stiffness. The study results indicated that the rate of relief from muscle stiffness after 12 months, was twice as high for the patients medicated with cannabis extract than those in the placebo group (*29.4% vs 15.7%*) p=0.004. The symptoms of muscle stiffness were significantly reduced with cannabis extract. The authors offered no recommendations.

Ellis et al. (2009) conducted a randomized, crossover clinical trial in 2009 that assessed the impact of smoked cannabis on neuropathic pain of patients with HIV. This clinical trial was a Phase II double-blinded, placebo-controlled study. The subjects had documented HIV infection with neuropathic pain refractory to at least two previous analgesics, with an average pain score of 5 or higher in the Descriptor Differential Scale (DDS), a tool to analyze the in the study Patients were diagnosed by a board-certified neurologist. All subjects underwent a comprehensive clinical and laboratory evaluation to obtain a baseline evaluation and screening information. From the sample of 127 volunteers, 34 subjects were enrolled in the study, and 28 subjects completed the study both with cannabis and a placebo.

The results of the study concluded that the DDS pain intensity was more significant with cannabis than the placebo. The DDS pain scale changed 3.3 points, effect size =0.60, p =0.016. The proportion of subjects achieved a 30% pain relief with cannabis versus placebo (0.46 vs 0.18). Mood and daily function also improved with cannabis. The study recommended that smoking cannabis is not an optimal delivery system because it can lead to obstructive lung disease. Alternative administration routes include vaporization and mucosal spray. The findings indicated that cannabinoid has an effect on HIV intractable pain, but suggested that side effects needed to be monitored

especially during initial trial of therapy. The authors of the study did not have any further recommendations.

Flach (2002) conducted a nonrandomized quantitative study to evaluate the effects of orally administered Tetrahydrocannabinol (THC) or smoked marijuana on Intra Ocular Pressure (IOP) with the subject receiving conventional glaucoma treatment. Of the ophthalmologist certified by the Board of Ophthalmology, 20 were approved as investigators. They agreed to follow the cannabis protocol for glaucoma in addition to enrolling nine patients in the study. The patients all provided a baseline history and underwent an examination. The patients either received Tetrahydrocannabinol (THC) or cannabis cigarettes from an approved pharmacy. Data were analyzed using an applanation tonometry to measure intraocular pressure (IOP) of the eye weekly at the same time of day for 2 consecutive weeks, until the patient had satisfactory IOP. The results in the study concluded with an initial decrease in intraocular pressure with cannabis treatment; however, the tolerance and significant toxicity appeared to limit its usefulness. The patients stopped treatment 1 to 9 months for different reasons. Studies have indicated that IOP is decreased by high doses of cannabis, but the lowering of IOP can also lower blood pressure, which can decrease blow flow to the optic nerve and damage the optic nerve. The author noted no recommendation.

Ashrafioun, Bohnert, and Ilegen (2015) conducted a quantitative study to assess the prevalence and correlation of self-reported medical cannabis use for pain in a substance use disorder treatment program. The study recruited 433 participants ages 18 and older from February 2012 to July 2014 at a residential treatment program. The participants completed a demographic questionnaire and noted their usual pain level for

the past 3 months. The study used an 11-point numeric rating scale for pain, the Beck Depression Inventory and the Addiction Severity Index. Using both adjusted and unadjusted logistic regression models, the study researcher compared those who reported medical cannabis use for pain and those who did not report pain. The results concluded that 15% of the sample *(n*=63) reported using medical cannabis for pain in the last year. The study found that the participants who used medical cannabis for pain had a significant association with alcohol, cocaine, heroin, opioids and sedatives. The results indicated that medical cannabis used for pain has an association with substance abuse in patients who were chemically dependent. The authors recommended future work is necessary in order to evaluate and develop strategies to assess and treat individuals who report medical cannabis use for pain in substance abuse treatment settings.

The nine research studies in this section supports medical cannabis for therapeutic use in pain, neuropathic pain, HIV, multiple sclerosis, patients on palliative care, insomnia, anxiety, glaucoma, and Crohn's disease. Of these, the Bottoff et al. study (2013) was the only qualitative research that studied cannabis for therapeutic use and the different perceptions in gender roles. This research is significant to nurses because it highlights the need for gender-specific patient education regarding the subject of medical cannabis. The research by Green and Devries (2010) supported in their recommendation of the need to make decisions on medical cannabis patients with a focus on gender. Ellis et al. (2009), Walsh et al. (2013) and Webb and Webb (2014) all concluded that cannabis decreases pain. Ellis et al. (2009) reported a 3.3 decrease in points on the Descriptor Differential Scale, while Webb and Webb (2014) reported a decrease in the pain scale from 7.8 pre-treatment to 2.8 post treatment with cannabis. Zajicek et al. (2012), Flach

(2002), and Naftali et al. (2011) conducted research on chronic disease and found that cannabis assisted in reducing disease activity and improving the symptoms of chronic diseases such as glaucoma, Crohn's disease, and multiple sclerosis. The research study by Ashrafioum et al. (2015) was the only study that researched participants with substance abuse and made an association between medical cannabis and alcohol, cocaine and heroin. The literature review supports the need to research what nurses currently know about medical cannabis usage because research findings indicate that some chronic illnesses symptoms are alleviated using cannabis.

Effects of Medical Cannabis Usage

This section addresses the research studies present in the literature regarding the side effects and adverse effects of medical cannabis usage. Wang, Roosevelt, and Heard (2013) conducted a retrospective cohort study from January 1, 2005 to December 31, 2011 in a tertiary care, freestanding children's hospital in Colorado with an annual emergency room census of 65,000 visits. The aim of the study was to compare the proportion of cannabis ingestion by young children who sought care in the Colorado hospital before and after modification of drug enforcement laws in October 2009. Data were analyzed using SPSS, version 16.0 and SAS, version 9.2. Descriptive statistics were collected and a median with interquartile ranges were reported by using the Fisher Exact Test. A total of 1,378 patients younger than 12 years were evaluated in the ED for unintentional ingestions: 790 patients under the age of 12 were evaluated from January 1, 2005 through September 30, 2009. The median age of these children was 2.6 years (interquartile range, 1.6-3.0), and 449 were male.

The results concluded that patients younger than 12 years of age visited the ER for cannabis exposure increased after September 30, 2009 from 0 to 790. The findings also concluded that 14 patients younger than 12 had confirmed cannabis ingestion diagnosed by urine toxicology screening during this period of time. The findings concluded that the two periods had similar ingestions. The proportion of exposure visits related to cannabis increased from 0 of 790 (0%; 95% Cl, 0%-0.6) to 14 of 588 (2.4%; 95% Cl, 1.4%-4.0%) after September 2009 (p <.001). The ages of the patients exposed to cannabis ranged from 8 months to 12 years of age with 64% being male. The majority of the patients had nervous system effects such as lethargy or respiratory insufficiency. Most patients received extensive medical workup including bloodwork, radiographs, and lumbar punctures. Two patients had a history of cannabis ingestion, one patient was discharged from the ED, five patients were observed in the ED and eventually discharged, while eight were admitted with two admitted to the pediatric intensive care unit. The researchers indicated that legalization of cannabis is an ongoing debate due to a rise in unintentional cannabis exposure to young children.

Worstell, Gorman, and Caughey (2015) conducted a study between 2005 and 2008 using a large retrospective cohort of pregnant women in California exposed to cannabis during pregnancy. The aim of the study was to evaluate maternal and neonatal outcomes in pregnancies exposed to cannabis using the ICD-9 diagnostic codes. To analyze the data, the study used chi-squared test and adjusted odds ratio with 95% confidence interval. The results concluded that compared to the control group of pregnant women, cannabis exposure in pregnancy was significantly associated with higher rates of preeclampsia (4.14 vs. 2.88), preterm labor (16.24 vs. 8.89), intrauterine

fetal demise (0.23 vs. 0.10), infant death in the first year of life (0.64 vs. 0.11), and fetal anomalies (8.21 vs. 6.38). When an adjusted odds ratio was examined, a significant increase in preterm delivery and infant death in the first year were noted for women who used cannabis during pregnancy. The researchers recommended that continuous conversation with expecting women needs to occur in order to inform women of the risk of cannabis during pregnancy.

Callaghan, Allebeck and Sideorchuk (2013) conducted a 40-year cohort quantitative study aimed to assess the risk of lung cancer among young cannabis users. The sample size of (*n* =49,321) aged 18-20 years old were assessed for cannabis use and other variables during military conscription in Sweden between 1969 and 1970. The participants were tracked until 2009 for incidents of lung cancer outcomes in a nationwide medical registry. Cox's Regression Modeling Assessment was used to analyze the relationship between cannabis smoking, measured at conscription, and the hazard of subsequently receiving a diagnosis of lung cancer. The researchers concluded the baseline conscription assessment 10.5% (*n*=5,156) reported lifetime use of cannabis 1.7% (*n*=831) indicating lifetime use of over 50 designating as "heavy" using Cox Regression Analyses (*n*=44,284) and finding two-fold increase risk in developing lung cancer over a 40 year follow up (hazard ratio 2.12,95 % Cl 1.08-4-14). The findings concluded that cannabis use might elevate the risk of lung cancer. Moreover, the researchers suggested that the primary findings provide important information on the risk-benefits of cannabis smoking for medical, public health and drug-policy settings. The researchers made no recommendation on this study.

Battistella et al. (2013) completed a quantitative study evaluating the impact of cannabis on the driving ability of occasional smokers by investigating changes in their brains. Observing the subject characteristics, the percentage of Tetrahydrocannabinol (THC) in a joint, and the inhaled dose were replicated to simulate a real-life condition. Thirty-one male volunteers were enrolled in the study. Data were collected using a visual analogue scale ranging from 0 to 10 on six different occasions to measure drug effects, mood and willingness to drive. A magnetic resonance imaging (MRI) was conducted on the brain to measure psychomotor skills.

After each MRI session, the subjects also completed a volunteer questionnaire in order to detect any changes in their tactile skills and in the way, they performed the tracking test. The MRI data were analyzed using statistical parametric mapping. The inferential statistics included a 2x2 repeated measure ANOVA. To measure their psychomotor skills, a Critical Tracking Task (CTT) was utilized. The CTT measured hand-eye coordination and delay in visual motor response. The results concluded that cannabis smoking even with low THC blood concentration had decreased motor skills and altered the activity of the brain network involving cognition. This effect correlated with the subject's feelings of confusion. The study recommended and supported zero-tolerance adoption in prohibiting the use of smoking cannabis and driving.

The use of medical cannabis and psychiatric issues have received increased attention in the literature. A cross-sectional analysis study by Shubart et al. (2010) was set up to investigate the relationship between cannabis use and mental health. The sample size of the study was 17,698 participants with a mean age of 22 (SD: 4.2). The participants answered a web-based questionnaire. Data were analyzed using an odds

ratio with a 95% confidence interval for having a psychiatric hospitalization in the patient's medical record. The psychiatric hospitalization was calculated per range of cannabis used by means of logistic regression. Two analyses were conducted; (a) estimating the crude association between cannabis and psychiatric hospitalization and (b) estimating the association after adjustment for age, gender, and level of education. Adjusted odds ratios for hospitalization increased with the amount of cannabis consumed from 1.6 (95% CI: 1.1–2.3) in incidental users to 6.2 (95% CI: 4.3–8.9) in heavy users (>25/week). The results of the study concluded that early and heavy uses of cannabis were each independently associated with poor mental health. Subjects who started using cannabis before age 12 had a five-fold increase of odd for hospitalization compared to the participants who started using cannabis at age 15-18. The study also reported that heavy users of cannabis were six times more frequently hospitalized in a psychiatric facility. The study had no recommendations.

Nussbaum et al. (2015) directed a quantitative study to determine the prevalence of medical cannabis use and diversion among psychiatric inpatients in Colorado. This study recruited 638 participants (55% male). The participants answered an anonymous 15-item discharge survey that assessed age, gender, marijuana use, and possession of medical cannabis cards. A chi-square test assessed factors associated with medical cannabis registration. The results of the study suggested that medical cannabis usage among adults who were hospitalized with a psychiatric emergency was more prevalent in patients than in the general population. The study recommendation included that further studies needed to be conducted to correlate amount, dosage, duration and strain of use with patients with psychiatric disorders.

All the studies in this section of the literature review demonstrated side -effects as well as adverse effects of medical cannabis. Nussbaum et al. (2015) concluded that cannabis has an effect on patient's psychological status and poor mental health. The study by Battistella et al. (2013) indicated that cannabis had a negative effect on psychomotor skills and cognitive level impacting driving skills regardless of the amount of cannabis use. Wang et al. (2013) and Worstell et al. (2015) studied the effects of cannabis on children. These two research studies highlighted the effects on children who ingested or who became exposed to cannabis while in utero. The research by Callaghan et al. (2013) focused on the link between cannabis smoking and lung cancer. The results of this study are potentially significant to nurses because, according to the literature, one of the routes of using cannabis is smoking. The research concluded that smoking cannabis can lead to lung cancer. This literature review gives insight to side effects as well as the adverse effects of medical cannabis and how patient education is necessary for patients using medical cannabis. These six studies are critical to the provision of nursing care for patients using medical cannabis. Knowledge about these potential side effects and adverse effects in order to properly educate patients using medical cannabis, justifying why this study should be conducted.

Regulations Associated with Medical Cannabis

Regulations vary from state to state with no consensus on the regulations associated to medical cannabis. The literature suggests that current regulations are politically-driven. Bestrashniy and Winters (2015) completed a mixed method research study that characterized variability among states regarding medical cannabis legislation. They found that there was an emphasis on the types of medical conditions included under

the definition of medical cannabis, limits of cultivation, possession, and restrictiveness of policies. Data were abstracted from statutes and bills of several states, including the District of Columbia. A single reviewer read each piece of the legislation and recorded information onto an abstraction and each abstraction was completed twice with a 1-week washout period between abstractions sheets then a second author reviewed the data of each individual state using the ncls.org website.

No inconsistency was found between authors. Variables were recorded: (a) how the bill was passed; (b) the percentage of the vote associated with the passage of the bill; (c) the year of passage; (d) whether registration was mandatory; and (e) the number of medical conditions that qualified for medical marijuana intervention. Data were analyzed by calculating three indices: (a) permissiveness of cultivation; (b) permissiveness of possession; and (c) overall restrictiveness. The cultivation index is the number allowed of mature and immature plants per state. A state can have a maximum of 6 points, 0 = no cultivation is permitted, 1 = allowed cultivation of < 5 immature plants, 2 = allowed cultivation of 5-10 immature plants, and 3 = allowed cultivation of more than 10 immature plants. Three additional points were given for states that permitted cultivation of mature plants. The possession index was derived from ounces and possession time (how many days' worth can be obtained at once).

Scoring was as follows: 0 = *did not allow possession of smokable marijuana,* 1 = allowed *an ounce or less,* 2 = *allowed supplies of 16-59 days*, and 3 = *did not restrict how often an individual could obtain more marijuana*. The higher the score the more permissiveness. The restrictness index was measured by combining the possession and cultivation with the number of conditions accepted by the state. One point was added for

a state, which allowed more than one condition than the median number of conditions. The higher scores indicated greater overall restrictiveness. Finally, a word cloud was prepared to represent the frequency each state listed as specific medical conditions that were permitted for medical cannabis intervention. The word size was proportional to the states that accepted a particular medical condition.

The results of the study yielded that out of 23 states and the District of Columbia, 11 states (45.8%) with medical cannabis policies had bills passed by popular demand as opposed to state legislators. The state of Rhode Island was the only state that overrode a governor's veto. Minnesota and New York did allow smokable cannabis. The cultivation index was highest in Alaska, California, Michigan, New Mexico, Oregon, Rhode Island, and Washington. The cultivation index was highest in New Mexico, Oregon, Rhode Island, Alaska, California, and Washington. The possession index was highest in California, Hawaii, Oregon and Washington. The restrictive index was highest in Colorado and Oregon. Massachusetts, Maryland, Minnesota, and New York scored the lowest on all three indices. The number of medical conditions accepted ranged from six in Washington to 40 in Illinois with a mean number of 12.8 (*SD=6.8*). Cancer was a medical condition listed in many states, but hepatitis was small in the word cloud since it was only mentioned in a few states. The researchers suggested that because there is great variability in medical cannabis laws in the United States, it may become easier for individuals to obtain medical cannabis without a prescription. The researchers recommended future research studies using permissiveness indicators to identify the impact on roles related to cannabis attitudes and use for individuals with a recreational intent.

Sznitman and Bretteville-Jenses (2015) conducted a quantitative study to examine two aims. First, they sought to debate about three beliefs regarding medical cannabis legislation: (a) cannabis has medical effects; (b) medical cannabis is addictive; and (c) medical cannabis legalization leads to increase use of cannabis for recreational purposes. The first aim also examined how these beliefs were associated with public support of medical cannabis legislation and whether this association differed across divergent medical cannabis policy. The second aim involved understanding the dynamics of medical cannabis policies and to create a framework for the development of future policymaking. There is a need to examine public opinion for medical cannabis legalization. The researchers used a cross-national data set to compare public opinion towards medical cannabis legalization between Norway and Israel. Both countries define cannabis as a Schedule I drug and both enforced criminal prosecution against personal use or trafficking of cannabis. The sample size of the people from Norway was n = 2175, 51% male and Israel (n = *648*, 49% male).

A five-point scale was used to analyze the three beliefs, with 1=*strongly disagree* to 5 = *strongly agree*. A do not know category was combined with Likert scale midpoint "neither agree nor disagree" category. The third belief was analyzed using a response category of very unlikely (=1) to very likely (=4). A battery of descriptive statistics was used to examine the national sample. Spearman correlations were used to examine the bivariate relation between public support for medical cannabis legalization and the belief underlying the medical cannabis debate. Public support for medical cannabis legalization was further analyzed using a multivariate liner regression model. The Huner-White Sandwich was used to calculate robust standard errors.

The results of this study revealed that there was more support for medical cannabis in Israel than in Norway (78% of Israeli agreed (mean = 4.1) versus 53% of Norwegians (mean =3.3, $p < 0.001$). Norwegians were more likely to believe that medical cannabis had medical benefits (67 vs 29 %, $p < 0.001$). Sixty percent of the participants in both countries believed that medical cannabis legalization would increase recreational non-medical use. The authors recommended the continuation of research to investigate how public health considerations can be more significant in current medical cannabis policy development, public opinion, and deliberations.

Sevigny, Pacula and Heaton (2014) conducted a quantitative in which they examined state medical cannabis policies and the contribution of cannabis potency. Data were obtained from several data sources. Marijuana potency and state level cannabis market indicators from the University of Mississippi Potency Monitoring Program (PMP), a federally funded surveillance program that analyzes cannabis samples were examined. Data was also obtained from micro-level PMP data, which was used to observe dried herbal cannabis seized by law enforcement in 50 states and the District of Columbia from 1990 through 2010. Data were analyzed employing a variance in difference model within a mediation framework on n = 39,157 cannabis samples seized by law enforcement. The potency was measured by THC level (tetrahydrocannabinol content). Results showed that there was a half percentage point on average after legalization of medical cannabis, which had no significance. However, in regard to medical cannabis provisions, results indicated that legal allowances for retail dispensaries had the strongest influences of one percent point on average. The mediation analyses found no evidence of direct regulatory impact through which medical cannabis laws

influence potency. The authors recommended future research studies should reconsider the impact of medical cannabis laws on health outcomes.

From this section of literature, it is noticeable that there was a dearth of research studies examining the regulations of medical cannabis in the United States. Sznitman and Bretteville (2015) conducted a study in which medical cannabis policies and recommended future studies on medical cannabis policies and public health consideration were examined. Bestrashniy and Winters (2015) undertook to study the regulation of medical cannabis in 23 states and the District of Columbia. The research study highlighted the regulations in each state and the differences in regulation from one state to another. These research studies are relevant to the phenomenon of interest because current regulations on medical cannabis differ in each state, creating confusion for nurses who are caring for patients using medical cannabis. All the research studies included recommendations that future studies on medical cannabis regulation be undertaken because of their impact on the public health and health outcomes. The lack of research studies in regulation of medical cannabis in the United States justifies the need for the phenomenon of interest to be investigated. Investigating nurses' knowledge, perceptions, and attitudes of medical cannabis usage in patients can impact what they currently know about medical cannabis regulation and how the regulations can impact the health of patients that are using medical cannabis.

Experiential Context

An experiential context includes those experiences the researcher brings to the research study. Strauss and Corbin (1990) encourage memoing and constant comparative analysis throughout the research process to account for these pre-existing experiences.

This allows the researcher to maintain an awareness of experiences, feelings, and beliefs throughout the research study in order to decrease personnel biases. Bracketing (also known as epoche) is a process of setting aside one's personal views and biases making the researcher aware of personal belief when interpreting the data. The researcher in this study has a personally experienced how nurses bring their knowledge, perceptions, and attitudes on subjects that are controversial. According to Malterud (2001:

> Reflexivity starts by identifying preconceptions brought into the project by the researcher, representing previous personal and professional experiences, pre-study beliefs about how things are and what is to be investigated motivation and qualifications for exploration of the field, perspectives and theoretical foundations related to education interest. (p. 484)

Reflexivity was used in this study in order to assess the researcher's biases and influences. Memos assisted the researcher to gain analytical distance from materials and gain abstract thinking to return to the data and ground abstractions of reality (Strass & Corbin, 1990). The researcher used memoing continuously throughout the research and was mindful of her biases and personnel opinions, which were not imposed on the participants. In my reflective thinking, this study was conducted because the literature reviewed identified that nurses feel they need to have more knowledge on the subject of medical cannabis and the usage by patients. The researcher's feeling was that the current state regulations on medical cannabis have been put in place before nurses receive the proper training and education. Medical cannabis regulation differs in every state causing nurses to become confused about how to manage and educate patients in their use of medical cannabis.

This researcher has had encounters in her nursing career with patients who reported that the only remedy that worked for their chronic pain and stress was cannabis. Moreover, this researcher believes that we are only discovering the beginning of the potentials of cannabis for as future research is conducted, many other uses for a plant that has been growing in our land for more than five millennium years will be found. The literature review has provided insight of the research available to nurses about medical cannabis. The literature discussed in this chapter presents some studies on the attitude of nurses as it relates to palliative care nursing. However, there is a dearth of research studies on nurses' knowledge and perception of medical cannabis; hence, this further justifies the need to conduct this study.

Chapter Summary

The purpose of this chapter was to present the literature review in order to place this research study into perspective. The literature review discussed the historical context, therapeutic usage, effects, and regulations of medical cannabis. From the literature search conducted, it was evident that most of the research has been completed internationally. This literature review has shown that medical cannabis has positive effects on many chronic illnesses and relieves many symptoms. The effects of medical cannabis on children and the fetus are critical; nurses need to educate parents on the safety issues related to medical cannabis in order to prevent harm to children. The review of the literature also supported the premise that medical cannabis is widely used and has begun to be accepted in many different disciplines of study. However, the variability in regulation from one state to another creates confusion in how nurses can educate patients

on medical cannabis usage within the different state's guidelines. Chapter Three follows with the methodological approach that was used to conduct this study.

CHAPTER THREE

METHODS

The purpose of this qualitative study was to explore the critical factors influencing nurses' knowledge, perceptions, and attitudes toward patients using medical cannabis. The aim of this study was to contribute knowledge of the nurse's management of patients using medical cannabis and attribute meaning to the nursing profession with regard to this issue. Chapter Three explains the research design of grounded theory, sample and setting, access and recruitment strategies, inclusion and exclusion criteria. Ethical considerations for human subject's protection are presented; data collection procedures, data analysis, and research rigor are also discussed.

Research Design

Either a qualitative or quantitative research approach can be used to investigate the critical influences that guide nurses' knowledge, perceptions, and attitudes regarding medical cannabis usage by patients, as there can be back and forth interplay between both methods. However, quantitative research is rooted in the positivist paradigm and uses deductive reasoning in order to generate a hypothesis that needs to be tested through use of the scientific method. A hypothesis is generated, and testing engages statistics. A qualitative research study is rooted in the interpretive and the constructivist paradigm. Qualitative researchers use inductive reasoning to focus on understanding social problems. Qualitative research tends to assess the quality of things using words, images, and description (Berg & Lung, 2012). The problem under study is a social problem of which little is known. Therefore, it steers itself to a grounded theory method and a qualitative approach.

Grounded theory methodology was developed by Glaser and Strauss (1967) at the University of California when they explored the experience of dying in the hospital. Glaser was a graduate of Columbia University who was inspired by the work of Paul Lazard who was persuaded by the quantitative methodology. Strauss was an undergraduate of the University of Virginia where he was inspired by the work of John Dewey (1894) becoming a strong influence in the development of pragmatism. Later, Strauss, a graduate Chicago School of Sociology was influenced by the work of George Mead and Herbert Blumer, who emphasized symbolic interactionism. Glaser and Strauss joined forces in the 1960s to provide an understanding of human behavior and social interaction by generating a theory centering on the participants' perspectives.

Glaser and Strauss developed a classical grounded theory that provided a perception in behavior and is used in practical applications. The evolution of Glaser and Strauss' grounded theory process is the constant comparison method to compare categories and their properties until the researcher has attained saturation. The Glaser and Strauss classical grounded theory has limited direction in the research process and sample selection is not clear on what kind of data should be collected. Glaser maintained a positive approach, which is objective, believes in a single reality, and delineates a basic social process. This classical grounded theory model advocates for a literature review in order to create theoretical sensitivity. However, both Glaser and Strauss (1967) advocated for data triangulation in order to understand it in different ways three steps to coding data: (a) open coding, (b) selective coding, and (c) theoretical coding.

Glaser and Strauss separated because there was a shift in how Strauss wanted to articulate the grounded theory methodology. The Straussian perspective of grounded

theory was known as the secondary generation grounded theory. His former student Juliet Corbin joined Strauss in 1990. Juliet Corbin had been a postdoctoral student at the San Jose University in California and completed a postdoctoral research fellow in the Department of Sociology and Behavior Science at University California San Francisco. Corbin worked with Strauss for 15 years before his death in 1996. Strauss and Corbin together formulated a grounded theory derived from data that has been systematically gathered and analyzed. They asserted that it was important to interview and observe multiple and varied representatives of people, at different places and times, a tactic referred to as triangulation (Strauss & Corbin, 1998). Triangulation allows the researcher to build these variations into a theory.

Strauss and Corbin used a paradigm and conditional matrix to analyze the data. Glaser objected to this view because he believed it forced the analysis. Paradigm use to identify action and interaction is the heart of analyzing the data. The paradigm model theory verification and the relationship with the participants is more active than in the classical grounded theory method, which is more of an independent approach to the participants. The array of a conditional matrix is an analytic aid, a diagram that is useful in considering the wide range of micro and macro conditions related to the phenomena of interest (Strauss & Corbin, 1991). It is used to sort out the complexity of situations and trace it back to the action and interaction of the circumstances. This systematic approach in grounded theory is used widely today in nursing research. The emergence of this postmodern approach emerged from Strauss and Corbin who were more subjective and non-liner in their approach of grounded theory. Data collection for both classical

grounded theory and Strauss and Corbin's grounded theory methods both use a structured interviewing style.

The third type of grounded theory was introduced by Charmaz (2000, 2006). Charmaz's approach directs the investigator to attempt to bring about mutual understanding through collaboration between researcher and participant which requires co-construction and reconstruction of data into theory. Constructivist grounded theory researchers also aim to counteract the traditional objectivist position by building in-depth meaningful relationships with participants, another attraction for healthcare professionals. Health care professionals also partner with patients to manage illnesses and chronic conditions.

The term grounded theory was interpreted by Strauss and Corbin (1998) to mean that is derived from data that has been systematically gathered and analyzed through reliable research processes. The researcher does not begin the study with a preconceived theory; instead is constructed from the participants. Data collection, analysis, and theory are therefore in a close relationship to one another (Strauss & Corbin, 1998). This researcher selected the Strauss and Corbin's approach to grounded theory (1990, 1998, 2015) to explore the phenomenon of interest because it has a structural format of data collection and analysis is best suited to address the research question posed in this study. According to Strauss and Corbin (1998), three major components of qualitative research exist. First is data, which can come from various sources such as interviews, records, documents, and films. Second, there are procedures that researchers can use to interpret and organize the data, which consist of conceptualizing and reducing data, elaborating categories in terms of their dimensions and properties, and relating through a series of

prepositional statements. The data is thereby analyzed using non-statistical sampling including the writing of memos and diagramming. The third group components for qualitative research is comprised of written and verbal reports.

Strauss and Corbin's structured interviews are conducted with the individual and a focus group during which they suggested that four types questions could be asked: sensitizing questions, theoretical questions, practical/structural questions, and guiding questions, which assist to direct the interviews. The data collected in the interviews is analyzed using several types of coding: open coding, axial coding and selective coding. Open coding is the analytic process in which concepts and categories are formed from the raw data collected from the participants in the individual and focus group interview. Axial coding is the process of relating categories to their subcategories, termed "axial" because coding occurs around the axis of a category, linking categories at the level of dimensions and properties. Selective coding is the process of integrating and enhancing the theory (Strauss & Corbin, 1998). Coding allows the researcher to break down the data into manageable pieces, reflecting upon the data in memos, and conceptualizing the data based on the interpretation of its meaning. Coding that is similar is given the same conceptual label and put under the same code. Comparative analysis brings forward to the researcher against incidents for similarities and differences throughout coding. Open coding concepts and categories are formed from the raw data collected from the participants in the individual and focus group interviews. These coding and selective coding are summarized as follows:

1. Build research test theory.
2. Provide research with analytic tool for handling masses of raw data.

3. Help analysts to consider alternative meaning of phenomena.
4. Be systematic and creative simultaneously.
5. Identify, develop, and relate the concepts that are the building blocks of theory. (Strauss & Corbin ,1998, p. 13)

The current study consisted of interviewing individual participants and a focus group in order to compare and analyze their multiple viewpoints of patients using medical cannabis. These viewpoints emerged and created initial categories over the course of investigation. Detained line-by-line analysis, also known as microanalysis by Strauss and Corbin (1998), was necessary to this phenomenon in order to generate emerging categories to be used in axial coding. "Procedurally, axial coding is the act of relating categories to subcategories along the lines of their properties and dimensions" (Strauss & Corbin, 1998 p.124). Categories in axial coding are examined, and core categories developed. The categories are then linked together until a theoretical framework emerges. Axial coding involves several basic tasks as part of the methodology:

1. Laying out the properties of category and their dimensions. A task that begins during open coding
2. Identifying the variety of conditions, actions/interactions, and consequences associated with a phenomenon
3. Relating a category to its subcategories through statements denoting how they are related to each other
4. Looking for cues in the data that denote how major categories might relate to each other (Strauss & Corbin, 1990, pp. 98-99)

The research for this study adopted the basic axial coding task in order to analyze and develop core categories that could be linked as part of the selective coding process to the core or central category. According to Strauss and Corbin (1998), the central category should consistently appear in the data. Constant comparison was engaged as data was collected, compared, and then analyzed by the researcher. This process continued until saturation was reached when no new information emerged from analyzing the data. The theory is continuously refined and integrated for the phenomenon of interest throughout the process.

Sample and Setting

The sampling technique in grounded theory studies is theoretical (Creswell, 2013). For this research, the sampling technique included a purposive, snowball, and theoretical sampling techniques. Purposive samples provide information about a particular topic and setting being studied in which the participants provide useful information about the phenomenon being studied. In Phase I of the study, the purposive sample consisted of 40 registered nurses from different states and ethnic group associations in the United States. Snowball sampling allows additional participants to be recruited for the study by the primary participants. Theoretical sampling as defined by Strauss and Corbin is based on the concept of making comparisons. It is a process of sampling individuals who can contribute to building the opening and axial coding of the theory. The aim of theoretical sampling is to compare events, incidents, or happenings to determine how a category varies in terms of its properties and dimensions (Strauss & Corbin, 1998, p. 102).

Phase II included a focus group consisting of seven participants recruited from The American Cannabis Nurses Association. The focus group consisted of experts in the subject of medical cannabis who confirmed the findings. Sampling size in a grounded theory study is achieved when the researcher reaches saturation or when no new information is coming from new participants and the participant's descriptions become repetitive as confirmed from previously collected data. According to Creswell 2013, the appropriate sample size is reached at between 20 to 30 participants in order to reach a "well-saturated theory" (p. 157). Sampling decisions will be made according to the inclusion criteria.

Access and Recruitment

The Barry University Institutional Review Board (IRB) reviewed the proposal to approve this study and granted permission for the researcher to initiate this investigation. Once IRB approved the research, access and recruitment occurred in two phases; for Phase I, the presidents of different nursing state and ethnic group associations within the United States were contacted by the researcher with a Letter of Request for Access (see Appendix C) via email, phone or posted mail regarding the study. A flyer (see Appendix D) was emailed or mailed to the presidents of these associations so that they could distribute the flyer to their organization members by posting it on bulletin boards, distribute via email, or deliver in person.

The flyer provided information for the participants to email or call the researcher if they would like to participate in the research. Phase I included recruitment of individual participants using purposive sampling techniques. Additional participants for the individual interviews were also recruited using snowball sampling technique as a

secondary recruitment strategy. The participants who were interested in the research recruited other participants. Each participant received a $20 gift certificate in appreciation for their participation even if they decided to withdraw from the study.

Phase II included interviewing a seven- person panel focus group. The participants were recruited using theoretical sampling. The selection included seven nurses who were active members of The American Cannabis Nurses Association. The researcher contacted the President of The American Cannabis Nurses Association via email or telephone about the research to access these participants. The president was emailed or mailed a Letter for Access (see Appendix C) to be distributed to the members by posting it on a bulletin board, email or given to the members in person. The participants who contacted the researcher were evaluated to see if they met the inclusion criteria to participate in the research. The focus group was made aware that they would receive a $20 gift certificate as a token of appreciation even if they decided to withdraw from the study.

Inclusion Criteria

Inclusion criteria for Phase I (the individual interviews):

- Registered nurses over 18 years of age with an active license employed in the United States
- Registered nurses who had access to a telephone, computer, email and Internet (Skype)
- Registered nurses who were willing to be interviewed and audiotaped
- Registered nurses who were fluent in English

Inclusion criteria for Phase II (focus group):

- Registered nurses who did not participate in the individual interview
- Registered nurses over age 18 years of age with an active RN license employed in the United States
- Registered nurses who were active members of The American Cannabis Nurses Association
- Registered nurses who had access to a telephone, or email and Internet (Skype)
- Registered nurses who were willing to have the focus group interview and be audiotaped
- Registered nurses who were fluent in English

Exclusion Criteria

Exclusion criteria for Phase 1 included:

- Registered nurses who were licensed outside of the United States
- Registered nurses were unable to be interviewed face to face, telephone or via Skype
- Registered nurses unwilling to be audiotaped
- Registered nurses who were not fluent in English

Exclusion criteria for Phase II included:

- Registered nurses who were licensed outside of the United States
- Registered nurses who were unable to be interviewed face to face, or telephone or via Skype
- Registered nurses unwilling to be audiotaped
- Registered nurses unable to be in a focus group

- Registered nurses who participated in the individual interview
- Registered nurses who were not fluent in English

Ethical Considerations and Protection of Human Subjects

Ethical considerations for the protection of the participants are essential components of research. "Among the fundamental tenets of ethical social science research is the notion of 'do no harm' (Berg & Lune, 2012, p. 61). The Institutional Review Board (IRB) ensures that study participants are advised of potential risks and possible benefits. The IRB further requires the researcher to maintains consent and confidentiality of the participants. This researcher focused on maintaining ethical responsibility for the participants by providing strict confidentiality, and to the end completed the National Institute of Health (NIH) certificate training.

Permission was obtained from Barry University Institutional Review Board in alignment with ethical considerations (see Appendix A). The IRB ensures that the selection of research participants' is equitable. Individual informed consent form (see Appendix B) was obtained from the participants recruited from the different states and ethnic group nurses' associations in the United States at the commencement of Phase I. The electronically signed consent (see Appendix B) was sent and returned from each participant face to face or via DocuSign.com prior to the interview. The electronic signed consent was authenticated, encrypted, and accessible only to the researcher. Data were transcribed into Microsoft Word within 1 week of the interviews by the researcher or a third-party transcriptionist (see Appendix G). The Microsoft Word document was password protected. The President of The American Cannabis Nurses Association was contacted by email or telephone in Phase II and a Letter of Request for Access was

emailed or mailed (see Appendix C) to be distributed to the members by posting it on a bulletin board, sending an email or giving it to the members in person. A focus group informed consent form (see Appendix B) was obtained from each participant from The American Cannabis Nurses Association. The informed consent (see Appendix B) was obtained from each participant face-to-face prior to the focus group interview. After the interviews, the data was transcribed in a Microsoft document by the researcher or the transcriptionist (see Appendix G). The Microsoft document was password protected.

All participants were made aware of the study's purpose, audiotaping, process ensuring confidentiality, process of transcription, risks, and benefits associated with the study. The participants were informed they could withdraw from the study without any penalty, and if they refused to answer any question, they had the right to stop the audiotaping. The timeframe of the interviews (120 minutes) was explained. Participants were asked by the researcher in Phase I and II to identify a pseudonym name of their choice for the researcher to identify the participants and maintain confidentiality. The researcher secured and stored these informed consents in a separate locked drawer in the researcher's home office. The researcher will keep all other confidential information in a locked drawer in the researcher's home office for five years upon completion of the study and then indefinitely. The only person who has access to the locked drawer is the researcher. All members of the focus group were also informed of all the same guidelines prior to the start of the research. However, the focus group was informed that due to the nature of the group, confidentiality within the group could not be guaranteed by the researcher. The focus group was made aware that they could withdraw from the

research without any penalty and they had the right to stop the audiotaping at any time during the interview.

Individual and focus group participants each received a $20 gift certificate as a token of appreciation for their participation in the research even if they withdrew from the study. The participants from the individual interview were interviewed via telephone or Skype and mailed their gift certificate via postal mail prior to the interview. The researcher explained that there were no direct benefits or risk associated with the study. Upon completion of the study, the inform consents were stored and locked in a separate drawer in the researcher home office. The data including the audiotapes was kept in a secure locked drawer for a minimum of 5 years and then indefinite in the researcher's home office. The individual and focus group interviews were keyed into a computer by the transcriptionist (see Appendix G) or by the researcher on a password-protected Word document.

Data Collection Procedures

The data collection procedure began after the approval of the Institutional Review Board from Barry University. Phase I of this research included a Letter of Request for Access emailed or mailed (see Appendix C) and a flyer (see Appendix D) by this researcher to the presidents of different states and ethnic group nurses' associations in the United States. The presidents were asked to distribute the flyer by posting it on bulletin boards, distributing it via email, or delivering the flyer to the members in person. The participants who contacted the researcher via email or called were evaluated to see if they met the inclusion criteria to participate in the study. The researcher then scheduled an interview (90 minutes) with each participant face-to-face, telephone, or via the Internet

(Skype) at a convenient time and location for both the participant and the researcher. On the day of the interview, the researcher greeted and thanked the individual participant for their willingness to participate in the research. The purpose of the research, length of the interview (90 minutes), and general process were reviewed. The researcher answered any question(s). The participants were made aware of the actions taken to maintain confidentiality of the interview data (pseudonyms, keeping consents forms separate), and the security of the data (maintained in a password-protected computer in the research's home office).

The interview was audiotaped using an Apple iPhone and the Apple iPad as a backup. The participants were reminded that they could stop the audiotaping process at any time during the research, refuse to answer any question(s) and withdraw from the research without penalty. The participants were then asked to sign the consent (see Appendix B) provide a pseudonym that they placed on the demographic questionnaire (see Appendix E) within the 90-minute timeframe face-to-face or via Docusign.com, a secured web-based e-signature service or manually prior to the interview.

The participants were then given $20 gift certificate as a token of appreciation was for their participation in the study. The token of appreciation was theirs to keep even if they decided to withdraw from the research. The individual participants were interviewed via telephone or Skype and mailed their $20 gift certificate via postal mail. The individual interview commenced using open-ended questions. Data were transcribed and keyed into the computer on a word document that was password protected by the researcher or transcriptionist who signed a third-party confidentiality agreement (see Appendix G). The researcher engaged in a continual process of one-to-one interviews,

data analysis, and constant comparison along with memo writing and reflective journaling. Individual interviews were conducted up to maximum of 40 participants or until data saturation was obtained. Saturation was achieved in this study at 20 participants. The participants were reminded of the confirmation needed for the transcription (30 minutes), referred to as member checking, to be conducted within 1 week after the initial interview. The researcher sent the transcript via email to each participant for member checking and asked the participant to read it. Then, the researcher followed up with a phone call after 1 week of emailing the transcription to determine if the participant had any question(s) or recommendations regarding the transcription. The researcher secured and stored all member-checking information with all other materials. The informed consents were placed in a separate locked drawer in the researcher's home office. The researcher kept all other confidential information in a locked drawer in the researcher's home office. All audio-recorded, electronic, and written data will be kept for 5 years upon completion of the research and then indefinitely.

Phase II data collection commenced once saturation had been reached with the participants in Phase 1. The focus group was used to validate the information including data, concepts, and categories of the individual interviews provided by the Phase 1 participants. Phase II included interviewing a focus group of a maximum of seven nurses. The focus group was comprised of members of The American Cannabis Nurses Association who had been recruited using theoretical sampling. Phase II commenced after the researcher wrote the first draft of the data collected from the participants of Phase I, which allowed the researcher to observe interactions and discussions among informants. The focus group consisted of seven volunteer expert registered nurses who

met the inclusion criteria. The focus group met face-to-face at a mutual location agreed upon by the participants and the researcher in a quiet and private area to ensure maximum confidentiality. Participants who contacted the researcher were evaluated to see if they met the inclusion criteria. If they met the inclusion criteria, the researcher then scheduled an interview (120 minutes) with the participant face-to-face, via telephone, and over Skype at a convenient time and location for all focus group participants and the researcher.

On the day of the interview, the researcher greeted and thanked the focus group participants for their willingness to participate in the research. The purpose of the focus group interview, length of the interview (120 minutes), and general process was reviewed. The researcher informed the participants that the interview would be audiotaped using an Apple iPhone and an Apple iPad as the backup. The participants also were made aware of the actions taken to maintain confidentiality of the interview data (pseudonyms, keeping consent forms separate), and the security of the data (maintained in a password protected computer in the researcher's home office). The participants were informed that confidentiality could not be guaranteed due to the nature of the interviewing style of focus group interviewing. The focus group participants were reminded of the time frame (120 minutes) of the interview and informed prior to the interviewing that the interview will be structured. The purpose of the interview was discussed. The participants were reminded that they could stop the audiotaping process at any time during the interview, refuse to answer any question(s), and withdraw from the research without penalty.

The participants were then asked to sign the consent (see Appendix B), provide a pseudonym that they placed on the demographic questionnaire, and completed the demographic questionnaire (see Appendix E) within the 120-minutes timeframe face-to-face. Participants were given a $20 gift certificate as a token of appreciation for their participation in the study and were assured that the token of appreciation was theirs to keep even if they decided to withdraw from the study. The focus group interview questions were open-ended and based on the categories obtained from analyzing the interviews of the individual participants in Phase I. The researcher or the transcriptionist transcribed the interview (see Appendix G) in a Microsoft Word document that was password protected on the researcher's computer. The researcher engaged in a continual process of data analysis and constant comparison along with memo-writing and reflective journaling during Phase II. The researcher secured and stored the informed consents in a separate locked drawer in the researcher's home office. The researcher kept all other confidential information in a locked drawer in the researcher's home office. All audio-recorded, electronic, and written data will be kept for 5 years upon completion of the research and then indefinitely.

Interview Questions

Interviewing is the most common type of data-collection method used in qualitative research (Nieswiadomy, 2012). The interview questions (see Appendix F) were used to guide the participants and explore the phenomena being studied. In Phase I, the participants were interviewed using open-ended questions. The researcher was present to observe, listen, and encourage conversations with the informants to elicit information concerning the research. The grand question for the individual interview

was, “Tell me in your own words what is your current knowledge regarding medical cannabis usage by patients in the United States.” Additional probing questions were used to clarify meanings and elaborate on data that the participants minimized.

The Phase II focus group interview questions (see Appendix F) were based on the categories obtained from analyzing the interviews of the individual participants in Phase I. The questions were open ended. One grand tour question was asked in the focus group interview, with four or five additional probing questions following in order to gain elaboration and clarification from the participants. A separate list of interview questions for the focus group was provided (see Appendix F). The grand tour question was as follows: “What are your thoughts of nurses caring for patient usage of medical cannabis in the United States?”

Demographic Data

In Phase I, demographic data were obtained from each participant in a questionnaire developed by the researcher (see Appendix F). The demographic questionnaire took 10 minutes from the inclusive 90 minutes interview. Information obtained included: pseudonym name, date, state of RN licensure, gender, racial/ethnic group, current nursing specialties, highest level of education completed, years of experience as a nurse and any experience with patients using medical cannabis and practicing nursing in a state legalizing medical cannabis. Demographic data was entered into a password-protected computer, by the researcher.

In Phase II, focus group demographic information was obtained from each participant (see Appendix F) and was completed in 10 minutes by each participant during the 120 minutes of interviewing the focus group. The demographic information obtained

included: pseudonym name, date, state of RN licensure, age range, racial/ethnic group, state practicing nursing, nursing specialty, highest degree completed, years of nursing experience, and practicing nursing in a legalized medical cannabis state. These demographic data subsequently were entered into a password-protected computer.

Data Analysis

Data analysis is a process that goes on throughout the qualitative research process, as data collection occurs simultaneously with analysis. Researchers are constantly updating concepts, adding new concepts, identifying new properties and dimensions, and seeing new relationships between concepts (Strauss & Corbin, 2015). For this research, data analysis followed the grounded theory structure of Strauss and Corbin (1990, 1998, 2015). Data were transcribed into a Microsoft Word document within 1 week after the interviews by the researcher or the transcriptionist (see Appendix G). This Word document contained three separate columns; the first column had the participant's pseudonym name, and the second column had the verbatim conversation that occurred next to the interviewer's questions and the participant's answers. The third column included codes and categories for open coding. The Word document was password protected in the researcher's computer.

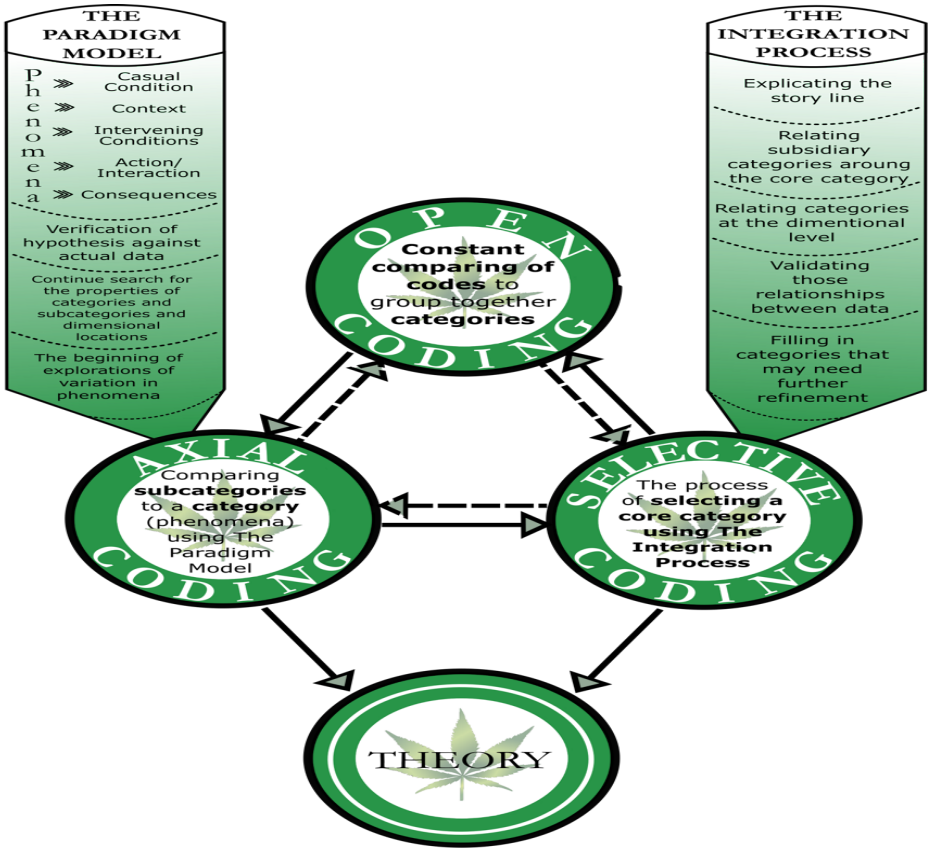

Figure 2. Nitti's (2018) conceptualization of Strauss and Corbin's (1990) data analysis process.

Open Coding

According to Figure 2, the goal of open coding is to generate as many conceptual codes as possible to fit the data. Open coding is the process of examining, comparing, breaking down, and categorizing data (Strauss & Corbin, 1998). As coding continued, the researcher compared incidents and notices that some codes recurred more than others, while others collapse, and begin to develop (Creswell, 2013). As open coding continued, the data is broken down into discrete parts, examined, and then compared for similarities and differences. Then, questions were asked about the phenomenon as suggested by the data (Strauss and Corbin, 1998). Data is transcribed and then analyzed continuously by

comparing and contrasting the data in a cyclic pattern for each participant, until theoretical saturation begin to emerge. The researcher in the study followed this pattern.

Axial Coding

Axial coding is the act of relating categories and subcategories along the lines of their properties and dimensions (Strauss & Corbin, 1990). During axial coding, the researcher begins to notice certain emergent patterns so that the categories are formed from similar concepts embedded in data. The process requires inductive and deductive thinking, asking questions, proposing, and making comparisons with the data (McCann & Clark, 2003). The researcher in this kind of study asks questions related to how come, why, where, and when in order to submerge the relationships within the categories. The categories are linked together to give a more transparent explanation of the phenomena being studied. The emergent phenomenon is the central idea that the researchers identified by analyzing the data. Subcategories under the process of axial coding are linked to the categories through a paradigm mode as categories are related to the core category according to the paradigm model.

The hypothetical relationship of subcategories to a category, by means of statements denoting the nature of the relationships between them and the phenomenon (core category) is indicated by the paradigm model. A coding paradigm uses five specific features that identified the variety of conditions and assist the researcher to analyze the data: casual condition, context, intervening conditions, action/interaction and consequences (Strauss & Corbin, 1990). In casual condition, the researcher identifies the incident that leads to the phenomenon by looking at the data from the event preceding the phenomenon. The researcher identifies the properties and dimension as it is related to the

phenomenon. Context denotes a specific set of properties pertaining to the phenomenon and simultaneously leads the researcher to identify the action and interaction strategy to chosen to respond to the phenomenon. The intervening conditions are the general conditions that facilitate or constrain the action and interaction of the. Action and interaction refer to the actions and responses that occur as a response to a phenomenon under a specific set of perceived conditions. The consequences are linked to the action and interaction resulting in specific outcomes (Strauss & Corbin, 1990)

The researcher returns to the data and looks for evidence and events that support the research question in Step 2 of the paradigm model. If the research question is supported by the data then, the researcher changes the research question into a statement, in order to add depth and variation to the theory. The researcher continues to watch for properties of categories/subcategories and dimensional locations of each code found in open coding in Step 3. An exploration into the variation in the phenomenon by beginning to link major categories, patterns in the data, clusters of specific strategies, conditions, and outcomes pertaining to the phenomena is undertaken in Step 4.

Selective Coding

Selective coding is the process of selecting a core category, systematically relating it to other categories, validating those relationships, and filling in categories that needing further refinement and development. During the selective coding process, the categories are integrated and refined to form a core category. The core category is the central phenomenon around which all the other categories are integrated, and there are six criteria for assessing core categories:

1. The central category must be central, and all other major categories can be related to it
2. The categories need to appear frequently in the data.
3. Relating the categories is logical and consistent. There is no forced data.
4. The core category criteria are to have implication for general and formal theory
5. As the concept is refined through integration with other concepts, the theory grows in depth and explanatory power.
6. The theory then can progress forward in order to permit variation in analysis. (Strauss & Corbin, 1998).

The core category represents the main themes of the research. Once a commitment has been made to a core category, major categories are related to it through explanatory statements of relationships. Five techniques are used to facilitate the integration process in selective coding including:

1. Explicating the story line
2. Relating subsidiary categories around the core category by means of the paradigm
3. Relating categories at a dimensional level
4. Validating those relationships against data
5. Filling in the categories that may need further refinement (Strauss & Corbin, 1998, 1990).

Memo writing, field notes, journaling, and diagramming are essential components of grounded theory taking place throughout the research. This affords the researcher self-reflexivity as well as the opportunity to document the researcher's thoughts during the

research process. The researcher does not only work with raw data but conceptualizes it. Memo writing should occur before entering the field and after each analysis session to record the researcher's impressions of the data, provide clarification of any unclear areas, and explore how codes and categories can be linked. Once the researcher has identified and refined the theory, it is validated by comparing it to raw data and presenting it to the participants (Strauss & Corbin, 1998).

Research Rigor

In qualitative research, trustworthiness confirms that the study had rigor and value. Rigor means that the researcher "validates the accuracy of the account using one or more of the procedures for validation, such as member checking, triangulating sources of data or using peer or external auditors of the accounts" (Creswell, 2007, p. 46). Most qualitative research studies are evaluated in terms of broad criteria for rigor that mirror the post-positivists criteria of validity and reliability (Creswell, 2013). Research rigor is demonstrated by attending to the four constructs of credibility, dependability confirmability, and transferability.

Credibility is the means by which the investigator reviews the truth of the findings in the study; it refers to how much the multiple realities of the phenomena accurately reflect the data collected (Sikolia, Biros, Mason, Weiser, 2013). Credibility was ensured in this study as time was allocated for each interview in order to obtain the data necessary for the research. Interviews were conducted until data saturation were established. Member-checking also occurred to ensure transcribed data reflected the participant's words verbatim. The research method was well established, since a focus group was

interviewed to confirm the findings in the individual interviews, this method of triangulation supports credibility.

Dependability is a concept that confirms that the data, and the findings are consistent and confirmed when repeated or audited by another individual multiple times. (Sikolia et al., 2013). Dependability provides a clear systematic description of the research process in order for the research study to be duplicated. The researcher used thick, rich descriptions of the participants' own words. Several data collection methods were used to achieve dependability of the study over the course of the research. The focus group was utilized in an attempt to confirm the data, with an audit trail kept by the researcher of the complete documented details of the study.

Confirmability is a trustworthiness concept in which the findings of the study are shaped by the participants and not by the researcher's bias, interest, or motivation (Lincoln & Guba, 1985). Ensuring confirmability minimizes the researcher's biases of their own beliefs and assumptions. Confirmability was addressed in the research of this study through field notes, memo writing, and journaling. Reflexivity occurred during memo writing in order to be sensitive to the participants' issues and reflective remarks were made to acknowledge the participants weaknesses, and documentation and audiotapes from the study were maintained indefinitely in a locked safe.

Transferability is activated as when the findings of the study may be duplicated with a similar demographic sample. Transferability demonstrates that the findings are applicable in another context and as such was addressed in this study through the following steps: The research process was provided in detail in order to provide the duplication of the research to be transferred. The researcher developed a thick detailed

description of the participant's perspectives, experiences, interpretation of the phenomenon in order to allow other researchers to repeat the same study in a similar fashion and obtain similar results.

Chapter Summary

This chapter has detailed how this study used the grounded theory methodology outlined by Strauss and Corbin to generate a substantive theory of medical cannabis for the discipline of nursing. The study included purposive, snowball, and theoretical sampling that met the inclusion criteria by the researcher. The researcher delineated ethical considerations and the protection of human subjects. The researcher accessed and recruited registered nurses licensed in the United States. Data were collected using interviews while the constant comparative analysis method was employed until data saturation was reached. Data analysis was completed using Strauss and Corbin's coding system of open, axial, and selective coding. In addition, memoing was also used to analyze the relationship between emergent codes and categories. Research rigor was achieved via credibility by member check, dependability by using constant comparative data analysis, confirmability by using memo writing, field notes and journaling throughout the research study. Transferability was achieved by providing in detail the research process and the demographics of participants in the study. Chapter Four follows with the findings of the study.

CHAPTER FOUR

FINDINGS OF THE INQUIRY

The purpose of this qualitative study was to explore the critical factors influencing nurses' knowledge, perceptions and attitudes toward patients using medical cannabis. The aim of this study has been to contribute knowledge of the nurses' management of patients using medical cannabis. This study used the grounded theory methodological design of Strauss and Corbin. The categories, subcategory, and theory emerged from the data analysis through constant comparison of the data, in addition to memo-writing and reflection. These factors collectively illustrate the critical elements that influence nurses' knowledge, perceptions, and attitudes of patients who use medical cannabis. Chapter Four explains the demographic characteristics of the study participants who comprised both phases of the study. The results of the data collection included the categories, subcategory, and theory formulation that emerged.

The researcher obtained Institutional Review Board approval from Barry University (see Appendix A) prior to the data collection. Interviews were conducted in a semi-structured format using open-ended questions. The study had two different phases in which all the identities of study participants were protected by the use of pseudonyms. Study participants for Phase I were registered nurses with active licensure in their respective states and were recruited using a flyer (see Appendix D) distributed to several nurse's associations and organizations by the researcher. Study participants were recruited via purposive and snowball sampling techniques and from referrals made by other registered nurses who participated in the study. All participants were screened by the researcher to ensure the inclusion criteria was met for the study.

Phase I included 20 individual interviews with certified registered nurses from the following states within the United States of America: New Jersey, New York, Pennsylvania, Massachusetts, Alabama, Colorado, Texas, Wyoming, Nevada, Florida, California, Arizona, and Missouri. The registered nurses were identified as having practiced nursing from one to 36 years in Medical Surgical, Obstetrics, Pediatrics, Psychiatry, Academia, Gerontology, Oncology and Public and Community Health. Their educational backgrounds ranged from associate degree through PhD prepared registered nurses. Interviews were recorded using an iPad and iPhone recording devices. The transcription of the data was completed by a third party who signed the confidentiality agreement (see Appendix G). The researcher used member-checking in Phase I to confirm with the participants that the data had been correctly interpreted and transcribed. Member-checking was completed with each participant via email or telephone by the researcher. The researcher also used reflective journaling after each interview to assist in expelling any preconceived perceptions and intellectualize the voices of the participants.

Phase II of the study took place after having analyzed the individual interviews from Phase I. The focus group interview assisted in verifying the categories and subcategories that emerged from the voices of the individual participants in Phase I. Phase II of this research included a focus group of seven participants: three men and four women from the American Cannabis Nurses Association. The participants were also registered nurses from different states within the United States of America: Virginia, New Jersey, Florida, Illinois, New Mexico, Massachusetts, and Tennessee. These registered nurses had practiced nursing from 21 to 36 years, and their educational backgrounds ranged from associate degree thru PhD-prepared registered nurses. Phase II

study participants were recruited using a Letter of Access (see Appendix C) emailed by the researcher to the President of the American Cannabis Nurses Association. Participants were recruited using theoretical sampling and were screened by the researcher to ensure the inclusion criteria was met for the study. The focus group members knew each other; however, pseudonym names were used to maintain confidentiality. All participants completed the semi-structured interview at the same time. Interviews were recorded using an iPad and iPhone recording devices. The transcribing of the data was completed by a third party who signed the confidentiality agreement (see Appendix G).

The analysis of data was completed according to the method outlined by Strauss and Corbin (1998) engaging the processes of open coding, axial coding, and theoretical coding. The researcher conducted constant comparison of the data by breaking down, examining, conceptualizing, comparing, and categorizing the data to achieve open coding. The next systematic process of axial coding was achieved as the researcher positioned the data back together in a new way after, open coding and by making connections between the categories. This was accomplished by utilizing a coding paradigm involving conditions, context, action/interactional strategies, and consequences. The researcher engaged in the analysis of data between open and axial coding by moving back and forth between the two coding processes and using schemas to demonstrate the relationships between the categories and the subcategory. The researcher analyzed the data until saturation was reached with no more categories emerging at 15 participants. However, data collection ensued with an additional five participants yielding a total of 20 participants to ensure that no new information would be obtained.

Theoretical coding was the final process in which the core categories of *personal knowing, lacking education, advocating, stigmatizing, and regulating* emerged from the data**.** The subcategory that emerged from the category of *Regulating* was *lacking uniformity*. The researcher analyzed and conceptualized the data line-by-line to identify the re-occurring categories and a subcategory from the participants' voices. Further analysis of the data yielded a social process of the *theory of restructuring*.

Sample Description of the Individual Group: Phase I

The sampling procedure varied for the two phases of the study. Phase I was composed of $N = 20$ individuals from fifteen different states within the United States. These individuals were registered nurses (RN) with an active RN licensure in their respective states. The sampling techniques of purposive, snowball, and theoretical sampling were utilized to recruit individual participants for Phase I. Theoretical sampling transpired through categories and subcategory that emerged through analysis of the data.

Demographic Characteristics of Individual Participants: Phase 1

Phase 1 of the study consisted of 18 females (90%) and two males (10%). All study participants were practicing nursing in 15 different states within the United States. The individual participants age ranged from 31-70 years, 18-25 $N = 1$ (5%), 31-40 $N = 1$ (5%), 41-50 $N = 3$ (15%), 51-60 $N = 11$ (55%), and 61-70 $N = 4$ (15%). A variety of ethnic backgrounds existed among the participants: Black (15%), Hispanic or Latino (45%), White (35%), and two or more races (5%). The participants practiced nursing in eight different nursing units comprising of: Medical Surgical (20%), Emergency Room (10%), Pediatrics (15%), Obstetrics (10%), Intensive Care Unit (5%), Nurse Educator

(30%), and Public/Community Health Nursing (5%). The highest degree completed by the participants was inclusive of the following in nursing education: 30% of the individual study participants had a PhD in nursing, 20% had a DNP, 25% had an MSN, and 25% had a BSN. Study participants work experience ranged from 1 to 36 years or more of experience. Most of the study participants had 31-35 years of experience (40%). Five percent (5%) had 1 to 5years, 5% had 11 to 15 years, 5% had 16 to 20 years, 20% had 26 to 30 years, and 25% had 36 or more years. Forty-five percent (45%) of the participants had experience with patients using medical cannabis with (55%) having no experience with patients using medical cannabis. Of the individual participants, 95% are practicing nursing in a state that has legalized medical cannabis, with 5% practicing in states that have not legalized medical cannabis. The demographic characteristics are further detailed in Table 1.

Table 1

Demographic Characteristics of Phase I (Individual Participants) N = 20

Variable	Category	Number	Percentage
Age	18-25	1	5%
	26-30	0	0%
	31-40	1	5%
	41-50	3	15%
	51-60	11	55%
	61-70	4	15%
Racial/Ethnicity Group	American Indian or Alaska Native	0	0%
	Native Hawaiian or other Pacific Islander	0	0%

	Black or African American	3	15%
	Hispanic or Latino	9	45%
	Asian	0	0%
	White	7	35%
	Two or more races	1	5%
	Other	0	0%
Nursing Practice	Medical Surgical Specialty	4	20%
	Emergency Room	2	10%
	Obstetrics	2	10%
	Pediatrics	3	15%
	Operating Room	0	0%
	Intensive Care	1	5%
	Psychiatric	1	5%
	Nurse Educator	6	30%
	Nurse Administration	0	0%
	Public/Community Health	1	5%
	Clinic/Outpatient	0	0%
	Long-term care	0	0%
	School nursing	0	0%
	Other	0	0%

Highest Degree Completed	Diploma Nurse	0	0%
	Associate Degree-Nursing	0	0%
	Bachelor's Degree-Nursing	5	25%
	Master's Degree-Nursing	5	25%
	DNP	4	20%
	PhD- Nursing	6	30%
Years of Experience as a Nurse	< 1year	0	0%
	1-5 years	1	5%
	6-10 years	0	0%
	11-15 years	1	5%
	16-20 years	1	5%
	21-25 years	0	0%
	26-30 years	4	20%
	31-35 years	8	40%
	36 or more years	5	25%
Experience with patients using medical cannabis?	YES	9	45%
	NO	11	55%
Are you practicing nursing in a state legalizing medical cannabis?	YES	19	95%
	NO	1	5%

The next section of the demographics provides the physiognomies of the 20 individual participants in Phase 1 of the study. Each study participant was a registered nurse practicing in a state within the United States. In order to maintain confidentiality, the researcher used selected pseudonyms to describe the participants

Organic Girl

Organic Girl is a White female with the age range of 41 to 50 years. She has a BSN in nursing and was practicing nursing in the field of obstetrics and nursing education in the state of New York for 16 to 20 years. **Organic Girl** practices in New York where medical cannabis is legalized at the state level. She had personal experience with an obstetrical patient who was diagnosed with seizures and uses medical cannabis to control the seizures. **Organic Girl** expressed the need for more research regarding obstetrical and pediatric patients and use of medical cannabis for this particular population.

Tene

Tene is a Black female of Jamaican decent, age ranging between 31-40 years. She has 11 to 15 years of nursing experience in the emergency room, pediatrics, intensive care, and nursing education. **Tene** has a DNP (Doctor of Nurse Practice) degree. She does not have any experience taking care of patients on medical cannabis; however, she does live in Florida, a state with medical cannabis laws. **Tene** is an advocate of medical cannabis for patients and also expressed that public perception will be an issue for the patients on medical cannabis due to the lack of education of health care providers. She explained:

> I feel like it could be real benefit for a lot of patients. It's been proven that it provides relief from a lot of negative symptoms for patients. I think public perception is going to be one of our biggest barriers because the second someone hears marijuana they think of an abuser or they think children doing illegal drugs. Information is out there, that education out there that has a medicinal benefit for these different disorders and I think initially that might become a small problem with nursing that the nurse is going to have to go a little bit above and beyond to e explain to patients if they do recommend this treatment to them why it's not n negative… what its benefits could be.

Oscar

Oscar is a Hispanic male between the age range of 51 to 60 years old. He has a degree of Doctor of Nurse Practice (DNP). **Oscar** has been a practicing nurse for 31 to 35 years in the state of Florida as a medical-surgical cardiac trauma nurse and also a nurse educator. He has experience with patients using medical cannabis for their medical conditions. As a nurse educator, **Oscar** would like to see more nurses and patients become educated about medical cannabis. He admitted that he needs to increase his own knowledge on the subject in order "to build a culture of safety." **Oscar** wants to make sure that the knowledge disseminated to nurses about medical cannabis is going to be based on "knowledge to practice."

Abike

Abike is a female African American registered nurse between the age range of 41-50 years old, who is currently practicing nursing in the state of Texas. Texas is a state that has medical cannabis laws. **Abike** has a master's degree in nursing (MSN) and has

been a nurse between 26 and 30 years in the areas of psychiatric and medical surgical nursing. She has no experience with patients using medical cannabis as a nurse in the United States; however, she has had experience with cannabis from a village in Nigeria, Africa that uses cannabis leaf as a vegetable. **Abike** believes that nurses in the United States are not prepared on the subject of medical marijuana and are in need of better education on the subject.

Girl Scout

Girl Scout is a White female between the age range of 51 to 60 years old. She has been practicing nursing between 26 to 30 years in the State of Texas as a general medical-surgical nurse and a nurse educator. **Girl Scout** practices in a state that legalized medical cannabis. She is in favor of medical cannabis usage by patients and has experience with patients using medical cannabis. **Girl Scout** reported administering synthetic medical cannabis to veterans for pain control, end-of-life cancer care and her father was also a veteran who received the synthetic form of cannabis for pain. She presumes that there might be a stigma attached to patients receiving medical cannabis by family members and the social acquaintances.

Liz

Liz is a White Hispanic female, between the age range of 41 to 50 years old. She has her Bachelor of Science degree in nursing and has been practicing nursing between 6 and 10 years. **Liz** is currently practicing oncology nursing in the state of Colorado, which has approved medical and recreational cannabis. As an oncology nurse, **Liz** has never had any formal training on medical cannabis; however, she has administered synthetic cannabis to calm the symptoms of nausea and vomiting of the oncology

patients. She believes that medical cannabis should be prescribed to patients with chronic illnesses with pain but also has concerns that cannabis could get in the hands of people who do not need it. **Liz** would like to see more parameters and regulations on medical cannabis laws as she believes that every state should have the same regulations. **Liz** can foresee that medical cannabis will become part of health care and strongly advocates for formal training for doctors and nurses in conjunction with more regulations by the Drug Enforcement Agency (DEA) in order to provide "safe marijuana." She disagrees with non-health care providers dispensing medical cannabis with minimal training. **Liz** explained the process of how a patient obtains medical cannabis in the state of Colorado:

> In the state of Colorado, it's not only legal as medical it's also legal for recreational. Unfortunately, where it started the same where it was medical management. The patient goes in gets a prescription from the doctor for illness. The patient can also carry marijuana for recreational purpose.

Bonnie Bear

Bonnie Bear is a White female between the ages of 61 and 70 years old. She revealed that she grew up in the 60s when there was an increase in middle class college students smoking marijuana. **Bonnie Bear** has a BSN degree in nursing and has been an oncology nurse for 36 plus years. She practices oncology nursing in the State of Massachusetts, which has legalized medical cannabis. As an oncology nurse, she has had experience with medicating oncology patients with Marinol, a synthetic form of cannabis. She reported having noted a decrease in pain and nausea/vomiting in her oncology patients on the synthetic form of cannabis. **Bonnie Bear** would like to see more

education on medical cannabis for new nurses on the units and is recommending that medical cannabis be included in nursing schools' curriculum. She communicated:

> Well I'm hoping the nursing profession could look at some kind of education because most of the nurses that are saying that they don't approve of medical marijuana probably is not working in an area where the patient is using it because it wouldn't be used in outpatient, it wouldn't be used in medical surgical. It wouldn't be used in outpatient. Just for patients really that are dying.

Connie

Connie is a Hispanic female between the ages of 61 and 70 years old with a PhD in nursing, practicing in the State of California. She has been practicing nursing for over 36 years as an obstetrical nurse, nursing administration, nursing education and public and community health nursing. California has legalized medical and recreational cannabis. She has had experience with patients using medical cannabis for their medical conditions. **Connie** believes that medical cannabis should be a scheduled drug with structure, guidelines, and standards. She also believes that medical cannabis is effective for so many medical conditions; however, **Connie** realizes that medical cannabis is not accepted like other drugs because of lack of information in the general public. She is surprised that medical cannabis has not been legalized earlier. **Connie** commented on the education for nurses in the state of California concerning medical cannabis. She said:

> It's just starting. We have a long way to go, but it is starting. People are having a workshop, there are online webinars, people are talking about it. Those who feel that they're are going to be evolved are speaking it up. Others are rather passive about it, not until it hits them, I think will it be a issue. But yeah, it's happening.

Lola

Lola is a female Hispanic registered nurse between the ages of 51- and 60-years old practicing in Arizona in the areas of pediatrics, public and community health, outpatient and nursing education. She has a BSN degree and has been practicing nursing between 26 to 30 years. **Lola** stated that she has had experience with patients on medical cannabis in the Arizona. In addition, she also mentioned being on medical cannabis for her medical condition. She highly recommends medical cannabis and sees greater potentials in using medical cannabis for chronic pain and cancer. She is positive that medical cannabis may be the gateway to stemming the opioid epidemic.

Sally

Sally is a female Hispanic registered nurse between the age of 51 and 60 years old practicing in New Jersey as an oncology nurse for 26-30 years. New Jersey is a state that has legalized medical cannabis. She considers herself a liberal and believes that medical cannabis helps people although she is concerned that patients taking medical cannabis will feel isolated because of how people will be judging them. **Sally** has confidence in that medical cannabis will not affect the nursing profession, but the nursing profession will have to learn about medical cannabis. She feels that nurses need to know the difference between medical cannabis and opiates.

Roxanna

Roxanna is a Hispanic female and registered nurse between the age of 51- and 60-years old practicing nursing in Pennsylvania for 26 to 30 years. Pennsylvania is a state the has legalized medical cannabis. She agrees that a nurse needs to care for patients using medical cannabis. Moreover, **Roxanna** feels that nurses need to deal with

patients holistically, even as she has concerns about the stigma of patients using medical cannabis. She also believes that national laws are needed regarding medical cannabis. **Roxanna** further explained the reasons nurses need the same laws from one state to another when she remarked:

> They need congruency. If they don't have a national law of how much this is, how much you can get nationally…if they don't have protocol in place the nurses will cause medication errors. The nurses will need to know the laws state by state rather than nationally. How do you even test the nurse's knowledge based on the national level like NCLEX? You can't.

Gladys

Gladys is a Hispanic female and registered nurse, living in Alabama where medical cannabis has not been legalized. She is between the ages of 51 and 60 years old and has been practicing nursing for 31 to 35 years. **Gladys** currently has a Doctor of Nurse Practice (DNP) degree and practice in the field of cardiology as an acute nurse practitioner. Presently, she also practices as a nurse educator. She feels comfortable with patients using medical cannabis for medical purposes. However, **Gladys** wants to make sure that the laws establish good guidelines as it would be reasonable for any other substances. **Gladys** expressed that if there are no guidelines, she can foresee the same problems for medical cannabis as opiates. She stated, "Medical cannabis need to take into consideration young people and the psychological effects." She thinks there are going to be nurses that might be reluctant to administer medical cannabis especially in the conservative states, like Alabama. **Gladys** imagines that many health care workers are

also going to be reluctant due to the opiate crises stating that she predicts a crisis in the future with medical cannabis.

AJ

AJ is a Hispanic female registered nurse between 18 and 25 years old with a Bachelor of Science in Nursing (BSN). She has been a nurse for 1 to 5 years in the pediatric setting and resides in Massachusetts, which legalized medical cannabis in 2012. She has never had any patient using medical cannabis to treat a medical condition but is not opposed to patients using medical cannabis. Nonetheless, **AJ** would certainly like to see more research on medical cannabis regarding the pediatric population. **AJ** considers that nurses need to be open-minded and not be biased on the subject of medical cannabis.

Jordie

Jordie is between 51 and 60 years old, with a PhD degree in nursing and experience as a nurse practitioner in the field of neurology in the state of Michigan for over 36 years. Michigan has medical cannabis laws. **Jordie** declared that she is pretty liberal. Her knowledge regarding the subject of medical cannabis is average. **Jordie** thinks that nurses should care for patients on medical marijuana. She does not see a difference between medical marijuana and any other medication. **Jordie** expressed her position on medical cannabis usage by patients when she stated: "Well I think it is an effective tool to help them increase their quality of life. I do not see anything wrong with it. If it can help control pain and save your eyesight what is the issue?" **Jordie** imagines that patients taking medical cannabis are less likely to become addicted to medical marijuana than the opioids. Nevertheless, she thinks that that nurses will judge patients depending on their ethnicity and culture and call the patients, "pain seekers."

Melissa Modelo

Melissa Modelo is a female between the ages of 51 and 60 years old, who is practicing in the areas of obstetrical nursing and nursing education in New York for over 20 years and has taken care of patients using medical cannabis for their chronic illness. She currently has an MSN in nursing and lives in New York were they presently have medical cannabis laws. **Melissa Modelo** feels that medical cannabis is a good thing. She verbalized that providers in New York are not fully prescribing medical cannabis. Socially, **Melissa Modelo** was concerned that patients who do not need medical cannabis will get a prescription when they do not need it. She exclaimed, "Medical cannabis is something that is not made or chemically put together, it is something natural as opposed to opiates." **Melissa Modelo** explained that her knowledge of medical cannabis is limited but that she knows that it has been approved for certain chronic illnesses. She reasons that nurses should work more holistically but articulates that education on the subject of medical cannabis is the key for the success nationwide. **Melissa Modelo** further suggested that nurses need to be educated so that they could all be on the same page and teach their patients using evidence-based information.

Alicia

Alicia is a White female between 61 and 70 years old with a PhD in nursing. She has been practicing in the area of medical surgical nursing and is a nurse educator in the state of Pennsylvania. **Alicia** does not have experience with patients using medical cannabis; however, she is practicing in a state that has legalized medical cannabis. She has attended an educational presentation on medical cannabis given by her state nurses association. **Alicia** is concerned about how patients get a prescription for medical

cannabis. She divulged that her state announced the companies that are allowed to sell medical cannabis. Pennsylvania currently has 81 dispensaries. **Alicia** noted that one of the regulatory barriers is lack of uniformity across the country. She considers that people will start crossing state lines to obtain medical cannabis. **Alicia** also deliberates that people need a lot of public education, in order to minimize the biases against patients using medical cannabis.

F Marie

F Marie is a White female between the ages of 51 and 60 years old practicing nursing in the State of Wyoming. She has an MSN degree and practices as a consultant for chronic care management. **F Marie** lives in a state that has not legalized medical cannabis, and she does not have any experience with patients using medical cannabis. Moreover, she made it clear that she does not know a lot about medical cannabis usage , its effectiveness or how it is being used. **F Marie** explained that nurses need more knowledge about the subject of medical cannabis. She defended the use of medical cannabis for terminally ill patients. However, **F Marie** is concerned with patients being judged and not disclosing that they are taking medical cannabis for their illnesses. She is also apprehensive about patients crossing state lines to obtain medical cannabis and to use it illegally in their home state. **F Marie** expressed that this positions nurses, patients and the community at risk. She is asking for nurse executives to put together policies and standards for medical cannabis to decrease the liability of nurses. **F Marie** envisions that nurses need to be advocates for patients using medical cannabis.

Dennision

Dennision is a Hispanic male nurse between the age range of 51- and 60-years old living in Cleveland, Ohio. He has a BSN degree and has been practicing nursing for 11 to 15 years in the emergency room. **Dennision** has not had any experience with patients on medical cannabis and does not practice in a state that has legalized medical cannabis. He believes that medical cannabis should be approved in his state.

Nurse Care

Nurse Care is a Haitian American female between the age range of 61 and 70years-old who has been practicing as a registered nurse in the State of Illinois. She is in candidacy for her PHD in nursing and has been practicing nursing for over 36 years as a community health nurse. **Nurse Care** does not have any experience with patients using medical cannabis and is currently practicing nursing in a state with no medical cannabis laws. However, she feels that medical cannabis should be used for certain chronic illnesses.

Angel

Angel is an Asian female between the age of 51 and 60 years old who has been an addiction nurse for 36 years in the state of Nevada. She currently has a PhD in nursing. **Angel** has experience with patients on medical cannabis and lives in a state that has legalized medical cannabis. He thinks that the patient education component is vital, and nurses must be educated about addiction. **Angel** explained, "I think the patient education component needs to really be very strong. Nurses have to dedicate time and that in itself is a huge challenge because we are inundated by so many activities that we need to do."

The study participants in Phase I provided the researcher with vivid, rich, thick descriptions that were analyzed to identify the emerging categories of *personal knowing, lacking education, advocating, stigmatizing, and regulating* with a subcategory of *lacking uniformity*. The emerging categories and subcategory are sustained by the participants' voices, which lead the researcher to a social process of the *theory of restructuring.* *Restructuring* articulates the critical factors that influence nurses' knowledge, perceptions, and attitudes of patients using medical cannabis.

Emerging Categories and Subcategory of Phase I

Constant comparison technique and line-by-line analysis were completed using Strauss and Corbin's grounded theory method. The main categories and subcategory emerged as established and led the researcher to a social process of the *theory of restructuring*. Open coding was used to compare and break down the data to develop those codes that emerged from the voices of the participants. Axial codes were linked to develop categories and subcategory that formed from similar concepts. Selective coding is, "The process of selecting the core category, systematically relating it to other categories, validating those relationships, and filling in categories that need further refinement and development" (Strauss & Corbin, 1990, p. 16). These categories and subcategory were identified when the researcher distinguished similar dimensions and characteristics in the data. This process yielded the following five categories with one subcategory: *personal knowing, lacking education, advocating, stigmatizing, and regulating* and the subcategory *of lacking uniformity***,** which led to the formulation of the *theory of restructuring.*

Personal Knowing

Personal knowing is an overlapping component of personal knowledge and a concept used to refer to a conscious process of self-knowing to understand actions and relationships (Chinn & Krammer, 2018). Carper (1978) identified four patterns of knowing (epistemology), which the discipline of nursing adopted decades ago as to how we come to know what we know (epistemology) in the discipline of nursing. These fours patterns of knowing include: (a) empirical knowing, which deals with the science of nursing, (b) esthetical knowing, which involves the art of nursing, (c) personal knowing, which concerns personal knowledge, and (d) ethical knowing, which embraces the moral component of knowledge.

According to Carper (1978), personal knowledge is a fundamental pattern of knowing in nursing. It is the most difficult to master and to teach; however, it is the pattern most essential to understanding the meaning of health in terms of individual well-being. In this study, the category of *personal knowing* was centered on the following premises: It grows out of relationships and interactions with others and out of deep reflection on experience with others; it goes beyond cognitive reasoning, depends on deep reflection that brings about an awareness of meaning and direction in one's life, brings about congruence between an individual's actions and value to bring about a wholeness that embraces the entirety of existence (Chinn & Krammer, 2015).

Personal knowing in this study was represented through the collected data from the individual participants in Phase I. Study participants described their personal experience of themselves, relatives and patients on medical cannabis for different medical conditions. They all experienced that medical cannabis works in the treatment of medical

conditions and all participants supported medical cannabis usage in patients due to their personal experience which bequeathed to them *personal knowing* on the subject of medical cannabis usage.

Organic Girl described her *personal knowing* through her nursing experience with an obstetrical patient using medical cannabis to control her seizures. She described an experience with a pregnant patient on medical cannabis for seizures. **Organic Girl** remarked**:**

> So, I had a patient who was pregnant, and she was epileptic with uncontrolled seizures and the doctor still decided to put her on medical cannabis and she was doing well. Her seizures were under control. I actually took care of her after she had the baby, so we monitor the baby for signs and symptoms of withdrawal, so the baby was doing very well.

Organic Girl's nursing experience furnished her with some *personal knowing* about medical cannabis. Through her experience, she supports medical cannabis usage for patients with seizures. Similarly, **Girl Scout** acquired her *personal knowing* as it relates to medical cannabis from her father who was diagnosed with cancer, and she described her personal experience when she echoed, "My personal experience was with my father who also was a veteran and had received it for pain control for his cancer. With that personal experience, it definitely helped him, and I was happy about that." **Girl Scout**'s personal experience allowed her to acquire *personal knowing* about medical cannabis and believed that medical cannabis should be used in patients for pain control. **Abike** further described *personal knowing* of medical cannabis when she lived in Nigeria, Africa with a tribe that cooked with cannabis. **Abike** explained:

> I know that the part of Nigeria where I come from its not legally allowed for you to grow and use it for smoking, however, how I know about a village was in my school of nursing. One of our lecturers was teaching sociology and she talk about the things that some societies accept might not be accepted in others. She gave an example about this village where one of the students came from that they use its leaves in their village as normal vegetable.

Gladys divulged how she educated herself about medical cannabis and that is how she developed her *personal knowing*. She mentioned:

> My mother died 21 years ago, and my mother was on Marinol and it was very useful for her in her end of life, so I do see a place for it and I have firsthand, I have seen it used not in the form of inhaling but in the form of Marinol tablets. I think that there is a place definitely.

Lola expressed to the researcher how she had a medical cannabis card to obtain medical cannabis in her state of Arizona. Her *personal knowing* allows her to educate other people about the subject of medical cannabis. She gave an account of her encounter with medical cannabis with her mother who died 21 years ago. **Lola** discussed her *personal knowing* of medical cannabis as follows:

> My girlfriend calls me and says we are ready to start cannabis, my mom's very open for it and I said well have you heard of Rick Simpson oil and she says yeah. I said I want you to read up on it and then when you're ready you'll call me back. So they were ready, so we took them…she got her card, we took her to the dispensary and she got a [Rick Simpson oil]. She tried it and it did calm her

symptoms down but it's expensive so that little vial it cost a lot of money so I know they can't continue with it but that was good to see.

Lola also discussed her *personal knowing* with medical cannabis when she stated:

I am a patient on medical cannabis, I do have my medical card. So I have some knowledge of it and I highly recommend it. I see extreme potential…helpfulness especially with chronic pain and the cancer patients. I strongly recommend it.

Bonnie Bear explained her *personal knowing* of cannabis when she divulged**:**

Well I am very familiar with it because I am an oncology nurse. I have been a nurse working at the bedside for four decades and I find that patients that use it when everything else fails…and it doesn't seem…even if we put them on Marinol which is supposed to be the PO [oral] form of marijuana, it does work. The issue is that you can't really smoke it in the hospital so that is a problem, but I have found that it's been very effective in patients. Really, when they get that they really don't ask for anything else.

Tene indicated, "I've seen some really good results and that helps a lot of patients." In addition, **Liz** expressed: "I have seen it actually help certain things in the oncology world. I've seen patients come in…marijuana does calm the symptoms of nausea, vomiting, pain. There have been beneficial usages from the marijuana."

Roxanna portrayed her *personal knowing* o*f* medical cannabis usage by patients because of the cancer patients she nurses. She mentioned:

When these patients use this for…because of pain, when someone has pain, because of the nerve they usually have a decrease in appetite. Decrease of appetite leads to malnourishment especially with cancer patients. Taking medical cannabis

> suppresses the vagal nerve number ten; it enhances their appetite and allows the patient to digest. It even helps them with hiccups which is a side effect of chemotherapy for cancer patients.

Oscar explained, "I had friends in the 90's who were suffering from AIDS and received Marinol for appetite and it was very effective. It increased their appetite."

Sally also has personal knowledge of medical cannabis by taking care of patients with AIDS. **Sally** voiced:

> Oh I'm all for it. I used to take care of very, very ill patients with AIDS, people with end stage cancer; we were hospice, research, and home care infusion and it stimulated their appetite. They used to be on Marinol.

Personal knowing for the individual participants in Phase I grew out of their interactions with themselves, patients and family members on medical cannabis. Their interactions brought about how they came to know of medical cannabis for themselves, family members and patients. The participants in the study reported how they gained awareness and a positive perspective of medical cannabis that can be applied to their management of care with patients using medical cannabis. Through *personal knowing,* the participants also gained knowledge of the benefits of medical cannabis.

Lacking Education

Lacking education was a category that emerged from all the voices of the study participants in Phase I. John Dewey (1897) defined education as a process of living and not a preparation for future living in that education is the fundamental method of social progress and reform (John Dewey, 1897). *Lacking education* in this study is defined as not being familiar with the pharmacokinetics, pharmacodynamics and laws related to

medical cannabis that is being used by patients in the United States as a medical regimen for certain conditions. The individual participants in Phase I articulated that they are *lacking education* on the subject of medical cannabis. *Lacking education* on medical cannabis impacts these study participants, and they are aware of the benefits of fundamental progress in educating themselves, patients, future nurses, and families on the subject of medical cannabis. According to the study participants, this *lack of education* places them and the public at great risk. The study participants also believe that their *lack of education* further influences the care and management of patients and their families using medical cannabis for their medical conditions. To clarify this category further, **Liz** stated, "Yeah I don't think there's enough teaching on it for nurses to be knowledgeable about it." Similarly, **Organic Girl** echoed:

> I don't think nurses are actually prepared yet to jump you know and take care of these patients. I mean from the point of view that if I will have to give it right to a patient, I don't think I'm you know I don't have enough knowledge on…like for instance if the patient is taking it for medical purposes and is still taking her own cause it's a possibility that a patient might be under doctor's orders for it and she might be taking her own. So, if she's overdosing or I wouldn't actually know what she does actually…like to recognize any signs or symptoms of that of overdose.

Abike also expressed:

> I don't think we are prepared at all because I'll tell you I've been a nurse for 28 years, maybe 29 and 21 of those years in the United States and I haven't had much or any education I would say on the use of medical marijuana here". I think

that is one of the biggest problems we have in nursing. To prepare us for patients using it I think we need a lot of education.

Abike continued to explain further:

> Educate the healthcare professionals about it and then bring it into the hospital. I think that's the best thing because they're going to get it anyway. If we really want to look out for the goodness of the patient, we need to bring it in cause there's a lot of research I think from what I hear that have been done that shows that it really helps a lot of children even adults. I would say the best thing to do is to educate the healthcare professionals.

Abike asked for more education as she communicated:

> I would say education! Education! Education! Very important because I think it's something…like marijuana might be the next big breakthrough in medicine but because there's a lot of push against it right now we're not really looking more into it. It might be one of the very big breakthroughs, especially for patients that have cancer.

Participant **Oscar** suggested that as nurses become educated, they need to connect the dots between knowledge and practice. He explained that there are researchers who are investigating, and they truly have the utmost responsibility to really disseminate the information well. **Oscar** reckoned:

> That is a problem. Knowledge to practice. So I think some of the things that I would…that would encourage is more connection of the knowing with the doing. As it continues to happen, not just in medical cannabis but, just about every phenomenological investigation. There's not enough awareness when we're

trying to connect it to practice or standardize it. I think that's where the problem may lay.

Oscar also discussed the need for education validation as he explained:

> Education validation of that education and then competencies in addressing how and who and what? How is it going to be controlled? What would be the implications of such? What types of patient populations should best benefit from this? How can nurses be more educated and aware.

Sally expressed how nurses need education in order to educate patients. She stated:

> Oh yeah, I think we have a lot of teaching to do, especially since the emphasis seems to be on heroine and opioid overdose. It seems to be like Puerto Ricans and Blacks have been dying from this from the 50s, 60s, and 70s and all of a sudden now the White people are dying from it…oh my god we have an epidemic! No shit! I think that they need to know the difference between medical marijuana and how this is helpful versus heroine that is not helpful, that is opioid based and all that stuff.

Melissa Modelo emphasized that nurses need to teach patients based on evidence-based practice. She also explained:

> I think both. We have to start by teaching each other and once we have that under our belt and we're all on the same page then of course we can start teaching our patients because we want to teach them on evidence base. We want them to know the real thing not just well we suspect that it's better because of this. No! I want to see the evidence there as well. Nurses feel very strong being educated on medical cannabis because they want to be able to educate their patients.

Angel spoke about the need for patient education. She articulated:

> I think the patient education component needs to really be very strong. Nurses have to dedicate time and that in itself is a huge challenge because we are inundated by so many activities that we need to do. For patients who are putting on potentially addictive medications we need to really educate them on and then teaching them the warning signs and all that stuff.

Oscar exclaimed:

> Well I can't stress enough the fact that patients need to be educated. They are the ones…it's about patient preferences. It's about their families and their communities. I think the subjective component of the patient experience needs to be readily evaluated with medical cannabis. I don't think this will fit every patient situation and that's where the objectivism comes in…from the very prudent healthcare professional. I think the answer lies within that …that interpersonal perspective independent practitioner, and the person that's receiving the message, the person that's going to receive the care, and those that will be providing the care. I can't stress enough that it has to be done with much clarity. I would say eliminating risk not decreasing risk. As much as we can we need to eliminate the risk so that we don't have the problems.

Many individual study participants in Phase I expressed that they would like to have webinars and conferences on the subject of medical cannabis. **Oscar** also conversed about the nurse's personal responsibilities to educate themselves about medical cannabis. He stated:

> I think all of us in healthcare need to really go over the literature and attend as much professional conferences and forums. Participating in the forums, because I do think there is tremendous hope in this therapy, so we need to hear what it's all about and how to best carry it out as prudent healthcare professionals.

The individual study participants in Phase 1 also articulated the need to educate future nursing students on medical cannabis. **Tene** is a nurse educator in the state of Florida with a specialty in pediatric nursing , and she enunciated the need to educate nursing students on medical cannabis. **Tene** declared:

> I think as an educator what we do…it's in the title…education is the biggest part of what we do and it's been a battle and statewide, countrywide to get this treatment to patients so I don't see it as changes to the role just additional responsibility that we have to make sure we educate our students and that the patients we interact with as nurses about both the positive benefits and any side effects that may occur but the biggest thing is to get accurate information out to the public into our students. So that if we give accurate information to our students, they can pass it even further along.

F Marie also declared: "With that we need to turn around and make sure everyone is educated and understand how it works without putting that patient, or other patients, or an entire community at risk. That's where I think nursing needs to go." **Girl Scout** explained, "My knowledge is that medical cannabis is used for several different reasons: pain control, control of seizures. That would be the extent of my knowledge right now."

Abike added:

> Actually, I don't know much about it other than what I hear in the news that some patients use it and it helps them to calm, it helps with some of their pain. Other than that, I do not know much about it. I have no patients that use it and we haven't used it in any hospital that I worked it.

AJ exclaimed, "Alright so I know that it is used in some states in the United States. I do not know what medical condition they are used for."

Dennison declared:

> We need education, we need experts on medical cannabis. We need to be thinking outside of the state of Ohio, because here we do not have medical cannabis. We need to find out how other states monitor it, support it, how do they cope. We need to learn from expert leaders.

Nurse Care explained, "Nurses need to be trained and educated on cannabis. The nurses need to be trained to change their values and beliefs. We have been educated for so many years that cannabis is unlawful."

Lacking education on the subject of medical cannabis emerged from the individual study participants in Phase 1. The participants identified that nurses, patients, families, and future-nursing students and the community at large were *lacking education.* The participants identified their *lack of education* regarding the subject of medical cannabis was due to the federal Schedule 1 status of medical cannabis. Many of the participants were not aware of the organizations that provided webinars and seminars on medical cannabis. The participants all identified positive benefits to medical cannabis usage in patients. For instance, **Sally**, **Melissa Modelo, Angel,** and **Oscar** said that their lack of knowledge affects patient education; the education of future nurses and places the

public at risk. Furthermore, **Organic Girl**, **Liz, Abike, Edith,** and **AJ** all expressed that they do not have enough knowledge to care for patients using medical cannabis. All participants in Phase I of this study ask for more evidence-based education on medical cannabis to fill this gap of *lack of education*.

Advocating

The researcher named this category approving; however, the focus group recommended changing the name of the category to *advocating* after hearing some of the voices of the individual study participants. *Advocating* became the category that emerged from the voices of the individual participants in Phase 1 of this study. The word *advocating* can be a verb and a noun, which comes from the Latin word advocare, which means to "add" a "voice." Sharma (1997) defined *advocacy* as, "action aimed at changing the policies, positions or programs of any type of institution" (p. 4). The study participants interviewed all believe patients will benefit from using medical cannabis for their chronic illnesses. In this study, *advocating* was defined as an opportunity for nurses to verbalize support of patients using cannabis by using positive language, listening, and addressing issues of medical cannabis. Participant **F Marie** expressed, "Right, so we need to be *advocates*. That's our number one role is being a nursing advocate. That's where we need to start."

Tene conveyed, "I feel like it could be a real benefit for a lot of patients. It's been proven that it provides relief from a lot of negative symptoms for patients." **Roxanna** stated, "If they don't approve it, the patients are going to take it anyway. They're dying out there. They're going to take it anyway. Pain is no joke and when you have cancer pain nothing touches that."

Bonnie Bear explained:

> I support it 100%" trying to repeal the bill. I support it 100%. Anything that takes the patient out of pain or takes away their nausea or make them feel better especially since the majority of our patients are dying. We're an oncology floor. We're the only educational oncology floor but also our patients come back to die and that's a problem that they can't smoke it in the hospital.

Alicia expressed, "For medical purpose, absolutely honor that right to do it." Likewise, **Girl Scout** conveyed, "Sure, Sure I am in favor of it." Echoing **Girl Scout's** statement, **Connie** expressed, "I think it's an option, positive option, if handled appropriately." **Melissa Modelo** voiced, "As a nurse I feel that I would rather see my patients being prescribed something that's natural as opposed to giving them opioids like we've been doing for so many years, "Similarly, **Gladys** emitted, "I feel comfortable with the use of cannabis for medical reasons." **Sally** expressed, "Oh I am all for it." She also articulated, "You have to be compassionate, but I don't think a lot of people think like me." **Jordie** explained, "Well I think it's an effective tool to help them increase their quality of life. I don't see anything wrong with it. If it can help control pain and save your eyesight what is the issue"? **Dennision** declared, "I can speak for my colleagues. My colleagues will be supporting medical cannabis, it will be seen as a positive step of recovery or healing. We will be 100% supportive of it." **Nurse Care** also declared, "I think it's a great thing if it is needed, they should use it."

These individual study participants' voices in Phase 1 *advocated* for the use of medical cannabis for patients with cancer pain and chronic illnesses. Study participants further expressed being positive of patients using medical cannabis and supported the

administering of medical cannabis in a hospital setting. The participants used words such as support, benefit, and honor as it relates to the use of medical cannabis, which supports the category *advocating.* **Bonnie Bear** and **Dennision** have declared supporting medical cannabis 100% for patient usage. The study participants also believe that medical cannabis would improve quality of life of the patients.

Stigmatizing

Stigmatizing was also a category that emerged from the individual participants in Phase 1 of this study. "*Stigma* is both a social process perpetuated by non –marginalized groups to achieve goals of exclusion and conformity, and a psychological process that marginalized groups must navigate and contend with" (Ahern et al., 2007 p.189). When the study participants were asked about their social concerns regarding patients using medical cannabis, they voiced concerns classified as *stigmatizing.* In this study, *stigmatizing* is defined by the study participants' usage of terms such as judging and labeling. The category of *stigmatizing* in this study demonstrates how the patients using medical cannabis are at risk to be judged and labeled by nurses themselves, the public as well as caregivers, family and friends. The study participants were concerned of the patients being judged by nurses, the public, caregivers, family members, and friends. Accordingly, **Organic Girl** explained:

> Right, so one of them might be the fact that they might actually be judged by friends or you know far relatives or who knows even close relatives who are not aware of the benefits of it, so they might be judged on that. To the point that you know it can have a psychological impact on them depending how they're being treated by you know, or if they're in school their peers you know so.

Jordie described how nurses could be judgmental about patients using medical cannabis. She echoed:

> So I think I have a…maybe I'm too optimistic. I think maybe…okay how do I put this…I think the people you may have an issue with who just happen to be nurses are the nurses who tend to be judgmental. They're the nurses who when a patient comes into the ER and they're in pain will judge them and say oh they're pain seekers. They will judge different ethnicities differently. I think there may some cultural implications where judgments are rendered, and I think it will be in the people who are…like the Tea Party people who don't want anybody to be gay, don't want anybody to you know who…I don't know. I don't want to be judgmental of them. I try to live my life not being judgmental.

Oscar also articulated the category of *stigmatizing* when he shared:

> Well I think the *stigma* behind the psycho-social component of marijuana is something that needs to be considered. You know, and I always explain that, and I've had this conversation about medical cannabis with folks in the old days who were first prescribed morphine. All the *stigma* behind morphine you know you're going to become addicted, you're going to be a person that's going to be hooked to a drug without really looking at the therapeutic advantages of it for the situation, for the duration, for the time, for the responsibilities of healthcare professionals in monitoring you know both the initiation of therapy and the termination of therapy. I think when you have explicit, judicious, and conscientious healthcare providers who are really in charge of patient care one of their responsibilities is to address obviously the potential problems associated

with the therapy and then also the responsibility for withdrawing the therapy when it's necessary. I don't think this is something that should be forever however, depends on the outcomes that are established, the implications, and obviously the limitations. I think this would-be case by case and again this need to be thoroughly investigated.

F Marie described how people taking medical cannabis might be afraid to disclose it because of fear of being judged. She explained:

> Well I do see social concerns with it. For example, one of the areas that I see that sometimes is irritating is that there's a lot of judgment that goes along with it. There are some social concerns around that because one of the areas when you have this level of judgment and particularly, I do a lot of work with the elderly so particularly, if we have older people who are using it what they may or may not do is they may not disclose that they're using it. Which is a huge concern because they're concerned about the judgment piece. That I find…we find that to be true with people who take supplements. They don't always disclose that they're taking a particular herb or particular thing because of judgment issues. Well the judgment issues are huge around cannabis and with that I really am concerned that as a society if we have this level of judgment that's out there and I believe some of that judgment is in healthcare as well so therefore people won't be honest and that's truly concerning. Some of the individual participants verbalized their concerns of patients being called names for using medical cannabis for their medical illness.

Furthermore, **Tene** affirmed that she worries about the public perception of the patients taking medical cannabis. She communicated:

> There's a certain *stigma* that goes along with that. I mean everyone has heard something the, "*Weed Head*" or something of that nature. So, I think that the biggest social concern would be any *stigma* that people using it might be associated with. Many of the nurses have concerns of the patient on medical cannabis being judged and given labels such as "*Pot Head", "Weed Head", Substance Abuser, and Drug Seeker.*

Roxanna explicated:

> The *stigmas* attached to being called a '*Pot Head*' per say or a '*Drug Seeker*' when you know what if you take a Tylenol guess what you're taking drugs. If you participate in any alcohol beverage, you're taking drugs. Even the use of social media to the point of addiction is a drug because it's a stimulant. The light is a stimulant and that's what people are not understanding when they're using Facebook and everything. That's what they're getting their high from, the light.

Sally articulated, "Social concerns may be social isolation, maybe people judging them, their families judging them." Moreover, **Abike** explained, "I think *stigma*, the *stigma* that is attached to it. There are some patients that have never had anything to do with marijuana. They see it as a street drug. They see it as something that is bad." **Gladys** indicated, "Again, it's going to depend on… because there are a lot of nurses even now that a patient comes in with pain and depending… you know how they label them "oh he's a frequent flyer."

Girl Scout asserted, "I think more that there might be *stigma* attached to the patient with being able to receive it." **Alicia** explained, "I think some people regardless of knowing about medical cannabis will still have biases against it." **Lola** declared, "I think they are ready, but they need education because there's still that *stigma* about it from the 60s." **Dennision** explained, "Could be some *stigma* with medical cannabis patients. It could be used as recreational. The Ohio people will be concerned about this."

Stigmatizing was a category that emerged from the individual study participants in Phase I. **Girl Scout** connected the *stigmatizing* of patients using medical cannabis with a *lack of education* by the public. To support the category of *stigmatizing,* the study participants commented on different labels given to patients by other nurses and the public such as, "*Weed Head," "Pot Head," "Substance Abuser*," and "*Drug Seeker."* The participants used the word "judging" to describe how patients using medical cannabis might be afraid to disclose their use of medicinal cannabis. Specifically, **Roxanna** and **Sally** believe that the *stigmatizing* of patients could lead to isolation. Moreover, **Jordie** and **Organic Girl** were very concerned on how patients will be judged by close friends, relatives, and the nurses for using medical cannabis.

Regulating

Regulating as a category emerged from the data of the individual study participants in Phase 1 of this research. The definition of *regulation* is, "Sustained and focused control exercised by a public agency over activities that are valued by the community (Sezlnick,1985, p.363). *Regulating* in this study is defined as making adjustments to the current rules and trends that exist in medical cannabis laws in the United States and provide seamless *regulations* from state to state. The individual study

participants wanted more *regulations* placed on medical cannabis in terms of how it is currently dispensed, tougher *regulations* to forbid children from being able to ingest it, more uniform *regulation* from state to state *s*o that it is used only for medical purposes.

Connie expressed:

> It's an industry like many others. Here's a couple of things. One of the tipoff is that if you want to manage it, you want to provide oversight of it from beginning to end. What you hope doesn't happen is that it doesn't get into the pharmaceutical industry where it's all a matter of a commodity. As opposed to something that is truly available by medical necessity. There's that issue. Then there's the issue of lack of oversight. So you have the issue of no … oversight, also the concern of it becoming a commodity where for those it was intended for but don't get access because of the commercialism of it.

Liz lives in the state of Colorado and felt compelled to articulate:

> I just think that if the road leads us down to cannabis being truly part of the medical field and being part of the medical I think that there should be more training for doctors, for nurses. A little bit more of a *regulation* on…maybe the DEA needs to step in on how they're processing, how they're harvesting, how they're providing safe marijuana. I mean are you getting some Joe Shmo [meaning anybody] figuring out how…don't know the process of marijuana. Never taken it. Don't know how to take it.

Abike verbalized, "*Regulate* it, make sure it's manufactured properly." In the same breath, **Abike** also voiced concerns related to the *regulating* of medical cannabis in her state of Texas. She uttered:

Why that would be a concern is that if it's not well *regulated* for the patient to get it from the right source the patient might go get it from a place where it's not well monitored. So, if it's listed with it and the patient goes to buy what they think is medical marijuana and they get something else like here…there's a drug here; a kid's drug here called K2 that the kids here are using and it's very dangerous. So if they list the medical marijuana with something like one of those drugs then it becomes dangerous for the patient because the patient might be going to buy what they really think is medical marijuana that would help them but then they might get the wrong thing.

Tene articulated:

Currently for instance when I look at states like California with the *regulations,* they have on their dispensaries…I do think we need *regulation* because with anything not just medical marijuana…with anything you have the potential for abuse. I don't think it should have excessive restrictions because everyone is afraid "oh they're going to abuse it" that's true with any…with narcotics, with any type of drug. I do think that the things they have in place right now have holes in them a lot of loopholes that allow people through, but I don't think it's something to get so overly excited about. It needs *regulations*, but they don't have to be so restrictive that the people who need it can't get to it.

F Marie explained the barriers of some of the current *regulations*:

When you're in this kind of place that's difficult. It's also some of the other legalities that go along with that as we talked about, it is not legal federally. So even if it's legal in a particular state most of our hospitals…particularly hospitals

but most of our hospitals receive federal funding. If you receive any level of federal funding then it makes it illegal and so here's one of the things that's crazy, patients don't understand that. Patients don't understand that if they go to a hospital that accepts Medicare funding, they're not allowed to use…so I just think the biggest barrier is that rub between interstate as well as state and federal rubs.

Gladys shared:

There needs to be…good guidelines need to be established because like any substance there's going to be…there may be abuse or over prescribing. Just like we've had problems with the opioids being over prescribed. So, I can foresee that that would happen as well but I think that there is a place for it.

Gladys also added:

I think the primary barriers are going to be the individual state laws and *regulations*. I think at the end of the day each state is left to *regulate* themselves within the boundaries of federal recommendations. So, the barriers are going to come down to the state, so the barriers then are going to be predicted by the culture of that state. Again, in the conservative states those are going to be huge barriers. I served on the Alabama Board of Advanced Practice Nursing and so we had three physician members and three nurse practitioner members. When I brought things up about what was done in other states it was like we don't care what's happening in other states. We don't care; we don't want to see the literature. They're going to *regulate* based on the people here. To some extent standards of practice are a little bit different depending on the demographics of your population. So, they do vary a little bit. So, the barriers that you're going to

have again have to do with the local culture, the local government. We were saying the old guys that are in positions of authority and power right now in law or in medical organizations those people need to die off and then the young ones that they have mentored that way we can get the fresh ones that may have more of an open perspective or be more receptive to change.

Alicia also explained *regulatory* barriers in her state of Pennsylvania. She communicated, "Well I think one *regulatory* barrier is…I think if we have approval and people are going…people are going to come here or figure out how to come here. **Oscar** was inquiring:

> How can we validate that their scope of practice fits right in with the therapeutic and implications associated with administering these protocols that are eventually going to be carried out? Who is utmost responsible? How will the inter-professional team mostly best function under the rules and regulations and guides for best practices? How are we going to make sure that everybody is most involved standing every nick and cranny of the implications for patient care?"

Tene is a pediatric nurse and is concerned about *regulating* medical cannabis for the pediatric population. She expressed concerns as she discussed the pediatric population:

> I think the biggest social concern is abuse more so with that population. When you have teens and honestly though we've seen that with any drug. If a parent has narcotics in their drug cabinet, we make a special bulletin on the television to tell them lock up your medications because we've seen with this population, which developmentally it's normal for them to have risk taking behaviors. They're more prone to abusing it. So, I think there should be a little bit more security on that

end with that population but that would be the biggest social concerns that I have with them in patients using medical cannabis?

Liz stated, "I think that it should be a lot more *regulated* with a lot more structure to it than what it is." **Dennision** elaborated even further, "We need to *regulate* the cost, availability, affordability, accessibility, how long does the patient have to travel to get it, how easy it will be to find it. It has to be accessible and affordable."

The study participants in Phase I called for *regulation* of medical cannabis on dispensing, harvesting, processing, the pediatric population, standards of practice, federal funding and implications for the administration of medical cannabis. **Abike and Liz** were concerned about how medical cannabis is dispensed. **Liz** recommends that the Drug Enforcement Agency (DEA) should oversee how it is being dispensed. Overall the participants are asking for the DEA to *regulate* cannabis. In addition, **F Marie** commented that prohibition of federal *regulation* creates barriers to the use of medical cannabis in hospitals and patients that are on federally funded health care such as Medicare. **Gladys** and **Connie** wanted to make sure that it is being *regulated* so that is used for medical necessity. **Abike** and **Tene** expressed concerns on the safety of children. The category *regulating* significantly impacts all the current barriers expressed by these study participants in Phase I of the research. Hence, these study participants are calling for a national law to *regulate* medical cannabis.

Lacking Uniformity

Lacking uniformity is a subcategory of the category *regulating*. *Lacking uniformity* in the literature is also referred to as variability and is the opposite of uniformity, which is defined by Matthew Stanley (2011) as "Uniformity is the claim that

the laws of nature are the same everywhere and everywhen in the universe that those laws do not break down or lapse anywhere in time or space" (p.537). According to these study participants in Phase I, *lacking uniformity* exists because current laws that transpire regarding medical cannabis are creating confusion for all. The study participants further explained, how medical cannabis *regulations* need to be uniformed, congruent, and the same across state lines. Hence, *lacking uniformity* in the context of this study is defined as having laws on medical cannabis that are inconsistent between state lines. **Roxanna** exclaimed: "We need a national law. The barriers are going to be, the state-by-state laws are going to be the barriers. If I live in Pennsylvania and I could take this certain amount of medical marijuana, but I work in New Jersey how will that affect my lab results"? **Roxanna** continued to mention:

> They need congruency. If they don't have a national law of how much, this is how much you can get nationally…if they don't have protocols in place the nurse will cause medication errors. The nurses will need to know the laws state by state rather than nationally. How do you even test the nurse's knowledge based on the national level like NCLEX? You can't.

Alicia explicated:

> Until we have more states, until there's a *uniformity* across the country and of course now I think with our current administration that's probably going to go backwards. Until there's some *uniformity* across the country then you are going to see people going across state lines because we certainly had people who were going to different states to get medical cannabis.

Liz declared, "I also don't agree with the fact that each state should pick and choose what they want and what they don't want. I think it should be across the board. I think it should be nationwide." **F Marie** was asked about barriers as it relates to medical cannabis usage and said "The biggest one obviously is the state line issue. That's huge one. Like I said where I live its legal to the north and it's illegal to the south." **Gladys** expounded:

> I think the primary barrier are going to be the individual state laws and *regulations*. I think at the end of the day each state is left to *regulate* themselves within the boundaries of federal recommendations. So, the barriers are going to come down to the state, so the barriers then are going to be predicted by the culture of that state.

Dennision illuminated, "I also heard going from state-to-state and transporting it can be illegal." **Tene** also verbalized:

> Many of the parents who have children on medical cannabis have to be careful where they go on vacation because some states do not have the same laws and they can get arrested. Medical cannabis laws are different in each state. I hope this will change some day.

Lacking uniformity was a subcategory that emerged from the voices of the study participants from the category of *regulation* in Phase I of the study. Primarily, **Roxanna**, **Gladys, F Marie,** and **Liz** are asking for a national law *uniformity* and congruency from state-to-state for medical cannabis. **F Marie** has declared it as the biggest barrier of medical cannabis. **Gladys** believes that without *uniformity* patients will be crossing state lines to obtain medical cannabis. **Roxanna** also identified barriers regarding current

state-to-state laws: (a) medication errors and (b) NCLEX exams, which assess nurses' knowledge on a national level in order to certify them as nurses. The subcategory *lacking uniformity* was supported by the participants' voices when they discussed the barriers of the current *regulations*.

Formulation of a Theory

The *theory of restructuring* was supported by the categories and subcategory that emerged from Phase I of the study: *personal knowing, lacking education, advocating, stigmatizing, regulating* and the subcategory of *lacking uniformity. Personal knowing* was how nurses gained knowledge of managing patients using medical cannabis. The study participants in Phase I voiced that they were not receiving enough education about medical cannabis. This *lack of education* needs *restructuring* with education on standards of practice and policies for nurses to manage patients on medical cannabis. The study participants also explained that they needed education that is evidence-base and can be used in the practice setting. Nursing education on medical cannabis can assist in educating patients, family, and the public. It will also increase *advocacy* among the nurses and the community and decrease the *stigma* surrounding patients using medical cannabis. The current *regulations* on medical cannabis also need *restructuring*. The study participants explained that medical cannabis should be dispensed by a pharmacy and that *regulation* across the United States needed to be seamless. The subcategory of *lacking uniformity* also needs *restructuring.* Every state has different laws on medical cannabis creating perplexities for nurses who travel from state to state and patients who use medical cannabis. One state may allow a certain amount of cannabis per patient and

another state allows another amount per patient. The *theory of restructuring* impacts all categories and the subcategory.

Sample Description of Focus Group: Phase II

Phase II of the research was completed after analyzing the data from the individual interviews of Phase I. Phase II consisted of a focus group of (*N*=7) participants who were registered nurses and active members of the American Cannabis Nurses Association. The sample consisted of four female and three male (*N*=7) who were registered nurses. The female and male participants were over 50 years old and were all White Caucasian. The focus group that was selected is comprised of experts in the subject of medical cannabis.

Demographic Characteristics of Focus Group: Phase II

The focus group study participants in Phase II consisted of four females and three males practicing nursing in different states within the United States, including Florida, Illinois, New Mexico, Massachusetts, Tennessee, Virginia, New Jersey, and Pennsylvania. One focus group participant had a dual state licensure. Fifty-seven percent (57%) of the focus group sample was between the ages of 51 and 60 years old, and 43% were between the ages of 61 and 70 years old. In Phase II 100% of the study participants were of the White Caucasian. The focus group study participants in Phase II had a variety of different nursing backgrounds. Twenty-nine (29%) practiced in psychiatric, 43% were nurse educators, 14% were working in nursing administration, and 14% in utilization management. The highest area of degree completion in the focus group sample was in nursing education where: 29% had completed an associate degree in nursing (ASN); however, one of the participants with an ASN also completed a PhD in

education. The majority of the focus group participants (57%) completed a master's degree in nursing, 29% completed an ASN, and 14% completed a PhD in nursing. The number of years the focus group participants had been practicing nursing were as follows: 29% practiced for 16 to 20 years, 14% practiced for 21 to 25 years, 14% practiced for 26 to 30 years, and 43% practiced for 31 to 35 years. Of the focus group study participants, 71% lived in states that approved medical cannabis laws and (29%) lived in states with no medical cannabis laws. This demographic is in Table 2.

Table 2

Demographics Characteristics of Phase II (Focus Group Participants) N=7

Variable	Characteristics	Number	Percentage
Age Range	*1) 18-25*	0	0
	2) 26-30	0	0
	3) 31-40	0	0
	4) 41-50	0	0
	5) 51-60	4	57%
	6) 61-70	3	43%
Ethnic Group	*1) American Indian or Alaska Native*	0	0
	2) Native Hawaiian or other Pacific Islander	0	0
	3) Black or African America	0	0
	4) Hispanic or Latino	0	0
	5) Asian	0	0
	6) White	7	100%
	7) Two or more races	0	0

	8) Other	0	0
Nursing Practice	*1) Medical Surgical Specialty*	0	0
	2) Emergency Room	0	0
	3) Obstetrics		
	4) Pediatrics	0	0
	5) Operating Room	0	0
	6) Intensive Care	0	0
	7) Psychiatric	2	29%
	8)Nurse Educator	3	43%
	9) Nursing Administration	1	14%
	10)Public/Community health	0	0
	11) Clinic/outpatient	0	0
	12) Long-term care	0	0
	13) School of nursing	0	0
	14) Other Utilization Manager	1	14%
Highest Degree Completed	*1) Associate Degree-Nursing*	2	29%
	2) Bachelor's Degree –Nursing	0	0%
	3) Master's Degree-Nursing	4	57%
	4) PhD-Nursing	1	14%
	5) DNP	0	0
Years of Practice	*1) 1-5years*	0	0
	2) 6-10years	0	0
	3) 11-15years	0	0
	4) 16-20years	0	0
	5) 21-25years	2	29%
	6) 26-30 years	1	14%
	7) 31-35 years	1	14%
	8) 36 or more years	3	43%
Do you practice nursing in a state legalizing medical cannabis?	*Yes*	5	71%
	No	2	29%

Mary Jane is a White Caucasian female who was currently in the State of Virginia working as a nurse educator. She has a Master of Science in Nursing (MSN). **Mary Jane** is between the age range of 61to 70 years old and has been practicing nursing for 36 or more years. She has a master's degree in nursing and does not practice in a state that has legalized medical cannabis. **Mary Jane** comments on being an *advocate* for veterans using medical cannabis. She communicated:

> That's my final comment too. It is probably the top issue. Besides the opioid epidemic of which cannabis is a clear safe alternative, there's no excuse not to use it but then the suicides. Suicides among veterans, among others but especially among veterans. It's just totally inhumane. They have been guinea pigs over centuries whether it's LSD and other psychotropic medication. They're begging to use cannabis and to be told they're not able to use a plant, it's criminal. With *advocacy*, that's my thing. Patient *advocacy* is our strongest thing so ethically we cannot keep putting our head in the sand.

Sage is a White Caucasian female between the age range of 51 and 60 years old and has been a nurse between 26-30 years. She is currently employed as a utilization manager. **Sage** has a master's degree in nursing and is currently practicing nursing in the State of Tennessee, which has not legalized medical cannabis. She has concerns about people in her state who moved out to find medical cannabis in another state. **Sage** remarked, "I live in a state where it's not legal so needless to say I'm wishing state laws, federal laws…obviously to me federal laws really make the most sense because I believe that state laws do make it confusing."

Mary Jane interjected:

> One other big issue for people with regards to states, obviously it's transporting across state lines during vacations but even more prominent are families having to move to other states just, so they can get the medicine for their children or for family members. That to me is just an atrocity that needs to stop.

Dr. Lynn is a White Caucasian female over 65 years old with 36 years plus of experience in nursing. She has a PhD in nursing and is currently employed as a nurse educator in the State of Illinois, where medical cannabis is legalized. **Dr. Lynn** commented on how people need to stand up for medical cannabis usage in patients. She expressed: "I think it's just… that's the answer…well let's see what's going to happen. Let's see because nobody is doing anything. I think it really takes people who are willing to stand up and fight this battle."

Santa is a Caucasian male between the age range of 61-70 years old with 36 plus years of experience in nursing. He has an associate degree in nursing. **Santa** currently lives in New Jersey and Pennsylvania where there is legalization of medical cannabis in both states.

Seacoast is a Caucasian male that lives in the state of Florida where medical cannabis has been legalized at the state level. He is between the age range of 61-70 years old with an associate degree in nursing and a PhD in Education. **Seacoast** has been practicing psychiatric nursing for 31 to 35 years. He discussed his opinion on prohibition of medical cannabis. **Seacoast** mentioned:

> I totally agree with you on that. Prohibition was a creation of Harry Anglier for the purpose of misinforming us, but I don't see an organization who are…keeping

prohibition going and by doing that you're doing the schedule, so putting cannabis on the schedule is prohibition.

Brother Maynard is a White Caucasian male , between the age range of 51and 60 years old. He has a master's degree in nursing and has been practicing between 21 and 25 years. **Brother Maynard** practices nursing in the state of New Mexico, which has legalized medical cannabis. He explained the current laws of New Mexico regarding medical cannabis when he narrated:

> It's nice to avert the law here in New Mexico. I've gotten it right here, I wanted it so. Anybody who can write prescriptions, even like veterinarians or dentists can refer to the program because of **Brother Maynard** in New Mexico. I'm working for the veterinarians to step up and say I want this horse in the program. It hasn't happened yet, but it will happen eventually.

Eileen Galway is a White Caucasian female between the age range of 51 and 60 years old with a master's degree in nursing. She has been a nurse between 21 to 25 years and was currently employed as a nurse administrator. **Eileen Galway** practices in Massachusetts, a state that has legalized medical cannabis at the state level. She commented that medical cannabis laws are a political game when she expressed:

> Well I have a final comment. I just want to tell you I'm very proud to be on a panel and being question. Yolanda thank you very much for this. I think this is very important and I'm very proud to be associated with all of you. I think this is one of our biggest public health issues. It is the biggest public health issue right now that patients can't get this medicine everywhere, that they can't transport, that they can't use it to alleviate suffering and that it's a political game right now and

that's really not the arena that it should be in. I look forward to continuing the fight, the big fight."

Confirmation of Categories and Subcategory of (Phase II)

Phase II of the research included seven participants who were members of the American Cannabis Nurses Association. They were all English speaking, licensed registered nurses practicing in the United States. The participants were from different states within the United States, such as Virginia, New Jersey, Florida, New Mexico, Tennessee, Massachusetts, and Illinois. The focus group participants' interview took place in a private conference room at the American Cannabis Institute in Charlottesville, Virginia. The focus group participants in Phase II served to verify the categories of *personal knowing, lacking education, advocating, stigmatizing, regulating* and the subcategory *lacking uniformity*. A social process, the *theory of restructuring* emerged from the analysis of the data of the individual study participants in Phase I.

The researcher articulated the categories, subcategory, and theory that emerged from individual study participants in Phase 1 of the study to the focus group participants in Phase II. The focus group gave insights into how the categories, subcategory, and theory corresponded to the critical factors that influence nurses' knowledge, perceptions, and attitudes of patient usage of medical cannabis in the United States. The focus group study participants' interview was conducted via Skype, telephone, and face-to-face with all the participants present at the same time. The participants interjected opinions at varying times throughout the interview process. Many of the study participants have written books or have completed research studies on the topic of medical cannabis with

great knowledge regarding medical cannabis. Furthermore, they were all members of the American Cannabis Nurses Association.

Personal Knowing

The focus group study participants in Phase II confirmed the category of *personal knowing*. The researcher read some of the transcripts regarding the individual study participants' in Phase I and their personal knowledge of medical cannabis. The focus group acknowledged the stories of the individual participants as personal knowledge and expressed that nursing is the ideal profession to take care of patients using medical cannabis since nursing is one of the most trusted profession. **Santa** interjected, "Nurses acquire personal knowledge from their day-to-day experiences, which allows them to view the patients holistically." **Eileen** affirmed**,** "They think it's a good thing their patients are using it. They want to help their patients." **Dr. Lynn** explained, how she gained personal knowledge of pregnant women using cannabis in Jamaica when she mentioned, "From the research I did in Jamaica with crack cocaine users who used cannabis to relinquish their crack cocaine habits."

Personal knowing was a category that emerged from the study participants in Phase I. **Dr. Lynn** had come to know about medical cannabis from her own personal experiences with pregnant women from Jamaica which she said was a positive experience and gained knowledge of the benefits of medical cannabis usage by these patients. **Santa** identified that nurses come to know by every day experiences and **Eileen** verified that the personal stories of the individual participants gave the nurses knowledge of the benefits of medical cannabis and what type of patients are using medical cannabis.

Lacking Education

The focus group study participants in Phase II confirmed and strongly agreed with the category of *lacking education*. The focus group recognized and acknowledged that the nurses are indeed *lacking education* in the subject of medical cannabis. **Seacoast** shared his hospital experience with a group of nurses. He stated:

> I went to a local hospital this week to speak to some of the nurses and I brought along some educational material. To be honest, they really didn't know anything about it [medical cannabis]. I think there needs to be in-services and things like that to…just like doctors do down here in Florida. You have to get a two-hour certification anyway. I think they wouldn't be prepared if they were to do it today, not as a system or an organization.

Brother Maynard described his experience with advanced practice nurses and why they are *lacking education* on medical cannabis. He shared:

> I can say from an advanced practice nurse point of view that the fear that goes along with the *lack* of knowledge is huge. I get a lot of advanced practice nurses who even though they are able to refer patients to our medical cannabis program here, they are not willing to do that because one, they'll claim that well I don't have the knowledge base, I don't know enough about it. A big part of it does come down to fear and people work hard to get their licenses, they're worried about the legal repercussions, and the *stigma* that surrounds cannabis still is so pervasive that we're just starting to really hack away at that *stigma*. It's happening but we've got a way to work at it still.

Eileen is recommending the nurses also educate themselves on the subject of medical cannabis. She commented:

> I do think that there is some…despite the fact that there is a lot of information out there about cannabis…that the nurse has to really take the initiative in many states to find it. I know…I got involved in 2012 in a legal state and I had to really…that's how I found all of my colleagues that are speaking on the phone today. I had to go out there and find it and during that time I also had to support myself, so I think that nurses that are in a setting where they're working 40 hours a week or 40 plus hours a week, they're used to having CEU opportunities available to them by their employer and that's how they learn once they're done with their formal education. I think there is some truth to the matter…to their experience of getting information because they have to be self-motivated and they're used to working for employers that give them a good orientation. Even if you're in the hospital and you change, from general medical surgical to ICU you're going to get a nice robust 6-week orientation to ICU at least, so I think that in a way I can understand part of what they're saying.

Dr. Lynn attributed *lack of education* among nurses because of misinformation coming from several sources. **Dr. Lynn** explained:

> I think that cannabis…there is a huge range of attitude response and use of cannabis in the nursing community. I've addressed several nursing groups about this. It's usually in small settings and the inevitable questions come up. What about becoming addicted to cannabis and of course then I have to explain that it's not addictive. There're so many misconceptions that not surprisingly have just

come from our prevailing literature on this not to mention the attorney general. I think we have a long way to go in *educating* nurses about this substance and I think it reflects just the way medicine is viewed in our country that necessarily has to come from the pharmaceutical industry as opposed to things we can grow in our backyard. I think nurses are…I agree with the other people on this call that nurses are very well suited to be the strong clinicians in favor of this and just by the nature of their treatment and concern about the patient first, but I think we have a long way to go.

Mary Jane also commented, discussing several reasons why there is *lack of education* in nursing on medical cannabis.

Specifically, on the *education* piece I'd say similar. There…as we know…I think most of us know the medical cannabis institute. Most nurses don't know and that is a key thing. The place of work does not provide any information on it. I think another problem with *education* is most nurses probably still know marijuana and just flipping over to cannabis there's more information about it but it's still rare to see it in journals. It's just not listed, and I think the ANA had a resolution back in 2003, its first one and part of it encouraged and supported nurses to learn about evidence-based use of cannabis. This last one I don't think was as strong on pushing the education. Between fighting the *stigma* of it at the place of work, no one pushing the education, clearly still not in nursing schools, the practicing nurses have to look to continuing education and it is very limited.

Brother Maynard divulged on the *lack of education* in nursing schools' curriculum on the subject of medical cannabis in the following statement:

The big part of this needs to start with our *educational* system. Nurses go through training in anatomy and physiology, we learn pathophysiology, we learn pharmacology, but we learn almost nothing about the endocannabinoid system or anything at all and the endocannabinoid system, we've got 30 or three decades of good solid research about this. We know a lot about it. It *regulates* almost every biological process in the body and for us to ignore it when we're going through hypothetical training is ludicrous. The same is true of the medical profession. Like, 90% of medical schools still don't even bring up the endocannabinoid system. We've got to start at that basic level when we're training new nurses. They've got to be able to understand this. This is not new, this is old science now, and this is 30 years old. We need to be making sure that nurses coming out of school are trained in this and having these new nurses coming out that's going to help them be able to *educate* the nurses who are already out there who don't have access to this information as easily.

Santa described his encounter with nursing schools in New Jersey. He mentioned:

It certainly is a good idea, Board notification. I see the problem as larger than the nurse and physician education. It really is here we have a new science as one of the other speakers mentioned that is a new system in the human body that interacts with the other systems and there's not a lot of *education* about it. It should be taught in anatomy and physiology classes and sciences classes and biology classes and textbooks need to be adjusted to include the endo-cannabinoid system. Here we have a whole new field of bioscience that really is not getting its due. A lot of it I think has to do with *stigma* and formal repression. Right now, a

university in New Jersey contacted me, they want to do a major in medical cannabis. They wanted to provide a major course of study in medical cannabis, but they couldn't call it that. They had to call it bio botanicals to get it to approval levels. We are working on that and we hope to have a university in New Jersey provide a major course of study in bio botanicals in the fall of 2018.

Eileen expressed because of this *lack of education* in nursing schools, patient *advocates* are providing *education* to patient in dispensaries. She explained:

What you're saying I absolutely agree with you 100%. That's absolutely where they should be getting their education because that's where they're being educated." Several of the focus group made suggestions on how nurse could acquire more education on the subject of medical cannabis.

Accordingly, **Dr. Lynn** suggested:

I agree with you completely. They shouldn't have to do that. There should be a central source, maybe an educational program that nurses can tap into. I mean we learn so much when we go online today. The old physician's desk reference is now…not only is that accessible but even clinical decision making is accessible, and we need to have a presence of cannabis research and practice, clinical practice research as well as basic research of all the nurses. It would be just prohibitive. I mean you couldn't do it, physicians can't do in it, nobody can look at all the research over time. That would be a wonderful opportunity Yolanda for you when you complete your doctorate to really create that kind of opportunity for nurses.

Many of the focus group participants commented on the *lack of education* of the patients. **Dr. Lynn** described how she educates the public in Chicago on medical cannabis. She

voiced that people are interested in knowing more about medical cannabis. Even in my own building in Chicago, people are interested in it. She explained:

> I gave a presentation for the residence and most people come away from those meetings saying wow we have really been "duped" for over half a century about this and this should be part of our pharmacopeia, a huge part of it. I think approaching it as wow! You have been misled and here's the real truth and we have the evidence to support it. I don't think…I think it almost has to be a general societal approach before we can expect practicing nurses to come forward as the champions. It's too hard for them and they have too much at stake, so if we can get the message out there in articles in the Atlantic Monthly and the New York Times and the New Yorker who I write to all the time saying that they should do this. I think it's really imperative.

Lacking education is a category that was verified by the participants. The focus group study participant **Eileen** agreed 100% with the category of *lacking education*. **Santa** is working with the universities in New Jersey to approve a course for nursing students, and **Dr. Lynn** suggested a nurse's reference book on medical cannabis to increase nurses' knowledge. **Mary Jane** wants to make sure that we continue to push education for nurses regarding medical cannabis.

Advocating

The original category was approving however; the focus group study participants in Phase II recommended changing it to *advocating*. The focus group study participants approved *advocating* for the patients' rights after they heard some of the voices of the individual participants in Phase I under the category of *advocating. Advocating by* the

individual participants for patients using medical cannabis was considered a holistic approach of the nursing profession by the focus group.

Sage expressed:

> I think that nurses are an ideal clinician to be working with patients with cannabis. Even conventional nurses have a more holistic approach. They tend to have patient *advocacy* concerns and priorities, so it makes them an ideal clinician to be involved with cannabis and patients.

Dr. Lynn expressed:

> I think that the most important function a nurse has beyond anything else is *advocacy*. We are the patients' *advocates*. Although we certainly have to stress learning about the endocannabinoid system, we have to learn about the cannabis therapeutics, but we really have to emphasize in our nursing programs that this is a matter of *advocacy* and *advocacy* not only applies to *advocating* for specific patients but *advocating* for society. As someone has mentioned earlier, I can't remember who, it's a powerful argument, we have to *advocate* for the health of our society. I think *advocacy* is the most important thing and yet it's almost the most neglected. Nursing students for example, their performance is not measured on the degree to which they were willing to *advocate*, successfully *advocates* for their patients, or for their communities or for their nation in this case. If we put this…nurses in the framework of *advocacy* I think they'll get it but then we have to give them the script to give them the right things to say to make it happen. I love these suggestions of writing articles, getting this on TV. That's the end. Nurses just have to know that they're going to have to be really strong. As

educators, for myself as a nursing educator to give them the tools they need to be strong to promote this.

Santa pointed out:

> It's not surprising that there's such approval among the nurses that you interviewed. Medical cannabis has an approval rating of about 90% last time studies have been done about it. We really, I think won the hearts and minds of the American people in terms of support for medical cannabis. It's certainly recognized as something that should be a patient's right as the American Nurses Association says. A patient should have the right to medical cannabis and it's an issue that really should be decided in the privacy of the doctor, patient relationship in the best interest of the patient and there shouldn't be any type of blanket prohibition against medical cannabis. It really should be just worked out between…in the best interest of the patient.

Mary Jane explained, "With a*dvocacy*, that's my thing. Patient *advocacy* is our strongest thing so ethically we cannot keep putting our head in the sand." *Advocating* is a category that was verified by the focus group study participants in Phase II. **Sage** feels that nurses' priority is *advocating* for patients. **Santa** clarified that 90% of Americans *advocate* for patients to use medical cannabis. **Mary Jane** will continue to *advocate* for these patients, and **Dr. Lynn** is pushing for nursing students to *advocate* for medical cannabis for patients and the community. *Advocacy* for the focus group was considered as an ethical responsibility.

Stigmatizing

Stigmatizing is a category that was also supported by the focus group study participants in Phase II. **Mary Jane** described:

> I think that speaks a lot to the *stigma* and the *stigma* that affects the hospitals. The place where nurses practice literally is very threatening to them. They're afraid to talk about it and this is…different places different institutions but even in the states where it's legal they still are afraid to talk to it. I do know that in one state literally, physicians if they are patients themselves, they have to give up their license. They are afraid to talk to it as far as will there be repercussions. In some states. I've heard from nurses who've actually had to sign a paper saying they will not talk to patients about cannabis because in that state it has been legalized for medical use, but the hospitals are saying I don't want you talking about it. The *stigma* is a huge thing.

Santa agreed on the category of *stigmatizing* and indicated:

> There is a *stigma* that the federal government has been demonizing cannabis for decades. There is a great *stigma* that needs to be overcome among many people. I think the overall sense of marijuana…cannabis being used as medicine has a great deal of support although the actual working of the endocannabinoid system and the scientific evidence that supports this overall feeling of support generally needs to be promulgated and explained more to individuals. It really is a science, a bioscience, a science of the endocannabinoid system. It's a science in its adolescence now. It's only about 25 years old and really, I think it's dated since

the discovery of the receptors for the cannabinoids. Basically, that's my feeling about it.

Brother Maynard uttered, "The *stigma* that surrounds cannabis still is so pervasive that we're just starting to really hack away at that *stigma*. It's happening but we've got a way to work at it still." *Stigmatizing* was a category that **Santa** attributes to the lack of evidence base research. **Brother Maynard** knows that the United States has a long road when it comes to *stigmatizing* medical cannabis patients.

The focus group explained that as a society we have a long way to go when it comes to *Stigma* on patients using medical cannabis. **Mary Jane** believes that *stigma* affected not only the patient using medical cannabis but the nurses who are *advocating* for medical cannabis usage by patients. Nurses who *advocate* for patients using medical cannabis may experience stereotyping and judgment from other nurses who believe that medical cannabis should be used as a regimen for chronic illnesses.

Regulating

Regulating is another category that the emerged from the individual study participants in Phase II of the research. The focus group study participants in Phase II verified this category and explained issues related to the current *regulations* in the United States across state lines and *regulations* in their own states. **Brother Maynard** remarked:

> Part of Schedule One is there's no accepted medical use in the United States. Twenty-nine states have said there's medical use. Each of the three criteria, no accepted medical use, not safe or highly addictive, every one of them are false

when it comes to cannabis. It nowhere belongs there and as a plant it does not belong there, so it doesn't even belong in the scheduling system.

Brother Maynard continued to explain:

The prohibition of cannabis is causing so much harm to society and you know again this is a place for nurses to really stand up for the benefit of patients that ethically, morally we have to protect our patients and the prohibition is highly dangerous to them all.

Santa discussed how the current *regulation* is affecting his state of New Jersey.

The Supreme Court has ruled that states have the right to determine the practice of medicine within each state. That's why doctors and nurses that are licensed by the various states so in a way it's understandable that different states have different laws and different *regulations* to enact those laws. Of course, the federal government is the main problem as far as transportation across state lines but within each state…the problem here in New Jersey is over *regulated* programs. The treatment centers that sell the marijuana here are more strictly *regulated* than full service pharmacies that have much more dangerous drugs in them. It also results in a very overpriced product for patients here in New Jersey. We have the most expensive medical marijuana in the country according to our Department of Health. Of course, no insurance company covers any of this medical marijuana, so this is a real hardship for patients. Only about 12,000 patients have actually gotten access to medical marijuana in New Jersey, a state with 9 million.

Santa also explained the politics surrounding the *regulating* of medical cannabis. He disclosed:

> If I can just make one last point about that. In New Jersey the Department of Health appointed an expert panel to evaluate petitions to expand the medicinal marijuana program here and our organization submitted a petition to add opioid use disorder as a qualifying condition for marijuana therapy. This expert panel gave initial approval to the petition to allow marijuana to be used for opioid use disorders, so we're still awaiting final approval. Unfortunately, it may turn out to be a political decision, but we hope that there's enough science…we hope that it's…the decision is based on science rather than politics and that New Jersey will approve opioid use disorder as a qualifying condition for marijuana therapy.

In addition, **Brother Maynard** conveyed**:**

> I can say that from what you just said right there about institutions banning their providers from even discussing medical cannabis with patients they are violating first amendment rights, that goes right back to Conner vs. Walters. The Supreme Court said you cannot bar somebody from talking to their patients about medical cannabis so, I would love to see somebody who has actually been put in that situation to stand up and say you know what I'm going to sue the … out of you …Take them on. It's like somebody needs to stand up to this. That's the biggest part of the problem is that people aren't willing to stand up. We have a handful of nurses here who they are willing to stand up and speak truth to authorities but that happens so rarely and that's a big part of the problem. People are not willing to actually stand up and actually be heard and speak the truth.

Eileen agrees with **Brother Maynard** and describes *regulation* issue in her state:

> I agree with everything you're saying, especially **Brother Maynard** and I wanted to just say that in my state it's legal both recreational…well for statue to discuss that with their patients. They're only allowed to write recommendations for quantity. The only people that are really speaking they're probably two nurses in the state and I'm one of them.

The *regulation* of medical cannabis in the United States is state specific. The prohibition that **Brother Maynard** discussed is impacting on the *regulation* process of every state. Certain states have conservative laws and some states have liberal laws on medical cannabis. He blames the fluctuation of *regulation* between states on the lack of federal control of medical cannabis laws. **Brother Maynard** and **Eileen** agreed that nurses are not being allowed to exercise their first amendment rights on teaching patients about medical cannabis. They both believe that nurses need to speak up regarding their rights.

Lacking Uniformity

Lacking uniformity is a subcategory of *regulating.* The focus group study participants in Phase II commented on the current issues related to the subcategory of *lacking uniformity.* **Sage** agreed with **Mary Jane** and mentioned, "I live in state where it's not legal so needless to say I'm wishing state laws, federal laws…obviously to me federal laws really make the most sense because I believe that state laws do make it confusing."

Mary Jane also explained:

> One other big issue for people with regards to states, obviously it's transporting across state lines during vacations but even more prominent are families having to move to other states just, so they can get the medicine for their children or for family members. That to me is just an atrocity that needs to stop.

Brother Maynard remarked:

> Until it's changed federally it is a problem because even if the nurse understands the law in the state the patient is then prohibited from…well not prohibited but try taking it across state lines with their medicine if it's a seizure disorder or whatever it may be and then all of sudden you're breaking federal law by bringing your medicine across or can't get something filled if you're on vacation. It's confusing to everyone.

Sage and **Brother Maynard** described *lacking uniformity* in state-to-state laws on medical cannabis as confusing. According to **Mary Jane** it is simply atrocious. The focus group study participants in Phase II identified that *restructuring* needs to occur in the education of nurses and in the *regulations* of medical cannabis laws, in order for nurses to gain knowledge and decrease the confusion as it relates to current laws differing from one state to another. *Lacking uniformity* makes it difficult for nurses and patients to become educated on the medical cannabis laws of each state. **Mary Jane** and **Brother Maynard** are concerned about families going across state lines to find medical cannabis or breaking federal laws in the other states. Every state has their own laws on medical cannabis. In one state something may be legal but, in another state, the same thing may be illegal. This causes confusion for patients using medical cannabis and have to travel to other state.

Restatement of the Research Questions

Five main categories emerged from addressing the research questions*: personal knowing, lacking education, advocating, stigmatizing, regulating and the subcategory of lacking uniformity.* The categories and subcategory transpired and developed the *theory of restructuring.* There were two research questions that guided the study:

1. What are the critical factors that influence nurses' knowledge, perceptions, and attitudes of medical cannabis usage by a patient?
2. What do you think are the regulatory barriers concerning patients using medical cannabis?

Formulation of a Theory

The social process of *restructuring* emerged as a theory after meticulous analysis of the data collected from the individual study participants in Phase I and focus group study participants in Phase II. *Restructuring* was supported by five categories: *personal knowing, lacking education, advocating, stigmatizing, and regulating* and the subcategory of *lacking uniformity* that emerged from the individual study participants then verified by the focus group study participants. *Restructuring* of medical cannabis in the United States will influence nurses' knowledge and attitude of patients who use medical cannabis and impact on the current regulatory barriers.

The participants' *personal knowing* influenced their personal knowledge of medical cannabis and nurses' attitudes and perceptions of medical cannabis usage by patients and made them aware of *regulatory* barriers of patients' usage of medical cannabis. *Lacking education* was expressed by many of the study participants in both phases of the study. All the study participants supported *advocating* for patients using

medical cannabis. The lack of adequate education was linked to *stigmatizing* of patients using medical cannabis for their chronic illnesses. *Regulating* the current laws of medical cannabis in the United States was identified as a direct element that influences nurses' knowledge, attitude and perception of patients using medical cannabis. All participants in both phases of the study stated that current *regulation* was confusing and *lacking uniformity* from state-to-state.

The core conceptual category, *theory of restructuring,* can be equated to Gestalt theory. Gestalt theory defines *restructuring* as a type of event in which the problem solver comes to see the problem situation in a new way (Ohlsson, 1984). Gestaltist's perspective embraces *restructuring* as an essential process of thinking (Ohlsson, 1984). According to Gestalt theory, *restructuring* also reveals the fundamental structure of the problem (Glatzederetal et. al. 2010 p.168). In this study, the *theory of restructuring* is the basic social process that guides all the categories and subcategory and will influence nurses' knowledge, perception and attitude of patients using medical cannabis in the United States. It is also the foundation of the *regulatory* barriers affecting patient's usage of medical cannabis.

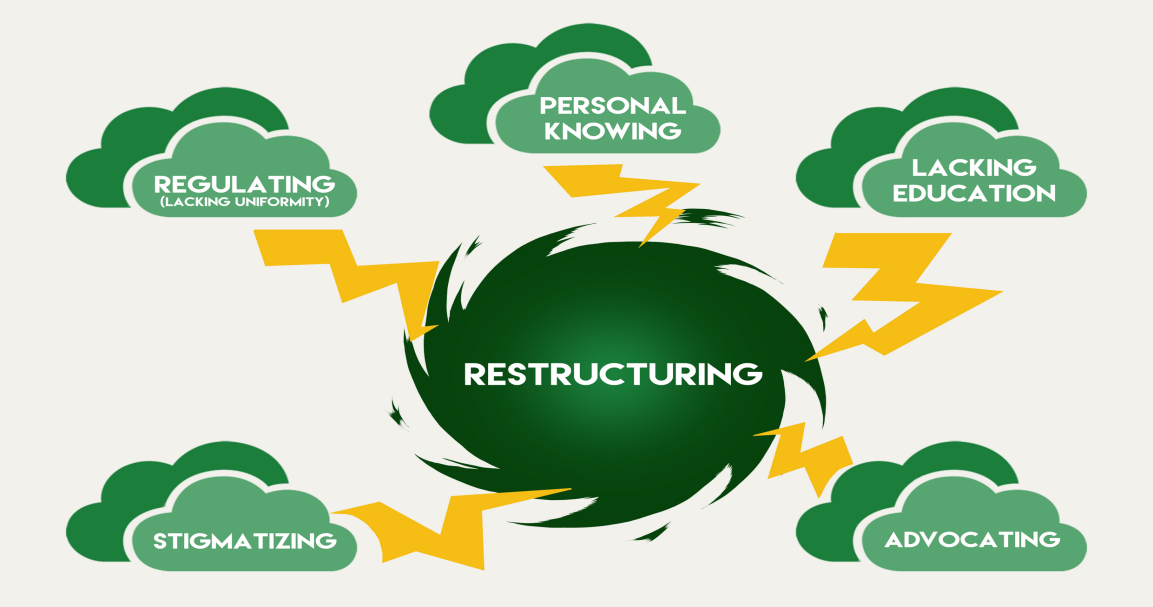

Figure 3. Conceptual model of restructuring (Nitti, 2018).

The model describes how *restructuring* influences nurses' knowledge, perception and attitude toward patients' usage of medical cannabis in the United States. This influence was guided by *personal knowing, lacking education, advocating, stigmatizing* and *regulating* of medical cannabis usage by patients. The category of *regulating* was supported by the subcategory *lacking uniformity*, which emerged from the participant's voices. The *theory of restructuring* emerged from the data as the social process influencing nurses' knowledge, perceptions, and attitudes and the issues related to regulatory barriers. A circle was used to show the continuum and the vicious cycle of *restructuring*. It also demonstrates how the circle is in constant motion between each category and subcategory. The lightning represented by the jagged edges displays the obstruction within the path from the categories and the subcategory to the *Theory of Restructuring*. The categories and subcategory were in a cloud that appears foggy because they need *restructuring* in order to become clear. All the categories and the subcategory are stationed around the circle of *restructuring* with equal force and speed to

demonstrate the equal relevance of each category. However, all the categories end up at the core category of *restructuring.* *Restructuring* remained in the middle to represent it as the core category that impacted all the other categories and subcategory that emerged from the voices of the participants.

Chapter Summary

Chapter Four discussed the findings for this grounded theory study. The categories that emerged from the data analysis explained the critical factors that influence nurses' knowledge, perceptions and attitudes of patient usage of medical cannabis. Twenty individual interviews were conducted via Skype, telephone, or face to face and one focus group interview with seven participants. In Phase I, the categories that emerged from the voices of the individual study participants: *personal knowing, lacking education, advocating, stigmatizing, and regulating* with one subcategory under *regulating* called *lacking uniformity.* Collectively, these categories and subcategory formulated the basic social process of *restructuring.* In Phase II, the focus group study participants confirmed the categories, subcategory, and theory that emerged from the data in Phase I of the study. As a result, the *theory of restructuring* emerged in Phase I and then Phase II as the social process of critical factors that influenced nurses' knowledge, perception, and attitude of medical cannabis usage by patients. Chapter Five provides the discussion and conclusion of the study. It will include exploration of the meaning of the study, interpretative analysis of the findings, detailed explication of connection to the theory, significance to nursing, implications for nursing education, nursing practice, nursing research, health and public policy, strengths and limitations, recommendations for future study and the conclusions.

CHAPTER FIVE

DISCUSSION AND CONCLUSION OF THE INQUIRY

The purpose of this qualitative study was to explore the critical factors influencing nurse's knowledge, perceptions and attitudes toward patients using medical cannabis. The aim of this study was to contribute knowledge of nurses' management of patients using medical cannabis. The study was guided by Strauss and Corbin's approach to grounded theory and was divided into two phases. Phase I of the study consisted of 20 participants who were interviewed either face-to-face, telephone, or via Skype. Phase II of the study comprised of one interview with seven focus group participants. The focus group interview was conducted face-to-face, telephone and via Skype. Data analysis procedures articulated by Strauss and Corbin's grounded theory process yielded five major categories: *personal knowing, lacking education, advocating, stigmatizing and regulating. Regulating* was supported by the subcategory of *Lacking uniformity*.

The researcher inductively derived the social process of the *theory of restructuring*, which generated interpretation, application and explanation on how nurses' knowledge, perceptions and attitudes are influenced toward patients using medical cannabis and the regulatory barriers. Chapter Five discloses the categories, subcategory, and social process while concurrently integrating them to show their relationship to current relevant literature to reinforce and demonstrate scholarship. Chapter Five presents in detail the explication and interpretation of the theory that was formed, the significance of the study, the significance of the study to nursing, implications of the study for nursing education, practice, research, health and public policy, strengths and limitations of the study as well as recommendations for future study.

Exploration of the Meaning of the Study

According to existing literature, the earliest writing of patients using medical cannabis dates back to 2737 BC. A Chinese Emperor, Shen Neng, prescribed cannabis as medicine. Centuries later, cannabis is still used as a treatment for a variety of illnesses, facilitating its usage that spread from ancient Asia throughout the world (Earlywine, 2005). Medical cannabis was added to the United States pharmacopeia from 1930-1937 for the treatment of seizures, muscle pain, nausea, insomnia, asthma, and depression. Medical cannabis was removed from the pharmacopeia in 1940 and the Controlled Substance Act was passed in 1970, classifying cannabis as a Schedule I drug. Even so, the popularity of medical cannabis has increased worldwide. Twenty-nine states in the U.S. have legalized medical cannabis for certain medical conditions although medical cannabis remain illegal according to the federal government. Every state in the U.S. has been allowed to pass different state laws, creating confusion for nurses and the general public across state lines. In order for nurses to educate patients using medical cannabis, they need to be aware of their state's regulation and restrictions

This study used a grounded theory method designed by Strauss and Corbin in which the qualitative data revealed critical factors that influence nurses' knowledge, perceptions, and attitudes of medical cannabis usage by patients. The five categories that emerged included: *personal knowing, lacking education, advocating, stigmatizing,* and *regulating. Regulating* was supported by the subcategory of *lacking uniformity.* The categories and subcategory gave rise to the formulation of the *theory of restructuring*, which can potentially serve as a guide to action and practice for nurses who care for patients using medical cannabis.

The category of *personal knowing* of medical cannabis was derived from the study participants' personal experiences, which influenced their knowledge, perceptions, and attitudes of patients using medical cannabis in a positive way. The study revealed that nurses were *lacking education* on the subject of medical cannabis due to current prohibition of medical cannabis in the United States. This lack impacts their ability to provide teaching to the individual patient, the community and the public at large about medical cannabis. The study participants acknowledged that in order to improve their *lack of knowledge* of medical cannabis their needs to be seminars and webinars addressing medical cannabis. The current literature acknowledges that nurses are *lacking education* on medical cannabis. Education on medical cannabis will ensure safe and effective nursing care by nurses managing patients using medical cannabis. The study participants explained that they are *advocating* for patients using medical cannabis and that *advocating* for patients was part of their responsibility concerning the scope and standards of nursing practice.

Stigmatization of patients using medical cannabis was a concern of the participants. They believed that *stigmatization* by friends, family members or nurses of patients using medical cannabis could affect their self-esteem and impact on how patients seek the treatment of medical cannabis. According to these study participants, the current *regulation* of medical cannabis is dysfunctional and oscillates between each state, leading them to conclude that the federal government should *regulate* medical cannabis. The category of *regulating* was supported by the subcategory *lacking uniformity*. This *lack of uniformity* from state-to-state within the U.S. has also created many controversial issues that remain unresolved. This has significantly impacted patients using medical cannabis

for their medical conditions, which has created a further dilemma for nurses caring for patients using medical cannabis in the United States. The *theory of restructuring* was the theory that was formulated over the course of the study provides a theoretical perspective applicable to the concerns and problems of patients using medical cannabis.

Studies have been conducted to evaluate the knowledge of pharmacy students and physicians as it relates to medical cannabis and patient usage however, a dearth of research exist in examining the nurses' knowledge, perceptions, and attitudes of medical cannabis usage by patients in the United States. The study exclusively interviewed nurses, giving the study an in in-depth exploration of the topic from their point of view. The study also showed how a social group (nurses) shared a social interpretation that has not been well described in other studies. This calls for a scientific revolution of how nurses gain knowledge, perceptions, and attitudes concerning medical cannabis. Such a movement would create a paradigm shift, changing how nurses receive knowledge, develop perceptions, and attitudes about managing patients using medical cannabis.

According to Kuhn (1996), a paradigm shift is caused by the discovery of anomalies, creating a crisis that subsequently leads to a revolution. Scientific revolution occurs in any paradigm because of anomalies. New paradigms then ask novel questions of old data, move beyond the mere "puzzle-solving activity" of the previous paradigm to change the rules of the game and "mapping" the new direction of the research (Kuhn, 1996). In critiquing the literature, medical cannabis has caused a paradigm shift in the nursing profession regarding the inquiry of usage by patients. The use of medical cannabis is going through what Kuhn called a paradigm shift, which leads to a scientific revolution due to anomalies and regulatory crises within the United States. Medical

cannabis currently is state *regulated* allowing each state to implement their own laws. The distribution of medical cannabis is occurring through dispensing mills instead of a pharmacy. Patients are managing their own medical care by experimenting with different strains of medical cannabis in order to find the strain that alleviates their symptoms. The normal science that once existed with medical cannabis in the United States is being questioned by registered nurses across the United States. The old paradigm is being rejected, which allows for the emergence of a new paradigm to be accepted by the nursing community in the United States as it relates to medical cannabis and patient usage of medical cannabis.

Herbert Blumer, a student of George Herbert Mead, coined the term of symbolic interactionism in 1937 in an article titled, Man & Society. The term, "symbolic interactionism" has come into use as a label for a relatively distinctive approach to the study of human group life and human conduct (Blumer, 1969). Symbolic interactionism has three premises: (a) Human beings act toward things on the basis of the meaning that the things have for them, including physical objects, other human beings, institutions, government and individual encounters of daily life, (b) meaning is derived from social interactions that an individual has with others, and (c) meanings are modified through an interpretive process by the person in dealing with the things they encounter.

The participants in this study acquired knowledge and meanings of patient's usage of medical cannabis by their personal experiences with themselves, family members and patients. These nurses' knowledge, perceptions, and attitudes of patients using medical cannabis stems from that meaning. Their knowledge, perceptions, and attitudes of medical cannabis usage by patients is positive. The nurses in this study

believed that medical cannabis should be used for certain medical conditions while requiring medical cannabis laws to be uniformed in every state.

Charles Sanders Peirce who is known as the "Father of Pragmatism" coined pragmatism in 1878. From the pragmatist perspective, "truth cannot be arrived at through deductive reasoning from prior theory but rather must be developed inductively with constant empirical verification" (Munhall, 2007, p. 242). Pragmatists consider the social structure of involved individuals (Wuest, 2012). Strauss was influenced by pragmatism and delineated the underlying assumptions where change is a feature of social life that needs to be accounted for through attention to social interactions and processes (Kenny & Fourie, 2015). The nurse's human experiences with patients on medical cannabis has impacted on how much knowledge patients received about medical cannabis. The perspective of pragmatism embodies the *theory of restructuring.*

Interpretive Analysis of the Findings

The data analysis in this study yielded five main categories: *personal knowing, lacking education, advocating, stigmatizing,* and *regulating***.** The subcategory of *regulating* is *lacking uniformity.* The final theoretical analysis revealed the *theory of restructuring* as the most comprehensive process influencing the critical factors of nurses' knowledge, perceptions, and attitudes of patients' usage of medical cannabis. A dearth of information exists in research on nurses' knowledge, perceptions, and attitudes of patient usage of medical cannabis. The literature review conducted for this grounded theory study showed further gaps or biases in existing nursing knowledge, thus providing a rationale and warrant for a study of this caliber. The researcher has concluded that nurses had some knowledge of medical cannabis usage because of their personal

experiences with themselves, family members, and patients that they encountered during their nursing career. However, the study participants attributed their knowledge deficit to their *lack of education* about Schedule I status and lack of research on patients using medical cannabis. The nurses' *lack of education* prevented them from educating themselves, patients, family members and future nurses. The participants of this study voiced that webinars and seminars that were evidence based would be helpful in order to gain more knowledge on the subject of medical cannabis and patients' usage. Study participants explained that the continuing education they wanted to receive would have to be relevant in order to use it in practice. This kind of knowledge would be beneficial in order to educate the patients, the public, and future nurses.

All the study participants had a positive perception and attitude of patients using medical cannabis and *advocated* for the use of medical cannabis in the United States however, they were worried about their patients being *stigmatized*. The participants explained that the public and fellow nurses might call patients names such as, "*Pot Head.*" The study participants also voiced that patients may be hesitant to reveal that they are taking medical cannabis for fear of being judged and socially isolated. The focus group study participants asserted that there may be judging among the nursing staff that support medical cannabis usage ultimately preventing them from teaching patients about medical cannabis. The study participants also discussed issues of the current *regulation* regarding medical cannabis. They explained that the federal government should regulate medical cannabis. Requesting a "national law" that would be more uniformed across the United States to avoid further confusion of medical cannabis laws from state-to-state. The subsequent paragraphs will present the interpretation of the findings of this study

with supportive dialogue and literature.

Personal Knowing

This category of *personal knowing* emerged from the study participants of Phase I. The individual participants explained how they came to know of medical cannabis through experiences with medical cannabis for themselves, family members or patients who used medical cannabis for their chronic illnesses. The participants in Phase II acknowledged the stories provided from Phase I of how the individual participants came to know of medical cannabis through their own personal experiences. **Mary Jane** a participant in the Phase II focus group, reportedly achieved *personal knowing* of medical cannabis when she nursed veterans who used cannabis for post-traumatic stress disorder. She affirmed, "Suicide among veterans, among others but especially among veterans. They're begging to use cannabis and to be told they're not able to use a plant it's criminal." Carper (1978) identified *personal knowing* more than a decade ago as a fundamental pattern of knowing as a discovery of self and other attained through reflections, synthesis of perceptions, and connecting with what is known a process essential to nursing. The components of *personal knowing* include: experiential knowing, interpersonal knowing, and intuitive knowing. Experiential knowing involves the nurse becoming aware through participation of being in the world, while interpersonal knowing requires the nurse to increase awareness through intense interactions or being with the patient. Intuitive knowing entails the notion that nurses immediately know something without necessarily using a process of reasoning.

Moch (1990) increased emphasis on *personal knowing* within the research and practice domains of nursing. *Personal knowing* is conceptually developed through

definition, components and attributes. Through definition, Carper (1978) identified *personal knowing* as a fundamental process of knowing; however, evolution of the concept for research and practice is essential in order for the patterns of knowing to be considered fundamental to nursing. The components of *personal knowing i*nclude (a) experiential knowing, which is becoming aware through participants or being in the world. Experiential knowing was depicted in the experience of study participant, **Girl Scout. Girl Scout** who expounded, "My first exposure to it came years ago at Veterans Administration hospital where I would administer cannabis for … medical cannabis for pain control for a veteran that was at end of life with cancer; various types of cancer." (b) Interpersonal knowing is defined in the article as increased awareness through intense interaction or being with the other. (c) Intuitive knowing is immediate knowing something without use of reason. The article further presented four attributes of *personal knowing:* (a) it is viewed only in the context of wholeness; (b) it includes a process of encountering; (c) it involves a passion, commitment and integrity; and (d) it entails a shift in connectedness/transcendence. Moch acknowledged in the article that *personal knowing* among nursing aids in the transmission of knowledge. The individual participants in Phase I of this study explained how they came to know of medical cannabis through experience with themselves, family members or patients. Their *personal knowing* increased their knowledge of medical cannabis.

Personal knowledge is the most controversial pattern of knowing in nursing practice since it is difficult to master and teach. However, personal knowledge is most essential and effective in understanding the meaning of individual well-being in terms of health (Luker, Austin, Caress, & Hallett, 2008). According to Carper (1978), like

scientific knowledge, personal knowledge can also be practically acquired and gained knowledge forms part of the nurse's services to patients. The importance of personal knowledge is that the knowledge is gained voluntarily without major effort in referring to documented concepts and procedures that may be difficult to understand (Bonis,2009). Nurses therefore can use their own logical judgments to effectively handle varied client health problems. The interview with individual study participant **Jordie** explained how her *personal knowing* of medical cannabis came from some street fair in Chicago. **Jordie** explicated:

> Ann Arbor is University of Michigan…very liberal. They actually all go out on the street one-day a week every year and smoke it [meaning cannabis], which drives everybody crazy. All the people were on bicycles and they were stark naked going to Michigan Avenue.

Mantzorou and Mastrogiannas (2011) completed a descriptive study that analyzing Carper's four patterns of knowing. The aim of the study was to review the literature about "knowing the patient for professional practice," according to the Carper's patterns of knowing. The significance and description of the meaning of the four patterns of knowing were discussed with reference to skilled clinical judgement, involvement, patient advocacy, and clinical learning about larger populations. The processes of knowing the patient appears to be an integration of the four patterns that Carper identified. Knowing the patient was found important for clinical judgment, personal involvement, patient advocacy, and clinical learning. Educators should review the current teaching strategies to develop cognitive, intuitive, experiential, and personal knowledge in order to enhance the ability of nurses to integrate the different patterns of

knowing the person. Carper identified *personal knowing* as a pattern that overlaps and creates the whole of knowing. Carper asserted that *personal knowing* influences nursing knowledge. The participants of the study reported positive outcomes with themselves, patients and family members who used medical cannabis or a synthetic form of medical cannabis for their medical conditions. These study participants *personal knowing* influenced their knowledge, perceptions and attitudes of patients using medical cannabis as a regimen for their chronic illnesses. The interview with **Jordie** demonstrated how *personal knowing* is related to the theoretical structure of nursing and how nurses come to know whereby nursing practice and nursing research simultaneously evolve.

Yang illustrated the process of knowledge development and in his 2010 editorial the relationship between knowledge and practice using Carper's fundamental patterns of knowing. The editorial suggested that if nurses use their theoretical knowledge and practical experiences, they would develop their professional knowledge and competence. This editorial suggested that *personal knowing* is considered to be a fundamental and essential pattern of knowing in comprehending the meaning of essential patterns of knowing in appreciating the meaning of health for individual well-being leading to practical knowledge. **F Marie** also affirmed how she came to know about medical cannabis when she mentioned:

> I have taken care of patients who were…who had been on it [medical cannabis] and then got admitted to the hospital and at the hospital we didn't use it. I guess my biggest thing is I know it's being used outside of the hospital.

F Marie had obtained *personal knowing* of medical cannabis because of a patient that got admitted to the hospital on medical cannabis, but she was unable to medicate the

patient with medical cannabis in the hospital. **Gladys** had experience with the synthetic form of medical cannabis. She stated, "We have been using it [medical cannabis] actually for many years with cancer patients in the form of Marinol to stimulate appetite, but I know that it's currently being used for more aggressive pain control." **Liz** also obtained *personal knowing* when she worked in California as a nurse then moved to Colorado. She explained:

> I know when I was in California and not to cross the line there…in California you hear on occasion a patient says oh yeah! You can get marijuana medical part because all I have to do is say that I suffer from really bad migraines and really bad back pain and the doctor will write me a prescription for marijuana.

Liz continued to explain:

> Being that I worked in the emergency department I saw that time and time again. More than one time. When I came to Colorado It wasn't as prominent because it was legal so, access to it was pretty much just walk down the street walk in the dispensary and buy it.

Dennison described how he obtained *personal knowing* of recreational marijuana through patients in the emergency room. He shared, "I work in the ER and I have patients who admitted that they take recreational marijuana to alleviate pain. Some of them say it helps them sleep." **Alicia** has *personal knowing* of medical cannabis through a conference she attended in her state of Pennsylvania. She described, "We've had information sessions presented by our state nurses association related to medical cannabis, largely informing people what they need to know and actually informing the nurse practitioner prescribing community about what needs to happen."

Some study participants had no personal experience of medical cannabis. **AJ** had been a nurse for 1 to 5 years, and she declared, "I can't be biased; I have not had any patient experience, especially working in pediatrics." Nonetheless she expressed to the researcher that she came to know about medical cannabis by hearing about what is happening across the United States through the media. **Nurse Care** who works in the community health setting also expounded that she does not have any personal experience of medical cannabis by stating, "I don't have any patient that use medical cannabis." However, she openly divulged to the researcher that she came to know about medical cannabis because of all the controversy surrounding its usage.

The literature by Carper (1978), Moch (1990), Yang (2010), and Mantzorous and Mastrogiannas (2011) all recognized *personal knowing* as a way nurses gain knowledge, perceptions and attitudes about a particular subject. The participants in the current study stated that they gained knowledge through their personal experiences with themselves, patients, or family members who used medical cannabis for their chronic illnesses, which assisted in their positive perceptions and attitudes of patients using medical cannabis. Two of the study participants, **AJ** and **Nurse Care,** had no personal experience of medical cannabis due to their work settings; however, they both came to know about its usage via the media and all the occurrences surrounding this phenomenon, which led them to wholeheartedly support the use of medical cannabis by patients.

Lacking Education

Lacking education was one of the major categories that emerged from the data of the study participants in Phase I and supported by the study participants in Phase II. Analysis of the data showed how the study participants verbalized the *lack of education*

regarding the subject of medical cannabis for nurses, patients, nursing students and the community at large. Clinical nurses play a vital role in the delivery of patient education. Limited research on nurses and their medical cannabis knowledge was found in the literature review. The literature reviewed captured nurses' knowledge on medical cannabis only when evaluating the knowledge of other health care professionals. The literature identifies that nurses need more knowledge regarding the care of patients on medical cannabis. Continuing education units (CEU) opportunities for medical cannabis education exist but are scarce. Due to the inadequacy of training and educational opportunities, nurses in this current study verbalized *lacking education* on the subject of medical cannabis. The concept of *lacking education* was evident when **Gladys** stated, "Acute care nurse practitioners need to be educated. It's going to take time. So there's going to have to be big educational effort." **Jordie** also discussed how our nursing students are also *lacking education* about medical cannabis and the different levels of education in nursing that will impact how nurses will respond to learning about medical cannabis. **Jordie** further articulated:

> I think we need to educate them while they're in school and then the people on the floor. We have a couple of variables here Yolanda. We have LPN's, we have ASN's and then the BSN's. I think the variables that could impact how nurses respond is the level of education that they've received.

The following study demonstrates the lack of knowledge of medical cannabis of among 72 RNs and LPNs in Washington State. Carlini, Garrett, and Gregory (2015) conducted this quantitative study after recreational cannabis had been was legalized in the state. The aim for this study was to examine the knowledge, belief, clinical practice, and

training needs of Advanced Registered Nurse Practitioners (ARNPs), Nurse Practitioners (NPs), Medical Doctors (MDs), Physician Assistants (PA's), Doctor of Osteopathic Medicine (DO's), Out Patients Department (OP's) and pharmacists. A total of 472 anonymous participants responded to the survey and reported being health care providers. The researcher utilized a 47-item questionnaire with a 10-point slider scale for each question. The participants also had an opportunity to write in "other" source. To indicate opinions and beliefs, the participants were asked if they agreed with the following statements: (a) "clinicians should be able to prescribe cannabis as medical therapy without fear of legal action," (b) "the Food and Drug Administration (FDA) should reclassify cannabis so it is no longer a schedule 1 drug," (c) "cannabis can be addictive," (d) "using MC can result in serious physical health risks, even when used as directed," (e) "using MC can result in serious mental health risks, even when used as directed," (f) "there are significant physical health benefits to using medical cannabis when used as recommended by the health care professional," (g) "there are significant mental health benefits to using MC when used as recommended by a health care professional," (h) "MC helps people who have chronic debilitating medical conditions," (i) "continue education credits about MC should be available to clinicians," (j) "training about MC should be available, incorporated into under graduate/graduate training," (k) "clinicians should have formal training about MC prior to recommending," and (l) was from the list of 12 options (check all that apply), with an option to write in "other." The participants used a 5-point Likert scale with 5 indicating *strongly agree* to 0 *strongly disagree* to complete the answers to the statements.

Recruitment was completed via professional organizations and social media. One

hundred and thirty-two of the participants were ARNPs, 73 were NPs, 53 were MDs, and 21 participants were PAs and 3 OPs. Respondents who were not legally allowed to write medical cannabis prescriptions were pharmacists (n = 118) and RNs and LPNs (n = 72). The participants were between the ages of 30 to 60 years (69.1%), with women (68.7%) with specialty in family medicine (54%) and internal medicine (14%). More than half (57%) were legally allowed to write prescriptions for medical cannabis according to Washington state laws. Descriptive statistics were used to summarize results of the participants. The results were divided into three categories of health care providers: (a) eligible to write medical cannabis authorization, (b) eligible to write medical cannabis and reported never doing so, and (c) not eligible to write a medical cannabis authorization.

The results concluded that knowledge on the endocannabis system and FDA approval of cannabinoid medications was low (3.6 and 4.1, with 10 = high knowledge). Healthcare providers with authorization to prescribe medical cannabis had a higher knowledge about the endocannabis system (t = 64.9, p <.001). Knowledge about the FDA approval of cannabinoid medications was highest among the pharmacists. The majority of the participants (77%-96%) agreed that clinicians should receive training on medical cannabis through continued education graduate or undergraduate curricula. Attitudes, beliefs, and opinions were also assessed among all the participants. About three-quarters of the respondents approved federal rescheduling of cannabis. Most of the participants (59.3%) agreed that medical cannabis has physical health benefits, The most endorsed risk was that cannabis could be addictive (61.6%) followed by that fact that medical cannabis can cause serious mental risks, even when recommended by a

healthcare professional (45.2%). The limitations of the study were that the survey was anonymous, and a participant could respond to the survey more than once. The results of the study concluded that Washington state-based healthcare providers generally do consider it important to obtain knowledge on medical cannabis and demonstrate strong support for education opportunity. These findings are consistent with the voices of the participants in this current study regarding the category of *lacking education*. **Melissa Modelo** explained her limited knowledge regarding medical cannabis, which was reflected in the following statement:

> Well I know that it is medically prescribed for patients with neurological disorders, musculoskeletal disorders, and some other things as well. For cancer patients for example like when they're on chemo or radiation and they're not feeling well and they're vomiting all the time, it subsides it. That's my knowledge. I don't know if there is anything other than that I should be aware of.

The next study also examined the knowledge of 14 registered nurses and found that nurses are *lacking education* on medical cannabis. Brooks et al. (2017) conducted a descriptive quantitative research using a Venue Day Time (VDT) methodology that allowed the researchers to find hard-to-reach or specific populations. The study examined healthcare providers' knowledge of cannabis laws and health implications, professional practice behaviors, and attitudes about training. The study surveyed 114 Colorado providers (physicians, nurses, and medical assistants) who cared for children, pregnant women, breastfeeding women, and adolescents. The tool used in this study was a Venue Day Time survey. The survey evaluated the knowledge of state cannabis laws, risk perceptions, counseling practices, and continuing education training needs on

medical cannabis.

The researchers designed a sampling frame including counties in Colorado with the highest and lowest number of residents: the highest number of Hispanics and African American residents, high numbers of adolescents under age 21, and high representation of urban and rural populations. They selected counties for data collection at random. Eight counties were selected including four counties in urban and suburban locations. Once the counties had been selected, the staff identified medical clinic serving children, adolescents, pregnant women, and breastfeeding women by obtaining lists of pediatrics and obstetricians/gynecology practices through the state health department. The researchers called each clinic by phone to explain the VDT to the clinic staff and the purpose of the VDT survey in order to recruit provider survey participants. The survey participants received a self-administered questionnaire on an electronic tablet into a research electronic data capture system. The study concluded that few providers felt completely knowledgeable about cannabis health risks and lacked confidence talking to patients about cannabis health issues. The study recommended education for the providers and included how to talk to patients about using cannabis, the danger signs of second-hand smoke exposure, underage usage, safe storage, and overconsumption of edibles. These study findings are consistent with the results of this current study wherein the voices of the study participants also demonstrated how they were *lacking education.* **Liz** describes the in-service she received in the hospital saying,"Well they had the in-service of how it's now legal…just so that you know…however it's not allowed in our hospital…it's not allowed in our premises."

Ramezanli and Jahromi (2015) conducted a quantitative study using a descriptive

-cross sectional method on 122 nurses from Jordan University Medical Sciences in an attempt to investigate barriers and facilitators to patient education from the nurses' point of view. The study used a questionnaire to collect data, which included 10 questions on barriers and 10 questions on facilitators of patient education. The researcher used descriptive statistics, including frequency, means, and standard deviation to analyze the data. The results led the researcher to conclude that nurses had insufficient knowledge; patients had physical and emotional unpreparedness and lack of proper environment for education. The most important facilitators were: enhancement of instructing nurses, knowledge and skills, motivating nurses and a step-by-step approach to patient education. To echo some of what this study was calling for, participant **Oscar** in the current study explained the importance of educating patients and the community on medical cannabis when he remarked:

> I think the education need to be addressed on all levels. Not just for healthcare professionals, but for patients and their families. Obviously, the National Institute of Health has a responsibility to put out information that's really going to address public health. Not enough is done for public health. Not enough is done to move community wellness and health promotion. This needs to be addressed from a health promotion perspective and a treatment perspective. Obviously if you're going to improve the lives of individuals, you're going to promote their health. We need to educate our communities and our cities and the country and whatever setting we're in if we're going to advance any science.

Angel also explained:

> Well I think the patient education component needs to really be very strong. For patients who are putting on potentially addictive medications we need to really educate them on then and then teaching them the warning signs …and all that stuff.

Dr. Lynn described what she does to provide education to the public on medical cannabis. She articulated:

> Even in my own building in Chicago people are interested in it. I gave a presentation for the residence and most people come away from those meetings saying wow we have really been duped over half a century about this and this should be part of our pharmacopeia, a huge part of it.

Pro Con.org, (2017), a nonprofit, nonpartisan public charity, provides the public with professional information on controversial issues like gun laws and medical cannabis. According to ProCon.org, 1,246,170 patients are legally using medical cannabis in the United States. However, patients are *lacking education* from nurses due to their own *lack of education* and prohibition surrounding the subject of medical cannabis. Patient education is a required component for successful patient outcomes. There are several organizations that are starting to provide medical cannabis education for nurses. In addition, the Medical Cannabis Institute has provided online courses for health care professionals to become educated on medical cannabis in an effort to help close the education gap on the science behind medical cannabis. The American Cannabis Nurses Association (ACNA) established in 2006 also provides nurses with education for nurses to advocate for their patients. Patient Out of Time is another organization that offers patients and nurses evidence-based education on the subject of medical cannabis.

The participants in this study identified *lack of education* for themselves, patients nursing students, and the community at large. The studies presented by Brooks et al. (2017) and Carlini et al. (2015) both recommended more training and education for nurses and health care providers on medical cannabis. In this current study, it is evident that the study participants are demanding education that is evidence-based and relevant to nursing practice in order to educate themselves, patients, future nurses, and the public on medical cannabis.

Advocating

Nursing is the most reliable profession regarding patient *advocacy* (Davoodvand, Abbas, Abbasside, & Ahmadi, 2016). The primary role of *advocacy* is defined as the protection of patient's rights and interest. However, a nurse's right to promote *advocacy* are abridged by physicians, other professionals, and bureaucratic structures in many institutions (Bernal, 1994). In 1992, the American Nurses Association (ANA) introduced the Code of Ethics, which included nine provisions that encompassed a statement of nurses promoting and *advocating* for patients. In 2003, the ANA broad policy setting body, the House of Delegates, passed a resolution supporting nurses which specified, "ethical obligation to be advocates for access to health care for all patients in need of cannabis for therapeutic use" (Trossman, 2010, p. 9). Nevertheless, the bureaucratic structure of certain institutions may prevent nurses from *advocating* for patients using medical cannabis. For instance, this was quite evident in **Brother Maynard's** comment:

The Supreme Court said you cannot bar somebody from talking to their patients about medical cannabis, so I would love to see somebody who has actually been put in that situation to stand up and say you know what I'm going to sue the … out of

you…Take them on. It's like somebody needs to stand up for this.

The study participants in Phase I and Phase II verbalized the need in *advocating* for patients using medical cannabis for their medical conditions. An example of this is reflected in **Lola's** statement when she reported:

> I'm very positive for it. I think it gives you another avenue since we have the epidemic of what's going on with opioids. This gives you another avenue to consider because with cannabis it comes in so many forms. You don't have to take it orally to control you pain or any other illnesses or diseases that you're treating, so it gives more options.

The following research support nurses' desire to be patient *advocates*. Davoodvand et al. (2015), conducted s qualitative study in which these researchers examined the experience of 15 clinical nurses regarding patient *advocacy*. The aim of the study was to explain the concept of patient *advocacy* from the perspective of Iranian clinical nurses. The nurses were recruited by a purposeful sample and were selected since they worked in the intensive care unit, coronary care unit, and the emergency room. The data were collected through semi-structured interviews and analyzed using a content analysis. Two themes emerged from the study first, empathy with the patient, which was supported by three categories: understanding the patient's condition, showing compassion and feeling close to the patients. The second theme that emerged from this study was to protect the patient as supported by the categories: taking care of the patient, being a patron to the patient, commitment to completing the care period, and protecting patient rights. The results of this study suggested nurses must *advocate* by being empathetic and protective of their patients a feature supporting the category of *advocating* that emerged

from the study participants' voices in this current study. **Abike** supported the category of *advocating* for medical cannabis usage by patients when she clarified, "If you really want to look out for the goodness of the patient, we need to bring it in cause there's lots of research."

O'Connor and Kelly (2005) conducted an inductive qualitative research to investigate nurses' general perceptions of *advocacy* in Ireland and how they initiate their role as patient *advocates*. They compared nurses' views and perceptions with the existing literature on the subject. The intended outcome of the study was to contribute toward the knowledge base on *advocacy*. The researchers analyzed the concept of *advocacy* by conducting a literature review and then used the literature review as a guide to interview three focus group. Twenty nurses participated in three focus groups from different hospital departments. Data analysis were completed using Strauss and Corbin's methodological approach by which data was coded and categories emerged. The categories provided an explanation of the meaning of the word *advocacy*.

Bridging the gap was the category that emerged the most for the participants. The essence of *advocacy* for most of the participants interviewed was the role of nurses acting as intermediaries between patients and the medical profession, patients and doctors, patients and the health care system and patients and their families. The other category that emerged from the data was the level of *advocacy*. Nurses believed that there were different levels of *advocacy* between staff nurses and senior nurses. There was also a distinction between clinical *advocacy*, which is acting for individual patients in relation to treatment and organizational *advocacy*, which involved acting for one or more patients in matters regarding organizational nature. The staff nurses referred more patients to

clinical *advocacy* and the senior nurses referred more to the organizational *advocacy*. The findings also suggested that nurses identified patient's vulnerability as one of their main reason for *advocating* on their behalf.

Liz discussed how she is an *advocate* of medical cannabis for people who really need it, as she further supported the category of *advocating* with the following remark, "The beneficial part of it for those folks that are dying and that need that relief, where opioids or higher intense narcotics are no longer working for them or affecting their kidneys or whatever the case may be."

An exploratory descriptive qualitative study among 15 nurses from a regional hospital in Ghana, was conducted by Dadzie, Azito and Aikins (2017). The aim of the study was to explore the perspectives of nurses as patient advocates. Purposive sampling was used with in-depth semi-structured interviews to obtain data. Themes generated from the study revealed nurse's traits such as empathy, nurturing, ethical, assertive, and persistent. From the empathetic theme, participants availed themselves and shared their problems. The trait of spending more time with patients and providing personal care fostered the identification of patients' problems. The participants in the study perceived patient *advocacy* as a moral and ethical responsibility. Some participants described compassionate-based activities such as pleading on the patient's behalf, providing emotional support, and providing financial assistance. The findings of the study concluded that nurse characteristics influence patient *advocacy* and that enhancing these characteristics could help nurses overcome the negative states that undermine the patient *advocacy* role of nurses. **F Marie** declared:

> We need to *advocate* for the patients who use it, who it makes a difference in. We need to know who those people are as far as disease classes go. We need to lobby as a profession and stand up for our patients and be *advocates* for them.

Angel added, "For medical purpose absolutely honor that right to do it but I'm also an addiction nurse and I'm not judging. I know that there are benefits to certain groups of patients and I'm all for it." **Eileen** gave details of why nurses need to *advocate* for patients using medical cannabis:

> You're going to have a whole group of people that are so marginalized. They're not going to be able to work, they're not going to be able to function. We're going to have a public health crisis of bigger ginormous proportions in my opinion if you do not address suffering, so I also see this as a human right issue and that's why nurses I think are change agents in this area or could be.

It is evident that the participants in this current study *advocated* for patients who use medical cannabis for chronic illnesses as they perceived it to be their duty as nurses to *advocate* for patients' wellbeing. The research studies reviewed by the researcher were qualitative in nature and involved nurses from other countries; however, they both emphasized the role of nurses as patient *advocates*. In this current study, the nurses explained that they needed to *advocate* for patients using medical cannabis, because they believed that medical cannabis was the gateway to the opiate crises. The focus group study participants further articulated that nurses had the right to *advocate* for patients to receive education on medical cannabis from nurses. Besides, the study participants felt that *advocating* for patient rights was their obligation as nurses.

Stigmatizing

Stigmatizing was a category that emerged from the individual participants' voices in Phase I and supported by the participants' in Phase II of the study. *Stigmatizing* was a category that the nurses explained would affect how other people including family members as well as fellow nurses would treat patients, once they knew the patients were taking medical cannabis for their medical condition(s). The focus group participants also expressed their concerns of nurses being *stigmatized* if they themselves supported patients using medical cannabis. The following studies support the participants' voices of this current study.

Satterlund, Lee, and Moore (2014) recruited 18 participants who lived in San Francisco, Berkeley, and Oakland, California to examine how medical cannabis patients perceive and process *stigma* and how it affects their experiences and interactions with others. The researchers used a semi-structured interview guide conducted in person or by phone. The participants were recruited from conferences, social gatherings, personal references from medical cannabis advocates from Craigslist, and snowball referrals. The interviews were designed to elicit a description of the users account of their history of cannabis use, reasons for cannabis as a treatment, views on the process to obtain medical cannabis, and issues they faced as a patient and perceptions of use as it pertained to their medical condition. The researchers also discussed the participants' medical histories as they pertained to the participants' medical cannabis usage, the relationship, and types of interactions with others. The researchers coded all the transcripts and analyzed the data for general patterns, themes, and categories. A second researcher independently analyzed the themes and concurred with the overall analysis. The respondents' ages ranged from

19 to 66 with a median age of 41. Of those interviewed, 13 (72%) were male, and five (28%) were female.,

The themes that resulted from the study were: The perception of being a medical cannabis user, whom to tell, *stigma* and purchasing medication and justification for use, labeling and *stigma*. The perception of being a medical cannabis user addressed the notion that every participant acknowledged stereotyping, where the "patients" were viewed as "stoners." The theme of "whom to tell" represented the fact that users feared the repercussions of others knowing their status. Older patients concealed their user status. Others decided to tell a spouse or partner. The younger users peer groups were more accepting. Another theme that emerged from the data was *stigma* and purchasing medication by which the *stigma* affected where the participants went to purchase medical cannabis. The participants who were most concerned about *stigma* tended to select discreet dispensaries while others favored driving long distances to access a dispensary and purchase large amounts due to fear that others would find out. The next theme was justification for use whereby, the participants pinpointed the benefits of medical cannabis in order to justify their use and neutralize potential *stigma*. The participants attributed the labeling and *stigma* of cannabis use to considerable misinformation about cannabis. The participants also took the stance that it was better to use cannabis than other illicit drugs.

The findings concluded that three-fourths of medical cannabis patients were male. The reasons that the participants used medical cannabis included issues such as migraine headaches, depression, the effects of chemotherapy and radiation, and the effects of chronic pain and asthma. The results of the study also concluded that *stigma* emerged as a primary and recurring issue for patients using medical cannabis. Patients had to decide

when and if they were going to reveal their use of medical cannabis, whether others knew of their medical cannabis usage, and whether others would be accepting of their medical cannabis usage. The researchers recommended that further investigation should be done with health professionals to analyze communication between patients their physicians or other health care professionals. Studies should be completed to evaluate the impact of medical cannabis on the patient and their treatment outcomes. The researchers also recommended that training and education of physicians and healthcare providers was necessary in order to expand the knowledge and skills as related to medical cannabis treatments.

Girl Scout explained how medical cannabis patients experience *stigma* form family members and others:

> I think more that there might be a stigma attached to the patient with being able to receive it…in other words, if they are taking it they might feel that they are *stigmatized* by others; like family members or their social circle. The family members and the social acquaintances may not have a full understanding as to the purpose as to why the patient is receiving it. I think of it more as a *stigma* that the patient is experiencing, a *stigma* perhaps. Under a prescribed dose I don't really see any other social concerns. Like any kind of negative with driving or anything like that. I think that if it's prescribed under the physician, I have full confidence in the management of any of those effects by the particular patient that's taking it if that makes sense.

Nurse Care also expounded how patients using medical cannabis will experience *stigma*. She articulated, "Patients will experience *stigma* from family and friends, especially the

ones that don't believe that marijuana should be approved for medical use." Study participant **Liz** shared a situation in the hospital with a child who was on medical cannabis and the hospital labeled him high risk. She disclosed:

> There are some nurses that were strongly opposed that no matter what marijuana should not be allowed Blah! Blah! Blah! Then there were some nurses that were marijuana should just go ahead and be used for whatever and we shouldn't have tight strings on it. I felt bad about it and we had to put the patient high risk but he wasn't high risk because of the marijuana.

Hathaway, Comeau, and Erickson, (2011) conducted a study to shed light on extra-legal forms of *stigma* that challenge the assumption of the normalization theory. The study was shepherded in two stages using a mixed method design. The first stage involved a random household survey with items focused on personal experience with cannabis in terms of lifetime prevalence and patterns of consumption from October and November 2004. Of 1,440 calls 1,081 persons completed the brief survey. The second stage consisted of semi-structured interviews where participants reported that they used cannabis 25 or more occasions ($N = 274$). The respondents were successfully contacted and interviewed in person, at a downtown research office between October 2004-July 2005. The interviews focused on use pattern, circumstances, and personal experience of cannabis including different disadvantages and benefits of using.

The theme that emerged from the data was, "narrative of stigma," and two subcategories emerged (association of the drug with 'deviant' behavior and incompatibility with role expectations). The participants reported that they were uneasy, despite taking due precautions about the potential for arrest. Seventy percent (70%)

indicated that they hid their use from family and co-workers. The respondents deemed terms such as "*pothead*" and "*druggie*" as demeaning labels. Stereotypes also persisted around the popular assumption of marijuana's associations with criminality of deviance and perception of cannabis as a gateway to the use of other drugs. **AJ e**xplained the *stigma* among the family members when asked by the researcher about social concerns regarding medical cannabis usage by patients. **AJ** declared, "My concern would be other family members other than the patient using medical cannabis."

Botorff et al. (2013) conducted qualitative study in Canada with 23 individuals who were using cannabis for a range of health-related issues. The aim of this Canadian study was to describe users' perceptions of and response to the *stigma* attached to using cannabis for therapeutic purposes (CTP). Twenty-three individuals who were using cannabis for therapeutic health problem took part in a semi-structured interview. Transcribed data was analyzed using an inductive approach and comparative strategies were used to explore participants' perceptions of CTP and identify themes. The study identified eight themes: (a) dimensions of stigma associated with CTP, (b) medicine in a joint, (c) medicine on the wrong side of the law, (d) coping with stigma associated with CTP, (e) covert use: keeping CTP use undercover, (f) expert use: convincing other of the benefits of CTP use, (g) responsibilities use: doing everything rights, and (h) activist use CTP as a human right issue. The results led the investigator to concluded that participants experience of *stigma* were related to negative views of cannabis as a recreational drug, the current criminal sanctions associated with cannabis use, and using cannabis in the context of *stigmatizing* vulnerability of the existing illness. Participants had to negotiate social censorship, disapproval, threats, and isolation so that they could

gain the benefits of their cannabis use. The ways participants coped with and minimized their experiences of stigma associated with CTP use were also described. The study researchers recommended that educating individuals who did not approve of CTP or understand CTP use would ease this difficulty. **Dennision** described his experience with patients in the ER and the *stigma* of patients using medical cannabis associated for chronic illnesses. He disclosed:

> I work in the ER and I can see how patients get *stigmatized* if they are using marijuana. I think that patients will hide that they are using cannabis for their illnesses from friends and family because of issues of being judged or scrutinized about their decision.

Mary Jane explained her opinion of *stigma*:

> I think we all probably do agree that most nurses when they see patients using it and see the benefits we all agree that they should have access to it but the road block… the *stigma* is huge. I don't know what else about it.

The view on *stigma* as it relates to medical cannabis is widely supported in the literature by Hathaway et al. (2011), Botorff et al. (2013), and Satterlaud et al. (2014), the voices of the study participants discussed how their friends, family, and healthcare providers would stigmatize patients using medical cannabis for medical purposes. The study participants described *stigmatizing* as, judging, stereotyping, and causing isolation. They were concerned about patients not disclosing their use of cannabis to friends and family. A program of educating the public on medical cannabis was brought up as a means to reduce *stigma* of patients using medical cannabis.

Regulating

Regulating was a category that emerged from Phase I of the current study and supported by Phase II. The participants described disagreeing with the current *regulations* of medical cannabis on dispensing and the federal prohibition of it as a Schedule I drug. According to the National Conference of State Legislation (NCSL), a national organization to support state legislation, 29 states in the United States and the District of Columbia have legalized medical cannabis. Seventeen of those states and the District of Columbia have laws to approve low Tetrahydrocannabinol (THC) and high Cannabidiol (CBD). Seven of those states have approved recreational cannabis. At the federal level, medical cannabis continues to be a Schedule 1 drug under the Control Substance Act and the Drug Enforcement Administration (DEA). A Schedule 1 substance is considered to have high potential for dispensary with no medical use. The following studies address the current *regulations* that exist on medical cannabis within the United States.

Pacula, Hunt, and Boustead (2014) performed a quantitative study to analyze the Medical Marijuana Laws (MML) in place since 1990 relevant to consumers and patients. They categorized those aspects most likely to affect the prevalence of use, and consequently the intensity of public health and welfare effects. All 50 states within the United States and the District of Columbia were included in the study. The purpose of this study was to understand variations among legally effective medical cannabis laws since January 1, 2012. The study was centered on state statutes and constitutional amendments in an effort to analyze state-to-state differences over time and compare them to existing *regulations*. The researcher collected legal documents that focused on

database of what drives access availability and regulation or enforcement of drug laws for both consumers and suppliers. The documents were then analyzed using a method of systemic content analysis. A codebook was then created for classifying each law, and the results were recorded and organized. Descriptive statistics were calculated.

Evidence has shown that medical cannabis laws are homogeneous in each state, which is misleading, and does not reflect the reality of medical cannabis lawmakers. The variability of state-to-state laws affects health outcomes and implications for the state's public health. The researchers analyzed the language of medical cannabis laws that had been enacted in the public law version of state statues and constitutional amendments between January 1, 1990 and January 1, 2012. It was found that jurisdictions differ widely on how suppliers and consumers of medical cannabis are governed where some states allow for, and carefully describe permissible activities of dispensaries. Other states laws are silent on this matter, thus leaving the door open as to whether dispensaries could potentially sell marijuana or paraphernalia for profit.

Kliegar et al. (2017) completed a descriptive study with two aims: (a) to describe open source legal data sets, create for research use that captured provisions of U.S. state laws of medical cannabis and (b) to demonstrate the variability that exist between states on medical cannabis laws regarding: rules governing patient access, product safety, and dispensary practices. Two legal researchers collected and coded state laws governing marijuana patients, product safety and dispensaries in effect on February 1, 2017. Three empirical legal data sets were created, and summary tables were used to identify the variation in specific statutory provisions specified in each state's medical cannabis law.

The study compared aspects of the laws to the traditional federal approach to regulating medicine. The results concluded that 28 states and the District of Columbia have authorized medical cannabis, although 27 specified diseases that could be treated differed across states. All states protected patients' privacy; however, only 14 states protected patients against discrimination. Eighteen states were found to have had mandatory product safety testing before any sales. The majority of states had package and label regulations with every state having a wide range of specific requirements. Most regulated dispensaries have specific provision such as permitted product supplies sources numbers of dispensaries per states and restrictions on proximity to various types of location.

The researchers' concluded that there are differences in restriction of home cultivation, dispensaries or registry requirement from state to state. The researchers further suggested that product *regulation* of labeling, quality, and potency does not exist. Jurisdictions focus on issues of availability and accessibility and that enforcement is not *regulated* because the Federal Drug Enforcement (FDA) does not regulate medical cannabis. There continues to be debates regarding medical cannabis laws between state versus federal and state versus local and county level ordinances. **Lola** discussed the issue related to medical cannabis not begin *regulated* by the federal government, which did not allow medical insurances to pay for medical cannabis when she declared, "The biggest thing that is okay in terms of insurance companies … well it's not federally funded so I guess…it's not funded by insurance yet."

Rosenberg (2016) wrote an article designed to educate pharmacists on legislative updates on cannabis laws in the U.S. He specifically addressed the conflict between the

federal laws on cannabis and the laws of the 50 states within the United States due to hesitation of the U.S. attorney to enforce the Controlled Substance Act of 1970. The article includes an examination of how the state of California is aiming toward creating laws that would be more compliant with the Control Substance Act of 1970. The author deliberates how pharmacists would be the most appropriate gatekeepers for the cannabis products and anticipates a role for the pharmacist in the cannabis industry. **Dennision** and **Melissa Modelo** supported medical cannabis be dispensed by pharmacists. These participants both believed that pharmacists need to have a role in the dispensing process and that current *regulations* needs to be removed. Moreover, **Dennision** expounded on the fact that, "one of the problems is that medical cannabis is not being dispensed by pharmacies. I believe that medicinal cannabis should be *regulated* by the federal government and dispense in a pharmacy. It would be much safer." **Melissa Modelo** explained, "I don't understand why medicinal cannabis needs to be federally *regulated* and it also needs to be dispensed in a pharmacy like all other medications."

Angel also explained:

> I think it should be dispensed in a hospital pharmacy. It prevents easy access compared to the dispensary. The monies that are being made by these dispensaries are unbelievable…So I think it should be dispensed at hospital pharmacies. That way patients who are sick have access to it. And then it prevents access to people access to people who want to use it for recreational purpose.

Mary Jane also expanded on medical cannabis *regulation* regarding the Obstetrical patients. She reckoned, "Speaking of the OB (obstetrics], in some of the states they specifically have with their medical cannabis laws. I guess outlawing or not allowing

pregnant women to use it." **Brother Maynard** discussed current *regulations* in New Mexico regarding referring patients to the medical cannabis program. He stated:

> It's nice to avert the law here in New Mexico. I've gotten it right here I wanted it so. Anybody who can write prescriptions, even like veterinarians or dentist can refer to the program because of Brother Maynard in New Mexico.

Eileen practices nursing in the state of Massachusetts, and she describes new *regulations* for 2018. She affirmed:

> I wanted to just say that in my state it's legal both recreational. Well for adult u sage in 2108 and medicinally right now two things are very interesting. Number one physicians are not allowed under state statute to discuss that with their patients. They're only allowed to write recommendations for quantity.

Santa clarified issues regarding *regulation* in the state of New Jersey:

> The Department of Health appointed an expert panel to evaluate petitions to expand the medicinal marijuana program here and our organization submitted a petition to add opioid use disorder as a qualifying condition for marijuana therapy. This expert panel gave initial approval to the petition to allow marijuana to be used for opioid use disorder, so we're still waiting for final approval.

Due to the prohibition of medical cannabis, federal *regulation* of medical cannabis does not exist, and medical cannabis will continue being dispensed by dispensaries in the United States, with staff who are not pharmacists or health care providers. The current study participants voiced that the present-day *regulations* are unsafe for patients using medical cannabis and a change needs to occur in the current *regulations* of medical cannabis. Prohibition of medical cannabis has limited research that could test current

laws and provide valuable information to make the necessary changes in the current regulations. Furthermore, pharmacist need to take an active approach in order to become involve in and cognizant of the regulations of dispensing medical cannabis to the public.

Lacking uniformity. *Lacking uniformity* appeared in the current study as a subcategory of *regulating* since medical cannabis laws fluctuate between states. Each state has different cannabis laws regarding dispensary of product, registration, retail sale, allowance for number of products per patient, home cultivation allowance and recognizing patients from different states. The variability of the laws from state to state has created confusion for nurses to educate themselves, patients, family members, and the community at large. Horowitz (2016) compared different state laws on medical cannabis in an editorial that reviewed the issues related to the diverse state-to-state laws in the United States as it is related to medical cannabis. Horowitz recognized that state laws vary widely regarding the possession of medical cannabis and the laws that allow physicians and nurses to administer medical cannabis. For example, Georgia's medical cannabis law called, "Haleigh's Hope Act" only allows a registered user to possess 20 fluid ounces of low THC oil with a label that states, it only contains 5% THC. Georgia does not allow the growing, distribution, or sale of medical cannabis within the state. However, many other states have more liberal laws. The primary caregivers can administer medical cannabis to assist patients on medical cannabis. The primary caregiver must be 18 and have significant responsibility for managing the patients' wellbeing.

Horowitz finishes by alluding to the notion that because of the diversity among state laws healthcare practitioners must become familiar with the laws of each state.

Suggested recommendations for healthcare providers regarding state guidelines included: (a) carefully examine the law in the state and consult with counsel, as appropriate; (b) review information related to medical cannabis, such as official guidance documents, on State Department of Public Health; (c) check with state survey agencies for guidance and official state position; (d) develop and implement policies and procedures for residents and employees; (e) educate staff regarding state laws and facility policy regarding the storage, administration, and monitoring of medical cannabis, if permitted in the facility; and (f) be proactive. The editorial highlighted the difference in medical cannabis laws among states and provided suggestions to healthcare practitioners regarding how they could become familiar with different state guidelines regarding medical cannabis.

In this current study, the researcher asked participant **Organic Girl** about the barriers of patients using medical cannabis. **Organic Girl** described a barrier for patients because of an issue related to *lacking uniformity.* She mentioned*,* "I don't think all states have approved it [medical cannabis] yet, so probably some of them want to take it and they might have to be seen in nearby state by a health care provider in a state that has approved it." **Abike** echoed, "I think a barrier is the laws. Every state has their own laws making it complicated to understand all the laws in every state. There are no standards of practice." State-by-State Medical Marijuana (2015), was released by the Marijuana Policy Project. This report reviewed the laws on medical cannabis in the 50 states within the United States. It showed a definite *lack of uniformity* between state lines and the fluctuations between each state concerning medical cannabis laws. The National Conference of State Legislations (NCSL) (2018) is a bipartisan non-government

organization that confirmed *lack of uniformity* between state lines in a special editorial issue.

The NCSL featured two tables in this editorial. In Table 1, there was a comparison between different states' medical marijuana/cannabis programs. Topics included states statutory language, patient registration, dispensing allowed, specific conditions of the state, recognizing patient from other states, and state allowance for retail sale. In Table 2, the editorial compared states with limited access to marijuana product (low THC/High CBD). Highlights included the states statutory language, patient registry, dispensing of products, specific conditions of each state, definition of product allowed in each state, allowance for legal defense and allowance for use of medical cannabis for minor. The state-by-state medical marijuana report and the National Conference of State Legislations both demonstrate the *lack of uniformity* between states. **Liz** explained in this current study how *lacking uniformity* between states, depending on the state the rules are a little bit different when she disclosed:

> So, I believe that yeah, it's very different. You have several ounces you can carry. You can grow three plants and harvest them at any time. As long as you're inside your home or on your property…in certain counties you can't do it out in the open in the public's eyes.

Santa explained, "Of course, the federal government is the main problem as far as transportation across state lines but within each state…the problem here in New Jersey is over *regulated* programs" **Sage e**xpounded:

> One other the issues for people with regards to states, obviously its transporting across state lines during vacations but even more prominent are families having to

move to other states just, so they can get the medicine for their children or family members. That to me is just atrocity that needs to stop.

The literature review by Horowitz (2016), State-by-State Medical Marijuana Report (2015), the National Conference of State Legislations (2018), and the voices of the participants concur in their supports the subcategory of *lacking uniformity*. State-to-state laws on medical cannabis are different in every state making it difficult for nurses to understand the laws and educate patients, themselves and the public. Nurses who obtain multi-state licensure are allowed to practice nursing across 26 states within the United States with one licensure, creating further perplexities of medical cannabis laws for nurses practicing in various states. As such, there is a significant need for nurses need to be educated on the varied state guidelines on medical cannabis laws.

Detailed Explication of Formulating a Theory

According to Ohlsson's (1984) article, the Gestalt theory was founded by three psychologists: Max Wertheimer, Wolgang Kohler, and Kurt Koff. The psychologist argued that the basis of problem solving was a process of *restructuring* during which the problem solver comes to see the requirements of the problem in a new way. Gestalt recognized that *restructuring* changes and that it occurs in perceptual field, a phenomenological construct that is neither subjective nor objective (Ohlsson,1984). These three psychologists proposed that *restructuring* is an essential process in thinking. There are thirteen principles (propositions) of Gestalt theory on *restructuring* that covers the major ideas of the theory (See Table 3).

Table 3

Principles of the Gestalt Theory of Restructuring Adapted by Ohlsson (1984)

Proposition	Description
Proposition A	Every situation embodies a structure, defined by the various relations in the situation.
Proposition B	A structure can be subject to forces which can vary in strength.
Proposition C	Restructuring is a change which affects the structural relations in the situation.
Proposition D	Problems are situations with gaps between what one has and what one wants. To solve a problem.
Proposition E	A restructuring event always moves toward a better structural balance
Proposition F	The occurrence of unbalanced forces in a situation is a necessary condition for the restructuring of that situation.
Proposition G	A restructuring event is more likely, when the deeper the problem solver has analyzed the requirements of the situation.
Proposition H	A restructuring event becomes more likely, the deeper the analysis of the goal
Proposition I	A restructuring event is most likely after a series of unsuccessful solution attempts.
Proposition K	A restructuring event has an involuntary character; it is experienced as something that 'happens", rather than something the problem solver ; "does".
Proposition L	The relative ease with which restructuring occur is the major source of both (a) interindividual differences in problem solving performance, and (b) differences in task difficulty
Proposition M	A restructuring event is often accompanied by one or more of the following subjective experiences: (a) Seeing the problem situation in a new way.

	(b) Recentering -displacement of attention from one situation to another. (c) A strong feeling of surprise; the restructuring event reveals properties of the situation "really is" (d) An immediate feeling of improvement (e) A feeling of self -evidence
Proposition N	A restructuring event usually has an energizing effect on problem solving behavior.

The *Theory of Restructuring* emerged from the data of the individual participants voices in Phase I of the current study. Phase II participants have taken an active role to assist in *restructuring* current issues related to medical cannabis. *Restructuring* needs to occur in all the five categories of *personal knowing, lacking education, advocating, stigmatizing,* and *regulating* and one subcategory of *lacking uniformity.* The 13 propositions of the *theory of restructuring* explain and provide insight of the phenomenon under study that has not been fully explored in the literature. The propositions can be applied to every category and subcategory. Proposition H opens the option of the problem solvers who are the nurses, as they have voiced that the problem is *lacking education*, *stigmatizing* of the patient using medical cannabis, current *regulations* of medical cannabis and the subcategory *lacking uniformity* from state-to-state. They have described the problems in each category and the subcategory to use their current knowledge in the management of their patients' usage of medical cannabis in a new way.

These study participants have expressed that *restructuring* needs to occur in the nursing education on the subject of medical cannabis in order to educate patients, families, and the public. The *restructuring* of education can also decrease the *stigma* and

increase advocacy for patients using medical cannabis. *Restructuring* also needs to occur in the current *regulations* of how medical cannabis is being stored, dispensed, cultivated, and labeled. Availability and safety issues related to dosing needs to be *restructured* in order to keep patients safe. The study participants have also voiced that *restructuring* needs to occur in state-to- state guidelines so that patients who are using medical cannabis can follow the same laws from state-to-state and avoid problems and prosecution between state lines. State laws also need to be *restructured* so that nurses and health care providers to have uniformity in the laws from state-to-state avoiding ambiguities that could jeopardizing nurse licensures.

Significance of the Study

The significance of the study surrounds the fact that 29 states within the United States and the District of Columbia currently have legalized medical cannabis. The population continues to grow, a condition that requires nurses to become knowledgeable on the endocannabis system in order to serve the public. Primarily, this study explored the social processes between nurses and their patients using medical cannabis, patterns of behavior, value of medical cannabis, and how medical cannabis is implemented in daily practice. The findings of this study can be used as a framework to implement policies and procedures for clinical practice, nursing education, and research for nurses caring for patients who use medical cannabis. The findings can also guide practice of other disciplines such as psychology, sociology, and law. These disciplines can use the study to improve laws and educate the public on medical cannabis. Understanding how to resolve *stigma* of patients using medical cannabis requires the discipline of psychology and sociology. The current *regulation* and subcategory of *lacking uniformity* from state-

to-state laws need r*estructuring* in order to have unified laws across state lines. Restructuring needs to occur in the education of nurses, patients, and nursing students in order to improve how nurses are receiving knowledge on medical cannabis

Significance of the Study to Nursing

The patient population of cannabis users continues to grow as the number of states legalizing medical cannabis increases. Studies have confirmed that medical cannabis can be used for several medical conditions; however, a dearth of information exists on medical cannabis. The purpose of this qualitative study was to explore the critical factors influencing nurses' knowledge, perceptions, and attitudes toward patients using medical cannabis. This study adds to the current knowledge of nurses on the subject of medical cannabis usage in patients, which potentially could change the perception and attitude of nurses who care for patient using medical cannabis. The study could also contribute to the education of nurses by enhancing nurses understand of the issue regarding the current *regulations* of medical cannabis laws from state-to-state and serve as a framework for nursing curriculums on medical cannabis. The *theory of restructuring was* formulated to guide education, practice, research, health, and public policies formulation in the discipline of nursing. The differences in reality explained the deficit that exists in nursing regarding the knowledge, perceptions, and attitudes on the subject of medical cannabis usage in patients.

Implications for Nursing Education

The implications of the study for nursing education is to use findings to create a framework that could be incorporated in nursing schools across the United States. This study could also be used to guide a curriculum for a major in cannabis nursing in

university nursing departments. Another implication of the study is that findings could assist in creating policies for hospitals procedures to guide nurses to develop tools that can be incorporated in the discharge planning of patients using medical cannabis for their chronic illnesses. Educational initiatives by nurses could include assessment of patients' knowledge and usage of medical cannabis based on the findings of this study.

Implications for Nursing Practice

The implications of this study for nursing practice permit nurses to become more knowledgeable on the *regulations of* medical cannabis from state-to-state and fulfill the standard of the Nursing Practice Act for patients seeking medical cannabis usage. This study furnishes implications for nursing practice whereby these results can enhance *advocacy* and education. This study furnishes nurses with the basic tools to become involved in research and policy development as it concerns medical cannabis and patient care. Nurses are given the foundation to make solid critical decisions regarding the care of patients experiencing *stigma* and clearly identify the role of nurses regarding their care for this population. The *theory of restructuring* can assist nurses to solve the gaps of the current *regulations* of medical cannabis laws.

Implications for Nursing Research

The implications for nursing research on medical cannabis continues to be limited in the literature in the United States due to the current Schedule I status of medical cannabis. The bulk of the research that exists on medical cannabis has been conducted internationally. This study serves as a gateway for other nurses to engage in research on medical cannabis and identify other issues impacting their scope of practice. The

categories, subcategory, and theory of restructuring can be tested using a quantitative research methodology and provide evidence-based knowledge to nurses.

Implications for Health and Public Policy

The implications for health and public policy are limited because of the current Schedule 1 status of medical cannabis. The findings of this study provide administrators with a potential foundation to create health policies for hospitals, clinics, , nursing homes and assisting living facilities. These findings can be used as the driving force for the federal government to legalize medical cannabis in federally funded facilities. Moreover, these results can encourage nurses to become *advocates* of medical cannabis usage by patients. This study can also serve as the voice to encourage legislators to pass resolutions supporting medical cannabis usage by these patients.

Strengths and Limitations of the Study

This study has both strengths and limitations. The strengths of this study were that the researcher achieved data saturation with 15 participants; however, an additional five interviews were completed to ensure that no new information would be obtained so the final sample size for Phase I was 20 participants. The findings were verified by an expert focus group of nurses from the American Cannabis Nurses Association, which further safeguarded the credibility, and dependability of this study. The researcher also completed member checking of the transcripts with the study participants in Phase I. The researcher also presented rich data that was derived from the participants' descriptions. To ensure dependability, the researcher used field notes throughout data collection and the analysis process. Confirmability was accomplished through the researcher's use of reflexive journaling, field notes, and memoing. Transferability was addressed with the

provision of sample descriptions and demographics for both phases of the study; the participants were all registered nurses from the United States.

The study had some limitations. The researcher is a novice and may have overlooked some relevant information of the grounded theory method. The study only included two males in Phase I and three in Phase II, limiting the voices of male registered nurses in the United States on critical factors that influence nurses' knowledge, perceptions, and attitudes of medical cannabis. Phase II of the study included only White Caucasian participants. A variety of ethnic backgrounds may have enhanced the rigor of the study to a greater extent.

Recommendations for Future Study

Medical cannabis research continues to be a controversial issue in the United States, despite the fact that many states have legalized the use of medical cannabis for certain medical conditions. Research in the area of medical cannabis is extremely limited in the United States because of its Schedule 1 status. There is, however, a growing number of patients in the United States using medical cannabis. In order for nurses to serve these patients, it is imperative that future studies be conducted with nurses and their patients who are use medical cannabis. Future studies should be inclusive of more male participants who assist in caring for patients on medical cannabis. Quantitative studies need to be completed to evaluate the category, subcategory, and the *theory of restructuring* that emerged from this study.

Conclusions

This is a grounded study that was guided by Strauss and Corbin (1998) to create a substantive theory to define the critical factors influencing nurses' knowledge,

perceptions, and attitudes of medical cannabis being used by patients in the United States. The aim of this study was to contribute knowledge of the nurses' management of patients using medical cannabis. Phase I of the study utilized a purposive sample of 20 individual participants who were registered nurses licensed in the United States. Phase II consisted of a focus group of seven registered nurse participants who were obtained from the American Cannabis Nurses Association to verify the categories, subcategory, and theory that emerged from the individual study participants in Phase I. Five categories emerged from the data analysis and one subcategory: *personal knowing, lacking education, advocating, stigmatizing, and regulating and lacking uniformity.* The *theory of restructuring* emerged as the social process that described the phenomenon. The categories, subcategory, and theory were supported by the literature. Significance of the study and implications as it relates to nursing education, nursing practice, nursing research, health, and public policy were scrutinized. Strengths and limitations of the study were also analyzed. Recommendations for future studies based on this investigation are strongly indicated for more studies regarding nurses understanding of their and patients' usage of medical cannabis.

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Appendix A

BARRY UNIVERSITY

INSTITUTIONAL REVIEW BOARD APPROVAL

LETTER

Barry University
Division of Academic Affairs

Institutional Review Board
11300 NE 2nd Avenue, Miami, FL 33161
P: 305.899.3020 or 1.800.756.6000, ext. 3020
F: 305.899.3026
www.barry.edu

Research with Human Subjects
Protocol Review

Date: April 27, 2017

Protocol Number: 170412

Title: "Critical Factors that Influence Nurses Knowledge, Perceptions and Attitudes of Medical Cannabis Usage by Patients".

Meeting Date: April 19, 2017

Name: Ms. Yolanda Nitti
Address: [redacted]

Faculty Sponsor: Dr. Claudette Chin

Dear Ms. Nitti

On behalf of the Barry University Institutional Review Board (IRB), I have verified that the specific changes requested by the convened IRB on April 19, 2017 have been made.

It is the IRB's judgment that the rights and welfare of the individuals who may be asked to participate in this study will be respected; that the proposed research, including the process of obtaining informed consent, will be conducted in a manner consistent with requirements and that the potential benefits to participants and to others warrant the risks participants may choose to incur. You may therefore proceed with data collection.

As principal investigator of this protocol, it is your responsibility to make sure that this study is conducted as approved by the IRB. Any modifications to the protocol or consent form, initiated by you or by the sponsor, will require prior approval, which you may request by completing a protocol modification form.

It is a condition of this approval that you report promptly to the IRB any serious, unanticipated adverse events experienced by participants in the course of this research, whether or not they are directly related to the study protocol. These adverse events include, but may not be limited to, any experience that is fatal or immediately life-threatening, is permanently disabling, requires (or prolongs) inpatient hospitalization, or is a congenital anomaly cancer or overdose.

The approval granted expires April 30, 2018. Should you wish to maintain this protocol in an active status beyond that date, you will need to provide the IRB with an IRB Application for Continuing Review (Progress Report) summarizing study results to date. The IRB will request a

progress report from you approximately three months before the anniversary date of your current approval.

If you have questions about these procedures, or need any additional assistance from the IRB, please call the IRB point of contact, Mrs. Barbara Cook at (305)899-3020 or send an e-mail to **dfeldman@barry.edu.** Finally, please review your professional liability insurance to make sure your coverage includes the activities in this study.

Sincerely,

David M. Feldman, PhD
Chair, Institutional Review Board
Barry University
Department of Psychology
11300 NE 2nd Avenue
Miami Shores, FL 33161

Cc: Dr. Claudette Chin

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Appendix B

BARRY UNIVERSITY

INFORMED CONSENT FORMS

This section includes Individual and Focus Group Consent Forms

Appendix B
BARRY UNIVERSITY
INDIVIDUAL INFORMED CONSENT FORM
For Use with Skype

Your participation in a research project is requested. The title of the research is, **"Critical Factors that Influence Nurses Knowledge, Perceptions, and Attitudes of Medical Cannabis Usage by Patients".** The research is being conducted by Yolanda Nitti, MSN, RN, a PhD student at Barry University, College of Nursing and Health Sciences who is seeking information that will be useful in the field of nursing. The aim of the research is to understand the critical factors that influence nurse's knowledge, perceptions and attitudes of patients using medical cannabis. In accordance with this aim, the following procedures will be used: There are 2 phases of the study. You will only be participating in phase I of the study. In the first phase, individual interviews will be audiotaped, using face-to-face, telephone and/or Skype, which includes open-ended questions and will last 90 minutes. The 90 minutes will include the signing of a consent form (face-to-face or electronically via DocuSign, a secured web-based e-signature service). In addition, during these 90 minutes you will be asked to fill out a brief demographic questionnaire. We anticipate the number of participants to be 40.

If you decide to participate in this research, you will be asked to do the following: Spend 90 minutes at a mutually agreed location for an interview. The researcher or a transcriptionist who signs a third party confidentiality agreement will transcribe the audiotapes. After transcription of the interview, you will be emailed the transcript and be asked to review the interview transcription either in person or by telephone to verify the accuracy. This process should take approximately 30 minutes. Your consent to be a research participant is strictly voluntary and should you decline to participate or should you choose to drop out at any time during the research, there will be no adverse effects on you whatsoever. There are no known risks associated with this research. There are no direct benefits associated with this research. Total time needed for the individual interview and transcript review will be 120 minutes.

The inclusion criteria for the individual interview participants are as follows:

- Registered nurses over 18 years of age with an active license employed in the United States
- Registered nurses who have access to a telephone, computer, email and Internet (Skype)
- Registered nurses who are willing to be interviewed and audiotaped
- Registered nurses who are fluent in English

The exclusion criteria for the individual participants are as follows:

- Registered nurses who are licensed outside of the United States

- Registered nurses who are unable to be interviewed face to face, telephone or via skype
- Registered nurses unwilling to be audiotaped
- Registered nurses who are not fluent in English

As a research participant, information you provide will be held in confidence to the extent permitted by law. Your identity will be kept confidential by asking you to provide a pseudonym for easy identification by the researcher only. All data will be reported using the pseudonym; no names or identifiers will be used. The audiotapes will be transcribed and upon completion of transcription and member checking, the audiotapes will be kept in a secure and locked drawer in the researcher's home office. Data will be stored in a password-protected file on the researcher's home computer. Your signed consent form will be kept separate from the data in a locked drawer in the researcher's home office to maintain confidentiality. All transcribed data will be kept separate in a locked drawer in the researcher's' home office to maintain confidentiality. All transcribed data will be retained for five years upon completion of the research and then indefinitely in a locked drawer in the researcher's home office.

As this project may involve the use of Skype: to prevent others from eavesdropping on communications and to prevent impersonation or loss of personal information, Skype issues everyone a "digital certificate" which is an electronic credential that can be used to establish the identity of a Skype user, wherever that user may be located. Further, Skype uses well-known standards-based encryption algorithms to protect Skype users' communications from falling into the hands of hackers and criminals. In so doing, Skype helps ensure user's privacy as well as the integrity of the data being sent from one user to another. If you have further concerns regarding Skype privacy, please consult the Skype privacy policy. The researcher will establish a separate Skype account for this research project only. After the communication, the researcher will delete the conversation history. Once this is done, the conversation cannot be recovered. The audio portion of the Skype communication will be recorded using a separate device, Apple IPhone or an Apple IPad, and will have no recorded identifiers. The researcher or a transcriptionist will transcribe the audio recording verbatim, and then keep all audiotapes in a locked drawer in the researcher's home office for 5 years upon completion of the research then indefinitely.

A $20 gift certificate will be given as a token of appreciation for your participation in the research. You may keep this even if you decide not to complete the study. If you have any questions or concerns regarding the research or your participation in the research, you may contact me, [redacted]My supervisor [redacted]and the Institutional Review Board point of contact, Barbara Cook, at (305) 899-3020 or bcook@barry.edu. If you are satisfied with the information provided and are willing to participate in this research, please signify your consent by signing this consent form.

Voluntary Consent

I acknowledge that I have been informed of the nature and purposes of this experiment by Yolanda Nitti and that I have read and understand the information presented above, and that I have received a copy of this form for my records. I give my voluntary consent to participate in this experiment.

Signature of Participant	*Date*

Researcher	*Date*	*Witness*	*Date*

(Witness signature is required only if research involves pregnant women, children, other vulnerable populations, or if more than minimal risk is present.)

...ed by Barry University IRB
Date: 11/28/18
Signature:

Appendix B

BARRY UNIVERSITY
FOCUS GROUP INFORMED CONSENT FORM
(for Use with Skype)

Your participation in a research project is requested. The title of the research is, **"Critical Factors that Influence Nurses Knowledge, Perceptions, and Attitudes of Medical Cannabis Usage by Patients".** The research is being conducted by Yolanda Nitti, MSN, RN, a PhD student at Barry University, College of Nursing and Health Sciences who is seeking information that will be useful in the field of nursing. There are 2 phases of the study. You will only be participating in phase II of the study. The aim of the research is to understand the critical factors that influence nurse's knowledge, perceptions and attitudes of nurse toward patients using medical cannabis. In accordance with this aim, the following procedures will be used:

Inclusion criteria for Phase II (focus group) includes:

- Registered nurses who did not participate in the individual interview
- Registered nurses over the age of 18 years with an active RN license employed in the United States
- Registered nurses who are active members of The American Cannabis Nurses Association
- Registered nurses who have access to a telephone, Internet (Skype) or email
- Registered nurses who are willing to have the focus group interview and be audiotaped
- Registered nurses who are fluent in English

Exclusion criteria for Phase II includes:

- Registered nurses who are licensed outside of the United States.
- Registered nurses who are unable to be interviewed face to face, via Internet (Skype) or telephone and be audiotaped
- Registered nurses unable to be in a focus group

Approved by Barry University IRB

Date: 11/28/18

Signature:

- Registered nurses who participate in the individual interview
- Registered nurses who are not fluent in English

In this phase, a group interview will be conducted and audiotaped, which includes open-ended questions and will last 120 minutes. Included in the 120 minutes, you will be asked to sign a consent form and fill out a demographic questionnaire. We anticipate the number of participants to be seven.

If you decide to participate in this research, you will be asked to do the following: Spend 2 hours at a mutually agreed location with 6 other participants via face to face, telephone, or Internet (Skype) in a semi-structured interview validating the information including data, concepts, and categories of the individual interview data provided by the participants in the first phase of this study. This researcher or a transcriptionist who has signed a third party confidentiality agreement will transcribe the audiotapes.

Your consent to be a research participant is strictly voluntary and should you decline to participate or should you choose to withdraw from the research at any time, there will be no adverse effects on you whatsoever. There are no known risks associated with this research. There are no direct benefits associated with this research.

As a research participant, information you provide will be held in confidence to the extent permitted by law. Although the researcher guarantees to keep all information obtained from the group confidential, due to the nature of groups, confidentiality by group members cannot be guaranteed. All focus group members are asked to respect the privacy of other group members. You have the right to refuse to answer any particular question(s) or request that the recorder be paused or turned off. You may withdraw at any time.

As this project may involve the use of Skype: to prevent others from eavesdropping on communications and to prevent impersonation or loss of personal information, Skype issues everyone a "digital certificate" which is an electronic credential that can be used to establish the identity of a Skype user, wherever that user may be located. Further, Skype uses well-known standards-based encryption algorithms to protect Skype users' communications from falling into the hands of hackers and criminals. In so doing, Skype helps ensure user's privacy as well as the integrity of the data being sent from one user to another. If you have further concerns regarding Skype privacy, please consult the Skype privacy policy. The researcher will establish a separate Skype account for this research project only. After the communication, the researcher will delete the conversation history. Once this is done, the conversation cannot be recovered. The audio portion of the Skype communication will be recorded using a separate device, Apple IPhone or an Apple IPad, and will have no recorded identifiers. The researcher or a transcriptionist will transcribe the audio recording verbatim, and then keep all audiotapes in a locked drawer in the researcher's home office for 5 years upon completion of the research then indefinitely.

Your identity will be kept confidential by asking you to provide a pseudonym of your choice for easy identification by the researcher only. To protect your confidentiality any published

Voluntary Consent

I acknowledge that I have been informed of the nature and purposes of this experiment by Yolanda Nitti and that I have read and understand the information presented above, and that I have received a copy of this form for my records. I give my voluntary consent to participate in this experiment.

_____	_____
Signature of Participant	*Date*

_____	_____	_____	_____
Researcher	*Date*	*Witness*	*Date*

(Witness signature is required only if research involves pregnant women, children, other vulnerable populations, or if more than minimal risk is present.)

Appendix C

BARRY UNIVERSITY

LETTER OF REQUEST FOR ACCESS

This section includes Letters of Requests for Access.

Appendix C
BARRY UNIVERSITY
LETTER OF REQUEST FOR ACCESS
INDIVIDUAL INTERVIEW

Date:

Name and Address of Professional Organization or Associations

Dear:

I am a doctoral student at Barry University, College of Nursing and Health Sciences conducting a research entitled, "Critical factors that Influence Nurses Knowledge, Perceptions and Attitudes of Medical Cannabis Usage by Patients". The research is being conducted for my dissertation, which is in partial fulfillment of the PhD program requirements. The purpose of the grounded theory research is to understand factors influencing knowledge, perceptions and attitudes of nurses on medical cannabis usage by patients.

I am writing to ask permission and assistance in gaining access to nurses upon Institutional Review Board (IRB). The nurses are required to hold an active Registered Nurses (RN) licensure. The RN participants will be asked to participate in an individual interview for 90 minutes, which will include signing a consent and filling out a demographic questionnaire. They will also be digitally audio recorded via Skype, telephone, face to face during the interview. They will be audio recorded via Apple IPhone and Apple IPad. The RN participants will also be asked to review the transcription in 1 week after the interview. The confirmation needed of the transcription will be 30 minutes and a follow-up phone call made by the researcher will ensue after 8 days of emailing the transcription to determine if the participant had any questions or recommendation regarding the transcription.

Thanks, you for your consideration in allowing me access to recruit volunteers for the research. Please contact me Yolanda Nitti [redacted] The IRB contact is Estela Azevado who can be reached at (305) 899-3021 or azevedo@barry.edu. I look forward to your response at your earliest convenience.

Sincerely,

Yolanda Nitti, RN, MSN
Barry University
PhD Student

Appendix C

BARRY UNIVERSITY
LETTER OF REQUEST FOR ACCESS
FOCUS GROUP INTERVIEW

Date:

Name and Address: The American Cannabis Nurses Association

Dear:

I am a doctoral student at Barry University, College of Nursing and Health Sciences conducting a research titled, "Critical factors that Influence Nurses Knowledge, Perceptions and Attitudes of Medical Cannabis Usage by Patients". The research is being conducted for my dissertation, which is in partial fulfillment of the PhD program requirements. The purpose of the grounded theory research is to understand factors influencing knowledge, perceptions and attitudes of nurses on medical cannabis usage by patients.

I am writing to ask permission and assistance in gaining access to nurses upon Institutional Review Board (IRB) approval. The nurses are required to hold an active Registered Nurse (RN) licensure and be active members in The American Cannabis Nurses Association. The RN participants will be asked to participate in a focus group of 7 participants for 2 hours, which will include signing a consent and filling out a demographic questionnaire. They will be audio recorded via Apple IPhone and Apple IPad face-to-face, telephone or via Internet (Skype) during the interview. The focus group will serve to verify categories, similarities, and differences revealed through analysis of the individual interviews consistent with grounded theory methodology.

Thank you for your consideration in allowing me access to recruit volunteers for the research. Please contact me or [redacted] The IRB contact is Barbara Cook who can be reached at (305) 899-3020 or bcook@barry.edu. I look forward to your response at your earliest convenience.

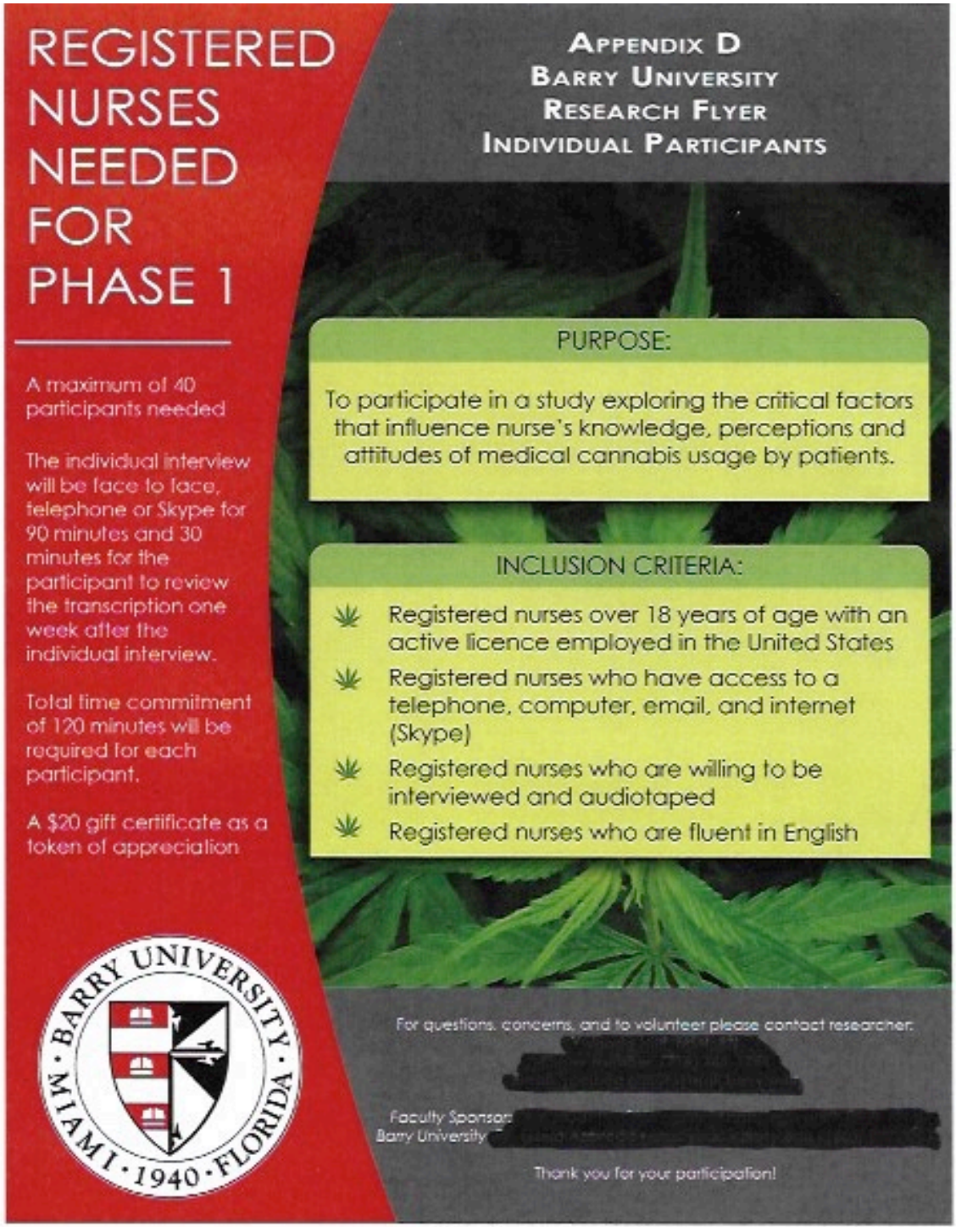
Sincerely,

Yolanda Nitti RN, MSN
Barry University
PhD Student

Appendix D

BARRY UNIVERSITY

FLYER



Appendix E

BARRY UNIVERSITY

DEMOGRAPHIC QUESTIONNAIRE

This section includes Individual and Focus Group Demographic Questionnaires.

Appendix E

BARRY UNIVERSITY

DEMOGRAPHIC QUESTIONNAIRE FOR INDIVIDUAL INTERVIEW

Instructions: Please fill in or circle your response for each question.

PSEUDONYM_____
DATE_____
In what state do you practice nursing? _____

SEX (Please Circle) MALE
FEMALE

AGE RANGE
1) 18-25
2) 26-30
3) 31-40
4) 41-50
5) 51-60
6) 61-70

To which of the following racial/ethnic groups do you belong?
1) American Indian or Alaska Native
2) Native Hawaiian or other Pacific Islander
3) Black or African American
4) Hispanic or Latino
5) Asian
6) White
7) Two or more races
8) Other _____

In what are do you practice nursing? (Select all that apply)
1) Medical Surgical Specialty _____
2) Emergency Room
3) Obstetrics
4) Pediatrics
5) Operating Room
6) Intensive Care
7) Psychiatric
8) Nurse Educator
9) Nurse Administration
10) Public/Community health
11) Clinic/outpatient

12) Long-term care
13) School nursing
14) Other_____

Highest Degree Completed

1) Diploma Nurse
2) Associate's Degree- Nursing
3) Bachelor's Degree- Nursing
4) Master's Degree- Nursing
5) PhD- Nursing
6) DNP

Years' Experience as a Nurse

1) < 1 year
2) 1-5 years
3) 6-10 years
4) 11-15 years
5) 16-20 years
6) 21-25 years
7) 26-30 years
8) 31-35 years
9) 36 or more years

Experience with patients using medical cannabis

1) YES
2) NO

Are you practicing nursing in a state legalizing medical cannabis?

1) YES
2) NO

Appendix E

BARRY UNIVERSITY

FOCUS GROUP DEMOGRAPHIC QUESTIONNAIRE

Instructions: Please fill in or circle your response for each question.

PSEUDONYM_____
DATE_____
In what state do you practice nursing? _____

SEX (Please Circle) MALE
FEMALE

AGE RANGE

1) 18-25
2) 26-30
3) 31-40
4) 41-50
5) 51-60
6) 61-70

To which of the following racial/ethnic groups do you belong?

1) American Indian or Alaska Native
2) Native Hawaiian or other Pacific Islander
3) Black or African American
4) Hispanic or Latino
5) Asian
6) White
7) Two or more races
8) Other _____

In what are do you practice nursing? (Select all that apply)

1) Medical Surgical Specialty _____
2) Emergency Room
3) Obstetrics
4) Pediatrics
5) Operating Room
6) Intensive Care
7) Psychiatric
8) Nurse Educator
9) Nurse Administration
10) Public/Community health

11) Clinic/outpatient
12) Long-term care
13) School nursing
14) Other_____

Highest Degree Completed

1) Associate's Degree- Nursing
2) Bachelor's Degree- Nursing
3) Master's Degree- Nursing
4) PhD- Nursing
5) DNP

Years' Experience as a Nurse

1) 1-5 years
2) 6-10 years
3) 11-15 years
4) 16-20 years
5) 21-25 years
6) 26-30 years
7) 31-35 years
8) 36 or more years

Do you practice nursing in a state legalizing medical cannabis?

1) Yes
2) No

Appendix F

BARRY UNIVERSITY

SAMPLE QUESTIONS FOR INTERVIEW

This section includes Individual and Focus Group Sample Questions for Interviews.

Appendix F

BARRY UNIVERSITY

SAMPLE QUESTIONS FOR PHASE I INDIVIDUAL INTERVIEW

Main Question:
Tell me in your own words what is your current knowledge regarding medical cannabis usage by patients in the United States.
Prompts:
What is your attitude regarding patients using medical cannabis in the United States?

What are some of the social concerns that you foresee in patients using medical cannabis?

How do you think patients using medical cannabis for their illnesses will affect the nursing profession?

What do you think are some regulatory barriers concerning patients using medical cannabis?

Appendix F

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SAMPLE QUESTION FOR PHASE II THE FOCUS GROUP INTERVIEW

What are your thoughts of nurses caring for patients using medical cannabis in the United States?

How would you describe the role of nurses in managing patients using medical cannabis?

What are your thoughts regarding the categories that emerged for the individual interviews?

What kind of challenges do you foresee with in nursing with the approval of medical cannabis in the United States?

In your own words how do you think the current regulations affect patients using medical cannabis?

Appendix G

BARRY UNIVERSITY

THIRD PARTY CONFIDENTIALITY AGREEMENT FORM

THIRD PARTY CONFIDENTIALITY AGREEMENT FORM

Transcriptionist

As a member of the research team investigating Critical Factors That Influence Nurses Knowledge, Perceptions, and Attitudes of Medical Cannabis Usage by Patients, I understand that I will have access to confidential information about research participants. By signing this statement, I am indicating my understanding of my obligation to maintain confidentiality and agree to the following:

- I understand that names and any other identifying information about research participants are completely confidential.
- I agree not to divulge, publish, or otherwise make known to unauthorized persons or to the public any information obtained in the course of this research project that could identify the persons who participated in the research.
- I understand that all information about research participants obtained or accessed by me in the course of my work is confidential. I agree not to divulge or otherwise make known to unauthorized persons any of this information unless specifically authorized to do so by office protocol or by a supervisor acting in response to applicable protocol or court order, or otherwise, as required by law.
- I understand that I am not to read information and records concerning research participants, or any other confidential documents, nor ask questions of research participants for my own personal information but only to the extent and for the purpose of performing my assigned duties on this research project.
- I understand that a breach of confidentiality may be grounds for disciplinary action, and may include termination of employment.
- I agree to notify my supervisor immediately should I become aware of an actual breach of confidentiality or situation, which could potentially result in a breach, whether this be on my part or on the part of another person.

Signature	Date	Printed Name
[signature]	7/30/17	Crystal Portocarrero
Yolanda Nitti	7/30/17	YOLANDA NITTI

Appendix H

BARRY UNIVERSITY

CURRICULUM VITAE

Yolanda Nitti

August 13, 1968	Born Brooklyn , New York
1991	BSN, Hunter College New York, NY
1996	MSN, Columbia University New York, NY
2018	Doctor of Philosophy Barry University Miami Shores, FL
1991-1998	Clinical Staff Nurse Obstetrics New York University New York, NY
1998-2000	Nurse Manager Obstetrics Saint Luke's Medical Center Newburgh, NY
2000-2005	Nurse Manager Obstetrics/Women's Center NICU Wyckoff Heights Medical Brooklyn, NY
2005-2006	Nurse Manager Obstetrics/NICU Mercy Hospital Miami, FL
2006	Director Obstetrics/Pediatrics NICU Parkway Medical Center

	Miami, FL
2006-2010	Associate Director Obstetrics/Pediatrics NICU Jackson North Medical Center Miami, FL
2010-present	Associate Professor Obstetrics/Community/Peds Miami Dade College Nursing School Miami, FL