## EXPERIENCES OF CANADIAN WOMEN USING CANNABIS FOR FIBROMYALGIA SYMPTOM MANAGEMENT:

A QUALITATIVE DESCRIPTION STUDY

## EXPERIENCES OF CANADIAN WOMEN USING CANNABIS FOR FIBROMYALGIA SYMPTOM MANAGEMENT: A QUALITATIVE DESCRIPTION STUDY

## BY SAMANTHA HOLMES, RN, BScN

A Thesis Submitted to the School of Graduate Studies in Partial Fulfillment of the Requirements for the Degree Master of Science (Nursing)

McMaster University © Copyright by Samantha Holmes, June 2025

McMaster University MASTER OF SCIENCE (NURSING) (2025) Hamilton, Ontario, Canada TITLE: Experiences of Canadian Women Using Cannabis for Fibromyalgia Symptom Management: A Qualitative Description Study

AUTHOR: Samantha Holmes, RN, BScN

SUPERVISOR: Dr. Melissa Northwood, RN, PhD

COMMITTEE MEMBERS: Dr. Nancy Carter, RN, PhD; Dr. Jason Busse, DC, PhD

NUMBER OF PAGES: 162

#### ABSTRACT

Fibromyalgia (FM) is a complex chronic pain disorder affecting approximately 3% of Canadians, predominantly women over the age of 40. Characterized by widespread pain, fatigue, cognitive impairments, and delayed diagnosis, FM often results in significant personal and healthcare challenges. Traditional pharmacological treatments are frequently ineffective, leading individuals to explore alternative therapies such as cannabis. Despite increasing legalization and accessibility in Canada, limited research has explored how women with FM use cannabis to manage their symptoms.

To address this gap, a qualitative descriptive design was employed to capture the lived experiences of fifteen women with FM who currently or previously have used cannabis therapeutically. Participants were recruited from six Canadian provinces. Semi-structured interviews were conducted virtually via Zoom and analyzed using reflexive thematic analysis. Four key themes emerged: (1) *Cannabis as a Core Component of Fibromyalgia Management* – participants described cannabis as transformative, helping with pain, sleep, and quality of life; (2) *Barriers and Challenges to Cannabis Use* – participants experienced stigma, lack of medical guidance, high costs, and difficulties determining dosage; (3) *Cannabis Use in Daily Life* – participants emphasized intentional, self-monitored use to balance symptom management with daily responsibilities; and (4) *Advice for Healthcare Professionals* – participants advocated for nonjudgmental, patient-centered care that legitimizes cannabis as a viable treatment option.

This study highlights the perceived value of cannabis in FM management and the persistent barriers faced by women using it for therapeutic purposes. Findings underscore the need for improved education among healthcare providers, increased affordability and accessibility of medical cannabis, and the promotion of collaborative, stigma-free care.

#### ACKNOWLEDGEMENTS

Throughout this journey, I have been fortunate to be supported by so many people who have shaped my growth in meaningful ways. This acknowledgement only recognizes a handful of these individuals.

First and foremost, I wish to acknowledge the fifteen women who participated in this study and generously shared their experiences of living with fibromyalgia. Your openness about deeply personal and often painful aspects of your lives speaks to a remarkable strength and commitment to making a difference. In doing so, you have contributed to a growing body of knowledge that seeks to bring visibility, awareness, and compassion to a condition that too often goes unrecognized. Your voices are the heart of this work, and I am deeply grateful for the trust you placed in me.

I am also immensely grateful to my supervisor, Dr. Melissa Northwood, and committee members, Dr. Nancy Carter and Dr. Jason Busse for their unwavering support, generous guidance, and invaluable expertise. I have learned so much from each of you, lessons that will stay with me long beyond this dissertation.

Melissa, words cannot fully capture the mentorship you've offered me over the past two and a half years. Your kindness, humility, and dedication — even in your busiest moments — carried me through this journey. Your encouragement strengthened my resilience and belief in the work I was doing. I hope to one day pass forward the kind of mentorship you so generously shared with future generations of nursing scholars. I will always be grateful for your wisdom and care.

Nancy, your guidance and expertise in health research has helped me navigate my transition from clinical practice to academic scholarship. You challenged me to move beyond clinical practice, to think and develop as a nursing scholar, and to recognize my place within academic work. Thank you for your ongoing support and the opportunities you fostered throughout this journey.

Jason, your expertise in pain and cannabis research was invaluable to this work. Your insights consistently challenged me to approach research and knowledge development from different perspectives. It has been a privilege to learn from you throughout this process, and I am grateful for the contributions you made to strengthen this dissertation

To my friends, family, and coworkers, thank you for every word of encouragement, every thoughtful gesture, for lifting my spirits and offering unconditional support.

To my partner Jacob, thank you for always reminding me of what I am capable of and the potential you see in me. Your love has pushed me beyond what I imagined for myself.

# TABLE OF CONTENTS

CHAPTER 1: INTRODUCTION	1
Introduction	1
Background	2
Fibromyalgia	2
Current Treatments	4
Fibromyalgia and Cannabis Treatment	6
Context	8
Cannabis in Canada	8
Healthcare Professionals and Cannabis Treatment	9
CHAPTER 2: LITERATURE REVIEW	12
Chapter Overview	12
Search Strategy	12
Study Characteristics	
Results of the Literature Search	15
Safety and Effectiveness of Cannabis for Symptoms of Fibromyalgia	15
Critical Appraisal of Cannabis Use Evidence	
Experiences of Using Cannabis in Management of Chronic Pain	19
Critical Appraisal of Fibromyalgia Evidence	21
Experiences of Living with Fibromyalgia	
Self-Management	23
Complex Nature of Diagnosis	24
Knowledge Gaps	
Summary	27
CHAPTER 3: METHODOLOGY	
Chapter Overview	
Research Purpose and Questions	
Study Design	
Theoretical Framework	
Sampling	

Inclusion and Exclusion Criteria	
Recruitment	
Data Generation	34
Semi-Structured Interviews	34
Demographic Information	
Screening	
Data Management	
Positionality Statement	
Data Analysis	40
Rigor	44
Ethical Considerations	46
CHAPTER 4: FINDINGS	48
Chapter Overview	48
Participant Characteristics	49
Section 1: Living with Fibromyalgia	52
Long and Difficult Journey to Diagnosis	52
Trials of Medications	54
Stigma of Fibromyalgia and Feeling Invisible	55
Alternative Treatments and Therapies	57
Section 2: Main Findings	58
Theme 1: Cannabis as a Core Component of Fibromyalgia Management	58
Turning Point in Symptom and Pain Management	59
Finding Symptom Relief	60
Reclaiming Normalcy and Routines	63
Theme 2: Barriers and Challenges to Cannabis Use	65
Lacking Healthcare Professional Support	66
Feeling Stigmatized	67
Testing Through Trial and Error	69
Experiencing Side Effects	73
Facing Financial Barriers	75
Theme 3: Cannabis Use in Daily Life	76

Tailoring Cannabis Timing or Dosing	77
Being Intentional	79
Theme 4: Advice for Healthcare Professionals	80
Accepting Cannabis	
Building a Trusting Relationship	
Summary of Findings	
CHAPTER 5: DISCUSSION	85
Chapter Overview	
Study Findings Supported by Existing Literature	
Novel Study Findings	
Understanding Participant Preferences and Patterns of Use	
Navigating Cannabis Without Healthcare Support	
Strengths and Limitations	
Implications	
Practice	
Education	
Policy	
Research	
Conclusion	
REFERENCES	
APENDICES	
Appendix A: Search Strategy and Results	
Appendix B: Critical Appraisal of Included Studies	
Appendix C: Literature Review Table	141
Appendix D: Research Poster and Flyer	144
Appendix E: Social Media Posts	
Appendix F: Email to Enquire about Sharing Requirement Message	146
Appendix G: Screening Form	147
Appendix H: Semi-Structured Interview Guide	149
Appendix I: Demographic Questionnaire	151
Appendix J: Participant Information Sheet and Consent Form	

## LIST OF TABLES

Table 1	Search Terms Used Across Databases
Table 2	Six Phases of Reflexive Thematic Analysis
Table 3	Key Strategies to Maintain Trustworthiness & Rigor
Table 4	Participant Demographics

Table 5Main Findings

## LIST OF ABBREVIATIONS

- AMC American College of Rheumatology
- CBD Cannabidiol
- CBN Cannabinol
- BPG Best Practice Guideline
- FM Fibromyalgia
- HCP Health Care Provider
- MS Microsoft Office
- NP Nurse Practitioner
- QD Qualitative Description
- RCT Randomized Controlled Trial
- RN Registered Nurse
- RTA Reflexive Thematic Analysis
- THC Tetrahydrocannabinol
- VAC Veterans Affairs Canada

## **Declaration of Academic Achievement**

I, Samantha Holmes, declare that this work is my own and, if not, I have acknowledged the original source according to APA guidelines.

**Date:** June 16<sup>th</sup>, 2025

Graduate Thesis: Experiences of Canadian Women Using Cannabis for Fibromyalgia Symptom Management: A Qualitative Description Study

Signature: Jamartha Jame

#### **CHAPTER 1: INTRODUCTION**

#### Introduction

Fibromyalgia (FM) is a multifaceted chronic pain syndrome characterized by widespread musculoskeletal pain persisting for at least 3 months (Isomeri et al., 2021). Often associated with a spectrum of symptoms, FM may include persistent fatigue, sleep irregularities, and cognitive disturbances (Sarzi-Puttini et al., 2020; Siracusa et al., 2021). Persons with FM frequently report a significant delay in diagnosis, leading to increased emotional burnout and distress (Ashe et al., 2017; Wuytack & Miller, 2011). Furthermore, the complexity of symptomology and delay in diagnosis often leads to diminished credibility of reported symptoms, resulting in stigmatization of persons with FM within both social and medical communities (Boulton, 2019; Wuytack & Miller, 2011).

In Canada, the prevalence of FM is estimated at 3% of the population (Murphy et al., 2006; Rusu et al., 2015) and predominantly affects women greater than 40 years of age (Rusu et al., 2015). The management of this condition remains a clinical challenge as while some individuals have reported resolution of symptoms, there is no established cure. Instead, a variety of pharmacologic treatments are recommended for symptom relief with limited patient satisfaction (Cohen-Biton et al., 2022; Sarzi-Puttini et al., 2020). In Canada, the legalization of medical cannabis in 2001, followed by the legalization of recreational cannabis in 2018, potentially opened new avenues for symptom management in FM (Cox, 2018; Government of Canada, 2021), as demonstrated by recent chronic pain literature (Busse et al., 2021; Cummings et al., 2024). However, considerable variability exists in healthcare providers' (HCP) knowledge

base and attitudes towards authorizing cannabis for medicinal purposes (Agarwal et al., 2024; Ng et al., 2021; Ziemianski et al., 2015).

The experiences and perspectives of persons with FM using cannabis for symptom management remain largely unexplored. The thesis research explored the experiences of adult women diagnosed with FM who utilize cannabis for symptom management. Qualitative Description (QD) was chosen as the methodological design, which aims to provide an in-depth understanding of the phenomena, processes, and individual viewpoints and experiences of adult women with FM who use cannabis for symptom management (Bradshaw et al., 2017). Utilizing QD enabled the exploration of patient knowledge, beliefs, and behaviors, thus contributing to the discourse on cannabis use for FM. This research also contributes to existing evidence base regarding HCPs' expertise and comfort with cannabis use in FM, informing the development of best clinical practices, ultimately improving patient care and outcomes for those living with FM.

## Background

#### Fibromyalgia

FM is a chronic pain syndrome that primarily effects women aged 20 to 55 years, with increasing prevalence in those over 40 years of age (Isomeri et al., 2021; Sarzi-Puttini et al., 2020). Patients often experience years of diagnostic exclusion before they are diagnosed, potentially leading to prevalence rates increasing with age (Boulton, 2019). A systematic review and meta-analysis of over 3.5 million individuals across 65 studies estimated global prevalence rates of FM at 1.78%, with rates of 2.41% specifically in the America's region (as per World Health Organization region classification), which includes Canada (Heidari et al., 2017). In the Canadian context, where literature is relatively scarce and somewhat dated, estimates are similar

to global prevalence, with 3% of the population affected (Murphy et al., 2006; Rusu et al., 2015). However, these figures may underestimate current prevalence, as more recent studies using the revised 2016 American College of Rheumatology diagnostic criteria have reported higher rates. For example, a survey of 3,276 U.S. primary care patients found that 5.5% met the 2016 ACR criteria for FM (Srinivasan et al., 2019) Additionally, significant sex differences in prevalence are reported, with females being 8 to 9 times more likely than males to be diagnosed with FM (Heidari et al., 2017).

The primary symptom of FM is persistent, multisite pain lasting at least three months, typically affecting multiple regions of the body. While earlier diagnostic criteria required pain on both sides of the body, above and below the waist, more recent criteria recognize that FM pain can be regionally distributed and does not always follow a symmetrical pattern (Arnold et al., 2019). FM is also associated with additional cognitive, somatic and physical symptoms, including fatigue, sleep irregularities, psychiatric disorders, autonomous dysregulation, hypersensitivity to external stimuli, and gastrointestinal problems (Boehnke et al., 2021; Sarzi-Puttini et al., 2020; Siracusa et al., 2021). Symptoms can affect personal and professional life, and may severely hinder an individual's capacity to work and engage socially, leading to a diminished overall life quality (Ashe et al., 2017; Ben-Yosef et al., 2020; Wuytack & Miller, 2011).

The underlying mechanisms of FM currently remain debated in the medical community (Fitzcharles et al., 2021). Risk factors for the development of FM include certain types of stress (both psychological and biological), genetic polymorphisms, physical and emotional trauma, and a familial predisposition (Sarzi-Puttini et al., 2020; Schmidt-Wilcke & Clauw, 2011). Moreover, FM often overlaps with other 'central pain' or 'chronic overlapping symptom conditions', such as irritable bowel syndrome, migraines, interstitial cystitis/painful bladder syndrome, chronic pelvic pain, and temporomandibular joint disorder (Sarzi-Puttini et al., 2020; Schmidt-Wilcke & Clauw, 2011; Penn et al., 2019). This overlap suggests commonalities in disrupted pain and sensory information processing in the central nervous system, shared genetic vulnerabilities, or similar responses to stress and psychosocial factors (Schmidt-Wilcke & Clauw, 2011).

Findings from qualitative literature present themes of identity transformation and experiences of loss related to the significant personal impacts of living with FM (Ashe et al., 2017; Brown, 2018). These findings underscore how FM fundamentally alters an individual's sense of self and their social roles (Ashe et al., 2017; Brown, 2018; Wuytack & Miller, 2011). This transformation is part of an ever-changing journey, characterized by continuous adaptation required by the individual to navigate the shifting symptomology and fluctuating severity of FM. Part of these challenges may exist since FM remains stigmatized in both social and medical communities, stemming from challenges in diagnosis, variability in treatment approaches, and a lack of pathognomonic findings (Ashe et al., 2017; Blanchard et al., 2022; Boulton, 2019; Wuytack & Miller, 2011).

## **Current Treatments**

Current pharmacological treatments for FM include opioids, anti-inflammatories, and offlabel uses of anti-depressants and anti-convulsants (Agarwal et al., 2018). These treatments are often reported by patients as unsatisfactory in providing effective pain relief as well as the introduction of undesirable side effects (Longo et al., 2021). In fact, the 2012 Canadian Guidelines for management of FM made only weak recommendations for the most commonly prescribed medications for FM, such as anti-convulsants and nonsteroidal anti-inflammatories

(Agarwal et al., 2018). Consequently, achieving comprehensive and effective treatment plans for persons with FM remains a formidable challenge, with many therapeutic efforts focusing primarily on reducing pain frequency and severity (Fitzcharles et al., 2021; Rico-Villademoros et al., 2020; Sarzi-Puttini et al., 2020; Schmidt-Wilcke & Clauw, 2011). A recent systematic review and meta-analysis of 21 cross-sectional studies regarding physicians' knowledge, attitudes, and practices regarding FM revealed that Canadian physicians face significant challenges in diagnosing and treating FM (Agarwal et al., 2024). Despite FM being recognized as a distinct clinical entity by 84% of physicians, a substantial divide remains regarding its etiology, with 51% of physicians endorsing it as a psychosocial condition rather than a biomedical one. This ongoing ambiguity in understanding likely contributes to the variability in treatment approaches, as non-opioid analgesics, physical therapy, and relaxation exercises continue to be the most commonly endorsed treatments, but with inconsistent support for other modalities, such as anticonvulsants (33%) and medical marijuana (12%) (Agarwal et al., 2024). Furthermore, physicians still struggle to apply standardized diagnostic criteria for FM, with only 65% of physicians using the ACR criteria in practice (Agarwal et al., 2024).

Additionally, the issue of care responsibility remains unresolved, with 89% of rheumatologists believing that FM should primarily be managed by family physicians, while 42% of physicians-in-training felt that rheumatologists should take the lead (Agarwal et al., 2024). This lack of consensus about who should oversee care results in a cycle where FM patients are often left in limbo, as neither family physicians nor specialists want to assume responsibility. The continued frustration and stigma surrounding FM patients were also highlighted, with 76% of physicians describing FM patients as "time-consuming" and "frustrating" (Agarwal et al., 2024). This situation underscores the critical need for updated

Canadian guidelines that not only address the ongoing gaps in knowledge and treatment but also provide clarity regarding who should manage FM patients. The persistent indecision on care responsibility contributes to a system where patients are often caught in a cycle of uncertainty, being redirected between providers due to unclear care responsibilities, creating barriers to consistent and coordinated care. Thus, despite advances in understanding of FM symptomology, treating the condition remains a clinical challenge.

## Fibromyalgia and Cannabis Treatment

Individuals with FM have been reported to use complementary and alternative treatments to alleviate their symptoms due to a lack of treatment satisfaction from Western medicine ( Boehnke et al., 2021; Lauche et al., 2015; Siracusa et al., 2021). A 2020 survey in the United States further underscores this trend, revealing that 441 out of 670 respondents (approximately 66%) with FM used complementary and alternative therapies (Pfalzgraf et al., 2020). Among those, 41% preferred coordinated and alternative options over prescription or over-the-counter medications, and nearly three-quarters (74%) used coordinated and alternative therapies without any physician recommendation (Pfalzgraf et al., 2020). This highlights a growing reliance on alternative treatments, which, like exercise and cognitive behavioral therapy, have been shown to be equally or more effective than pharmacological interventions for some individuals with FM (Sarzi-Puttini et al., 2020). This may be due to their focus on the dysfunction associated with FM rather than just symptomatic improvement. However, their endorsement from providers has been reported as low for several reasons: clinicians might have inadequate knowledge surrounding them or feel they are ineffective in symptom-management; insurers may not cover their costs; and patients are often reported to seek medication-based treatments from their primary care

providers, especially early in their FM journey (Agarwal et al., 2018; Agarwal et al., 2024; Brown, 2018; Doebl et al., 2020).

Treatment options for FM may be expanding, particularly in the context of cannabis use. A recent cross-sectional survey found that 24% of persons with FM in Canada reported having tried cannabis for symptom relief, and among these, 61% chose to continue its use, suggesting its perceived effectiveness (Fitzcharles et al., 2021). According to patient reports, the appeal of cannabis for some persons with FM is due to its broad symptom-relief potential, transient side effects, and low abuse propensity (Boehnke et al., 2021; Romero-Sandoval et al., 2018). However, concerns about cannabis use disorder complicate its integration into therapeutic settings, especially as evidence suggests that risk may vary depending on patterns of use, such as dual recreational and medicinal consumption (Gendy et al., 2023). It is important to consider that the conclusive harms of cannabis for medical purposes remain uncertain, highlighting the need for further research into its long-term and serious adverse effects (Zeraatkar et al., 2021).

A recent qualitative study exploring the perspectives of residents of Ontario, Canada, living with chronic pain revealed that while patients were generally satisfied with using cannabis to manage their chronic pain, they reported side effects associated with smoking, such as lung irritation, coughing, forgetfulness, and grogginess (AminiLari et al., 2022). In comparison to smoking, Cummings et al. (2024) in a qualitative descriptive study with persons experiencing chronic pain, found that oral consumption methods (including edibles, oils, and capsules) were favoured by participants for providing sustained relief with fewer respiratory side effects, despite their delayed onset and need for careful dosage to manage the duration and intensity of effects. This evidence suggests that the method or route of cannabis consumption (i.e., edibles versus smoking), can significantly influence the type and severity of side effects.

Beyond the physiological and experiential effects of cannabis consumption methods, other factors such as cost, and stigmatization also play a critical role in shaping its overall impact. Persons using cannabis have reported on the high cost, often not covered by insurance, as a major barrier to use, exacerbating accessibility issues to those facing financial disparity (AminiLari et al., 2022). Additionally, several studies have found patients experience stigma from a variety of sources, including HCPs, family/ friends, workplaces and the general public, for using cannabis (AminiLari et al., 2022; Cummings et al., 2024). Despite these challenges, the subjective positive experiences of patients highlight the potential value of cannabis in chronic pain management, warranting further exploration (Busse et al., 2021).

### Context

#### **Cannabis in Canada**

The legalization of recreational cannabis in Canada came into effect on October 17, 2018, with the implementation of the Cannabis Act (Hammond et al., 2020). In Canada, individuals who choose to use cannabis to manage medical symptoms may have more options and legal protections compared to those living in countries where access to cannabis is restricted or illegal. Since 2001, patients in Canada have been able to obtain medical cannabis through licensed producers via medical authorization, and the legalization of recreational cannabis in 2018 has further expanded access to cannabis products (Cox, 2018). According to the 2022 Canadian Cannabis Survey, 27% of Canadians aged 16 and older reported using cannabis in the past year, a slight increase from the 25% rate reported in the previous year (Government of Canada, 2022). Of those who reported using cannabis, 13% indicated they used it for medical purposes, while 3% reported daily use (Government of Canada, 2022). These statistics not only highlight the

growth of the cannabis industry but also reflect changing patterns and attitudes toward cannabis use in Canada post-legalization. The purchase of cannabis for medical purposes requires consultation with a HCP, who may provide medical authorization for a patient to register with a licensed producer to obtain cannabis products (Government of Canada, 2021). Patients have been noted to prefer registering for medical cannabis due to its eligibility for insurance coverage in some cases, and the availability of specific strains and concentrations tailored for medical use, which may not be as readily available or clearly labeled in the recreational market (Government of Canada, 2021). This distinction underscores the importance of medical oversight for those using cannabis for therapeutic purposes, offering a pathway to access products that are potentially more suited to individual medical needs and, in some instances, financially accessible through insurance reimbursement.

#### Healthcare Professionals and Cannabis Treatment

Primary care providers, including nurse practitioners (NPs) and physicians, are often the first point of contact in the healthcare system and have the potential to serve as key resources for patient education and guidance regarding cannabis. However, despite this central role, many lack adequate training and education related to cannabis authorization, which may hinder their ability to support patients effectively. A qualitative study of Ontario physicians revealed that many expressed reluctance to authorize cannabis, citing a lack of knowledge and concerns about potential harms (Ng et al., 2021). This issue is not isolated to physicians. A 2020 needs assessment survey by the Canadian Coalition for Seniors' Mental Health found that while 76 % of other (excluding nurses and physicians) HCPs were aware of older patients using cannabis, only 26% felt confident in addressing cannabis-related questions from older patients and caregivers (Rabheru et al., 2021).

Despite the availability of cannabis education resources from associations like the Canadian Medical Association and Canadian Nurses Association, there is no formal mandate for such education at this present time (Canadian Medical Association, 2020; Canadian Nurses Association, 2022). This leaves providers to pursue continuing education independently, often facing challenges fitting educational sessions into busy schedules and the onus on the individual to overcome personal biases. An educational needs assessment of Canadian physicians indicated that a significant barrier to authorizing cannabis was the fear of recreational misuse by patients (Ziemianski et al., 2015). A 2020 cross-sectional study of medical students in Quebec mirrored these findings, with most (75.9%) participants rating their medical school's cannabis-related curriculum as inadequate (Elkrief et al., 2020). Participants expressed a preference for formal didactic lectures, case-based learning, and increased clinical exposure, indicating a perceived need for foundational and practical instruction that was lacking in their current curricula (Elkrief et al., 2020). Similarly, a 2023 survey of Manitoba baccalaureate nursing students highlighted that fewer than four in ten students received medical cannabis training (Balneaves et al., 2023). Additionally, a recent qualitative study of primary care providers (n=12) in Newfoundland and Labrador, which included both physicians and nurse practitioners, found that 33% were unwilling to authorize medical cannabis, 42% were willing with caveats, and only 25% were actively authorizing (Schuhmacher et al., 2024). Knowledge gaps, lack of formal education, and unclear clinical guidelines were key barriers, with many patients seeking authorization only after independent use (Schuhmacher et al., 2024). Although some expert-driven clinical recommendations exist, such as consensus-based titration strategies for chronic pain (Bhaskar et al., 2021), there are currently no evidence-based best practice guidelines (BPGs) specific to

cannabis use in FM care. This lack of targeted guidance contributes to provider uncertainty and highlights an ongoing gap in clinical education.

Efforts by Health Canada and the Canadian Nurses Association, including the development of a national nursing framework and e-learning modules, reflect steps towards addressing this educational gap (Canadian Nurses Association, 2022). However, some nursing regulatory bodies are hesitant to include medical cannabis within NPs' practice scope. NPs in Ontario may authorize cannabis for medical purposes but are advised to ensure decision is evidence-informed and caution their patients about risks associated with variability in cannabis composition and potency (College of Nurses of Ontario, 2023). This is echoed by the Canadian Medical Association's policy calls for compulsory education and licensing programs for physicians who authorize cannabis (Canadian Medical Association, 2019).

This evidence highlights the necessity for nurses and other HCPs to possess a comprehensive understanding of cannabis use in persons with FM. Gaining insights into the experiences persons with FM using cannabis has potential to inform providers' approach to supporting them with this treatment decision.

#### **CHAPTER 2: LITERATURE REVIEW**

#### **Chapter Overview**

This chapter outlines the search strategy and findings of the literature review on cannabis use in individuals with FM. It details the search process, including databases, search terms, and inclusion criteria, and summarizes the characteristics of the studies reviewed. The findings cover the safety and effectiveness of cannabis for FM symptoms, patient experiences with cannabis use in chronic pain management, and qualitative insights into living with FM. The chapter also includes a critical appraisal of quantitative and qualitative evidence, highlighting methodological strengths and limitations. Finally, knowledge gaps are identified, emphasizing the need for further research on the perspectives of FM patients regarding cannabis use. The chapter concludes by linking these gaps to the rationale for the present study.

#### **Search Strategy**

A literature review was conducted between September 12 and December 18, 2023, to identify studies published from the year 2000 onward. Evidence published prior to 2000 was not considered due to changes in legislation related to medical and recreational cannabis in Canada. A health sciences librarian at McMaster University was consulted prior to the search to assist with identification of search terms and the overall search strategy. The aim was to explore the state of the research evidence on the use of cannabis in persons with FM from qualitative, quantitative, and mixed methods studies. Refer to Table 1 for the search terms that were used. The following databases were searched: Excerpta Medical Database (EMBASE), Allied and Complementary Medicine (AMED), Global Health, Health and Psychosocial Instruments (HaPI), HealthSTAR Journal Abstracts and Table of Contents, Mental Measurements Yearbook, Medical

Literature Analysis and Retrieval System Online (MEDLINE), PsycINFO, Cumulative Index to Nursing and Allied Health Literature (CINAHL), Web of Science, Open Dissertations, and Elicit.org. The combination of search terms was tailored based on study design of interest (i.e., quantitative versus qualitative). To ensure the relevance and originality of this study, a follow-up literature search was conducted between June 9 and June 10, 2025, using the same databases and general search terms (i.e., *fibromyalgia* AND *cannabis*) to verify that no qualitative studies on this topic had been published since the initial review. Refer to Appendix A for a detailed breakdown of each search strategy.

## Table 1

Category	Search Terms
Cannabis	Cannabis, cannabinoids, delta-9-tetrahydrocannabinol,
	THC, Dronabinol, cannabidiol, CBD, marijuana
Fibromyalgia	fibromyalgia
Canada	Canada
Pain	Chronic pain
Qualitative research	qualitative

Search Terms Used Across Databases

#### **Study Characteristics**

Given the limited availability of Canadian-specific studies on FM and cannabis use, searches were expanded to include broader chronic pain populations and qualitative research on the lived experience of chronic pain and cannabis use. Initial searches using the terms "fibromyalgia AND cannabis OR cannabinoids OR delta-9-tetrahydrocannabinol OR THC OR cannabidiol OR marijuana" yielded a total of 540 relevant studies after applying language, human subjects, and date restrictions (2018–2023). Screening based on inclusion and exclusion criteria yielded a final three systematic reviews relevant to FM and cannabis (Khurshid et al., 2021; Kurlyandchik et al., 2021; Strand et al., 2023).

To capture qualitative perspectives, additional searches focused on chronic pain, qualitative research, and Canadian-specific studies. A search using the terms "chronic pain AND qualitative research AND Canada" resulted in 83 articles, of which one mixed-methods study (Zeng et al., 2021) and one qualitative description study (AminiLari et al., 2022) were included. Another search using "chronic pain AND cannabis AND Canada" returned 73 results, from which one cross-sectional survey study was retained (Boehnke et al., 2021).

Despite multiple searches, no qualitative studies were identified specifically on the lived experience of FM and cannabis use. Therefore, the qualitative component of this review was supplemented with studies on the broader experience of living with FM, as well as qualitative research on chronic pain and cannabis use. This decision aligns with findings from a systematic review by Wang et al. (2021), which concluded that cannabis outcomes for chronic pain were not significantly influenced by pain subtype (e.g., neuropathic, nociplastic [FM], or nociceptive pain), supporting the relevance of generalized chronic pain studies for the FM population.

To provide a holistic understanding of the illness experience, six qualitative studies on FM were included: three phenomenological studies (Ashe et al., 2017; Brown, 2018; Wuytack & Miller, 2011), two qualitative description studies (Blanchard et al., 2022; Boulton, 2019), and one qualitative meta-synthesis (Climent-Sanz et al., 2023). These studies were identified through targeted searches using terms such as "fibromyalgia AND qualitative," "qualitative research

AND fibromyalgia AND Canada," and "fibromyalgia AND cannabis OR cannabinoids AND qualitative." Additionally, one study (Cummings et al., 2024) was identified later by a committee member (J.W.B.) on values and preferences of chronic pain patients using cannabis. Refer to Appendix C for a table of included studies in the literature review.

## **Results of the Literature Search**

## Safety and Effectiveness of Cannabis for Symptoms of Fibromyalgia

Strand and colleague's (2023) systematic review examined the evidence for use of cannabis in the management of FM. Their review included four randomized controlled trials (RCTs) and five observational studies. The mean ages of participants ranged from 33.4 to 52.9 years with percentages of female participants ranging from 73 to 100 percent across the included studies. Treatments included oral synthetic tetrahydrocannabinol (THC; nabilone) and various forms of cannabis such as in pill, oil, smoke or vapor. The authors noted they found low-quality evidence supporting short-term pain reduction in people with FM with the potential for some positive effects on quality of life (e.g., effects related to mood or sleep). However, these findings were inconsistent across the included studies. The authors also note the variability in efficacy depending on cannabis formulations and dosages, emphasizing the need for standardization in future research and on-going investigation.

Khursid and colleagues' (2021) systematic review assessed the safety and efficacy of cannabinoid compounds in treatment of FM. They included 12 reviews (three systematic reviews, two RCTs, four observational studies, and one case series). Similar to Strand and colleagues, Khursid et al's review included studies examining various concentrations of cannabidiol (CBD) and THC cannabinoids (including synthetic derivatives). The authors

concluded that cannabinoids have been shown to improve a variety of symptoms (such as pain, sleep, anxiety and depression and overall quality of life) associated with FM in some patients with limited side effects, but that further research needs to be done.

Kurlyandchik and colleagues' (2021) systematic review aimed to determine safety and efficacy of cannabis for treatment of pain and symptomology in FM. Their review included three RCTs, six observational studies, and one study comparing management of chronic pain patients with FM patients. Conclusions from this review align with the findings of Strand et al. (2023) and Khursid et al. (2021) in that cannabis was safe and well-tolerated and may be beneficial for some FM patients. They also noted that further research into specific types, formulations, and dosage of cannabinoids is warranted.

Zeng and colleagues (2021) conducted a mixed-methods systematic review on values and preferences of persons with chronic pain towards medical cannabis. Some of the included studies involved participants with FM, including a large cross-sectional survey (described in detail below; Boehnke et al., 2019). Their investigation included the analysis of nine quantitative studies, five qualitative studies, and one mixed-methods study. The main findings were described in two key themes: values and preferences, and factors that influenced patients' decisions regarding use of cannabis. Regarding values and preferences, many medical cannabis users, especially those with chronic pain, held positive views about its usage though this was based on low certainty evidence. Those living with chronic pain using medical cannabis felt it was effective for reducing pain and lessening their reliance on prescribed medications, although this finding was also from low certainty evidence. Factors influencing decision-making included regarding medical cannabis as an effective means to manage pain, sleep disturbances, appetite, and nausea. Additionally, positive effects on emotional and mental health (diminishing anxiety,

depression, and stress) as well as enhanced focus and functionality influenced patients' decision to use cannabis. Reluctance to use cannabis, supported by moderate certainty evidence, included stigma and adverse perceptions from family, friends, and HCPs.

Boehnke and colleagues (2021) large cross-sectional survey of 2,701 patients with FM residing primarily in the US, with some in Canada (4.4%) and internationally (1.8%) provided important knowledge on the effects of CBD-rich cannabinoid products. The sample population was primarily female (94.7%) with a reported mean age of 56.7 years (SD=12). The following proportions of respondents noted "much" or "very much" relief from these products on the following symptoms: pain (30.5%), insomnia/sleep (40.1%), anxiety (40%), fatigue (20%), depression (32.3%), and memory/clarity of thought (21.9%). The primary motivation for participants to use alternative therapies was reported as insufficient effectiveness of existing treatments (reported by both current and prior users as 62.7-64.8%). The leading factors for ceasing usage of CBD products were either a lack of perceived benefit (62.3 %) or the cost involved (46.2%), rather than adverse effects (8.6%). The most commonly reported side effect was sleepiness (51.4%), with some rare instances of more serious effects such as paranoia (2.0% reported), hallucinations (1.3%), and vomiting (0.2%). These symptoms are more commonly associated with THC-rich derivatives and hypothesized by the authors to be the source of these uncommon effects rather than CBD derivatives (Boehnke et al., 2021).

Findings from the quantitative evidence suggests that cannabis is generally safe to use and effective for some persons with FM in managing pain and other symptoms. Positive experiences using cannabis were documented but with some noted challenges, such as stigmatization from family and friends and inconsistencies in cannabis products leading to development of more serious adverse effects. Overall, patients who continued cannabis use

described their belief that the benefits outweighed side effects or barriers to use. The most common reason for discontinuing use was lack of effect on symptoms or pain, followed by financial impacts.

## **Critical Appraisal of Cannabis Use Evidence**

A summary of the critical appraisal evidence on cannabis use is presented in Appendix B. The appraisal tools included Critical Appraisal Skills Programme (CASP) for systematic reviews (2022), Joanna Briggs Institute (JBI) Critical Appraisal Checklist for Analytical Cross-Sectional Studies (2020), and qualitative literature critique adapted from Evidence-Based Nursing: A Guide to Clinical Practice (2005), Chapter 8. The systematic reviews (Khurshid et al., 2021; Kurlyandchik et al., 2021; Strand et al., 2023; Zeng et al., 2021) collectively demonstrated a strong methodological foundation by addressing clearly focused questions related to the efficacy and safety of cannabis and cannabinoid products for FM. They conducted comprehensive search strategies and rigorous quality assessment tools, such as the Newcastle-Ottawa Scale, Cochrane risk of bias tool, STAR, and PRISMA guidelines, ensuring the relevance and reliability of the evidence included. Despite these strengths, the reviews shared a common limitation due to the significant heterogeneity in cannabis treatments, outcomes, and study designs, which complicated the synthesis of results. This heterogeneity, coupled with sometimes low quality of evidence and the absence of meta-analysis, highlighted the need for cautious interpretation of the findings. Furthermore, the potential exclusion of relevant literature due to the focus on Englishlanguage studies and the use of specific search terms or databases might have limited the evidence scope.

The mixed-methods, cross-sectional study by Boehnke et al. (2021) was distinguished by its clear inclusion criteria, systematic data collection, and management practices, as well as robust statistical analysis that effectively adjusted for potential confounders. However, the appraisal noted areas for improvement, particularly the lack of explicit discussion on potential biases or the long-term effects of CBD use, which are crucial for fully understanding cannabinoid products' safety and efficacy.

Overall, the included quantitative evidence provides a solid evidence base highlighting the potential therapeutic benefits of cannabis for FM, with the acknowledged methodological limitations and evidence of heterogeneity requiring further refined research. This is supported by a recent clinical practice guideline on the use of medical cannabis or cannabinoids for chronic pain (Busse et al., 2021). The guideline includes a weak recommendation to offer a trial of noninhaled medical cannabis or cannabinoids, in addition to standard care and management (if not sufficient), for people living with chronic cancer or non-cancer pain (Busse et al., 2021). This recommendation was weak due to the close balance between modest benefits on pain, sleep and physical functioning and several non-critical adverse events (e.g., cognitive impairment, drowsiness, dizziness, impaired attention). The cautious approach outlined in the guideline underscores the importance of evaluating cannabis as a treatment option for FM (which falls under the umbrella of chronic pain conditions).

## Experiences of Using Cannabis in Management of Chronic Pain

Cummings and colleagues (2024) recently published their findings exploring the values and preferences towards cannabis for medical purposes in 52 people living with chronic pain in Canada. Authors utilized QD and identified preferences from current users (40), previous users (10) and non-users (2) of cannabis. Participants noted several benefits of cannabis use for their chronic pain including pain relief, improved mental health, and improvements to sleep, nausea, and appetite. Additionally, some participants also noted higher pain tolerability or distraction from pain, relief from muscle cramps or spasms, improved sexual functioning, replacement of prescription medications with cannabis, few to low side effects, lower risks and overall improved physical and social functioning. Current users also highlighted the flexibility with cannabis use and associated dosing- important considerations for individuals exploring self-management.

In contrast, some participants in the study noted several limitations for using cannabis, which included insufficient relief from pain or sleep issues, and various side effects like drowsiness, fatigue, increased appetite, anxiety, paranoia, and cognitive impairment. Additional concerns involved its impact on daily activities like driving and working, legal issues, safety risks for children and pets, and potential for addiction or tolerance. Despite these drawbacks, most long-term users believed the harms of cannabis use were minimal.

AminiLari and colleagues (2022) also conducted a QD study on the use of cannabis among people living with chronic pain in Canada, exploring 13 participants' benefits and concerns surrounding therapeutic cannabis use. Seven men and six women participated, with a median age of 53 years. Participants used a variety of methods of administration, including oilfilled capsules, edibles, vaping, and smoking. The majority (11 of 13 participants) expressed a high level of satisfaction with their use of cannabis, noting its positive impact on pain reduction, enhanced sleep quality, increased appetite, higher energy levels, relief from nausea, and an overall improvement in mood. Among these participants, two mentioned that cannabis alone was enough to alleviate their pain, whereas nine others viewed it as a supplemental treatment. Some negative effects were observed, including irritation of the lungs and coughing, issues with

forgetfulness, unintended weight gain, sensations of dizziness, dryness in the mouth, headaches, and feeling sedated. However, participants shared that the side effects from cannabis were often less severe and fewer in comparison to those from other prescription medications used to treat their chronic pain.

#### **Critical Appraisal of Fibromyalgia Evidence**

A summary of the critical appraisal of FM evidence included in the literature review is presented in Appendix B. The appraisal tools included the Critical Appraisal Skills Programme (CASP) for qualitative literature (2018), and qualitative literature critique adapted from Evidence-Based Nursing: A Guide to Clinical Practice (2005), Chapter 8. The qualitative evidence synthesis by Climent-Sanz et al. (2023) demonstrated methodological strengths in its clear focus on adults with FM while exploring their perspectives on pain management strategies. The comprehensive search strategy, including a wide array of databases and both MeSH and free-text terms, ensured a broad capture of relevant studies. The application of the GRADE-CERQual framework and CASP Qualitative Checklist underscored the study's commitment to rigor in evaluating the confidence in findings and methodological quality. However, potential limitations include the exclusion of non-English studies and the lack of explicit search for grey literature or consultation with experts, which might have narrowed the evidence base. Additionally, the studies included in this synthesis primarily focused on the experiences of middle-aged and older women, with a notable lack of qualitative evidence on younger women's perspectives. Despite these challenges, the synthesis effectively integrated diverse patient perspectives through inductive thematic analysis, although the inherent subjectivity of qualitative research and the synthesis's broad applicability necessitated a nuanced interpretation of the findings.

The individual qualitative studies shared a strong methodological foundation, with clear and substantiated research aims focused on exploring the lived experiences of FM patients. These studies employed appropriate qualitative designs for their research questions, such as interpretative phenomenological analysis and thematic analysis, facilitating a deep exploration of patient experiences. Purposeful and diverse sampling strategies ensured the representation of varied patient perspectives, enhancing the depth and relevance of the findings. Systematic data collection and management, coupled with rigorous thematic analyses, highlighted the studies' commitment to methodological rigor. The detailed and thorough description of results, supported by direct quotes from participants, enriched the narrative and substantiation of identified themes. Nonetheless, the lack of explicit research questions in some studies and the potential for limited generalizability due to the specific study contexts were noted as methodological considerations.

The age and sex disparity in the literature may be attributed to the challenges in receiving a timely FM diagnosis, as patients often undergo years of diagnostic exclusion before being diagnosed (Boulton, 2019). Furthermore, the higher prevalence of FM among females, who are 8 to 9 times more likely to be diagnosed compared to males (Heidari et al., 2017), contributes to the sex imbalance in the available qualitative research. Despite these limitations, the available qualitative literature offers valuable insights into the impact of FM on patients' lives, although the generalizability of these findings may be limited by the specific research contexts.

## **Experiences of Living with Fibromyalgia**

In the included qualitative studies of living with FM, only one study (Brown, 2018) mentioned use of cannabis. Brown described one of the participants in her study that endorsed

use of cannabis to treat FM symptoms. This participant also noted similar challenges found in the literature related to stigma of using cannabis and recounts disapproval from family and friends.

### Self- Management

Despite the lack of investigation into cannabis use in qualitative literature related to the FM population, several themes emerged regarding alternative and complementary therapies in this population, including a strong self-management propensity. A qualitative evidence synthesis summarized how adult FM patients manage their pain and their perceptions of prescribed treatments from HCPs with a predominant narrative of self-management strategies due to dissatisfaction with current FM treatment options (Climent-Sanz et al., 2023). Across the 35 included studies, there were repeated themes of perceived lack of knowledge from HCPs leading to consideration of alternative and complementary therapies, often due to the dissatisfaction of pain management, unpleasant side effects from their prescribed medications, and general displeasure with the management of their illness. Many patients endorsed discovering these therapies from online resources, such as through support groups and various websites. Thus, self-management of their illness led them to new options in alternative or complementary medicine therapies, perhaps giving them a newfound sense of control or hope.

Control was a theme noted in a QD study of persons with chronic pain (18 of 26 participants had FM) waiting for pain clinic admission in Quebec, Canada. Participants had a similar focus on self-management strategies as they often commented on the lack of HCP support in their search for satisfactory pain and symptom management. Resilience was required by participants during the difficult and arduous process of advocating for various treatment approaches and strategies. For example, one participant stated, "I'm going to stand up for myself,

I'm going to find solutions on my own. This is where I am at." (Blanchard et al., 2022, p.8). Another noted, "you must never stop asking. Sometimes, [even though] it's bothersome, you need to harass people" (Blanchard et al., 2022, p. 8).

Brown's (2018) phenomenological study exploring the lived experiences of five female FM patients in the United Kingdom identified a "fighting spirit" amongst some of her participants who, when faced with fluctuating periods of wellness and illness, displayed determination and perseverance. Brown identified a variety of illness experiences within the FM diagnosis, including discussions of "constant battles" and other synonyms attributed to war, as participants reflected on their life with FM. Some participants reflected on learning to accept the way their life had changed since living with FM, often mourning the loss of ways of living prior to their illness and having to adapt and change to limitations and accompanying disability. These themes of 'fighting' are similar to findings from Blanchard et al (2022), where participants spoke of assertively voicing their concerns and advocating for treatment. Other authors within the FM literature also note similar themes of perseverance, such as the works by Ashe and colleagues (2017). In their interpretative phenomenological study of 14 persons with FM living in the United Kingdom, various participants noted a 'fight' with their illness, while others commented on taking control of their illness experience. One participant recounted, "people could give you advice, but you don't have to accept it... again it comes down to your own personal choice of what you do with the tools available "(Ashe et al., 2017, p. 8).

## **Complex Nature of Diagnosis**

Brown (2018) & Ashe et al.'s (2017) insights into the fighting spirit and selfdetermination among FM patients highlight a deeper narrative about their struggle with the condition. This proactive approach, characterized by both battle and acceptance, often stems from the complex nature of a FM diagnosis itself. The ambiguity in diagnosing FM, as examined by Boulton's (2019) QD work highlights the often lengthy and frustrating process of excluding other possible diagnosis or causes of symptoms before providers agree to the conclusion of FM.

However, the majority of the 31 patients with FM that were interviewed by Boulton spoke of the meaningless and "useless" diagnostic label FM often brought to their lives. Unlike other chronic illnesses, (such as rheumatoid arthritis, for example) that have a relatively linear, or expected trajectory, patients with FM spoke of the uncertainty their diagnosis brings, caused by the lack of a unified set of symptoms or "usual" presentation (Boulton, 2019).

Adding to the layers of uncertainty was the notion of "invisibility", a term used by FM patients across many qualitative works, to describe the juxtaposition of their illness experience against their seemingly 'normal' outward appearances (Ashe et al., 2017; Boulton, 2019; McMahon et al., 2012; Wuytack & Miller, 2011). It is not unsurprising given persons with FM seemingly well appearance, they reported stigmatization and accusations of over-exaggeration, 'faking it', or purely psychological symptoms (Ashe et al., 2017; Brown, 2018; Climent-Sanz et al., 2023). These accusations and experiences of perpetual stigmatization led to feelings of alienation and loneliness, as seen in Wuytack and Miller's (2011) phenomenological work on the experiences of stigma, both in personal spheres (such as with family and friends) and within the healthcare system (Climent-Sanz et al., 2023; Doebl et al., 2020). This misunderstanding, as highlighted by the 2019 exploratory qualitative study by Kugelmann and colleagues, may be fueled by how chronic pain is portrayed in the media, affecting societal perceptions and attitudes.
The struggle to understand and be understood often forces individuals living with FM to navigate through significant life disruptions. As the need to understand and be understood deepens, its effects extend beyond the individual, influencing identity formation and reshaping social dynamics (Ashe et al., 2017; Wuytack & Miller, 2011). However, in the face of these multifaceted challenges, the qualitative literature highlights the resilience and self-advocacy of persons with FM who remain determined as they continue forward on their journeys (Ashe et al., 2017; Blanchard et al., 2022; Brown, 2018).

## **Knowledge Gaps**

The inclination of persons with chronic pain towards self-management and alternative therapies (including cannabis), highlights existing gaps in healthcare practices and research. While some evidence points to the efficacy of cannabis in managing chronic pain, a similar, direct link for FM patients remains largely unexplored due to a notable absence of qualitative research in this specific context. Despite cannabis accessibility in Canada and its potential benefits, FM patients face a healthcare system that often leaves them feeling neglected, fueling a need for empowerment and a desire for self-directed care strategies with support from HCPs.

However, the broader research landscape is marked by critical shortcomings, including a lack of high-quality RCTs with consistent dosing and outcome measures, compounded by outdated practice guidelines for FM management. Additionally, nurses are often at the forefront of patient care, serving as key sources of education, advocacy, and guidance. However, there is little research examining how nurses navigate conversations about cannabis use, address patient concerns, or integrate cannabis-related discussions into their practice. Given the evolving evidence base, nurses may lack the necessary resources and training to provide informed support.

These deficiencies present unique challenges for patients and providers alike, such as integrating cannabis use into standardized clinical practice for FM, with evidence currently based more on inference from chronic pain research than on direct evidence from persons with FM themselves. Understanding nurses' role in assisting FM patients who turn to cannabis for relief is essential for developing evidence-based nursing practices and ensuring that patients receive comprehensive, well-informed care.

## Summary

Overall, the reviewed literature predominantly explores cannabis use for FM through quantitative research, with an absence of qualitative studies directly exploring the experiences and use of cannabis in persons with FM. This gap necessitates a significant area for research, particularly in understanding patient perspectives and decision-making processes regarding cannabis use. The quality of existing research, while informative about potential therapeutic benefits, lacks the depth that qualitative insights from FM patients could provide. Therefore, this thesis research aimed to investigate the perspectives of women with FM on using cannabis, to address a critical gap in the understanding of individual experiences and decision-making processes. As FM predominantly affects women, the study focused exclusively on female participants to capture the majority of experiences for this population. By concentrating on women, it was anticipated that efforts to limit the heterogeneity of results due to potential nuanced differences between female and male perspectives on living with FM, it would strengthen the methodological scaffolding as it relates to data interpretation. Ultimately this research approach aimed to develop more informed, patient-centric healthcare strategies that reflect the real-world experiences and needs of women living with FM.

# **CHAPTER 3: METHODOLOGY**

## **Chapter Overview**

A Qualitative Description study design was chosen for this research. This chapter outlines the rationale for the chosen methodology and the theoretical framework that guided the study. How QD methods were applied, including the processes for participant sampling, recruitment, data collection, and data management, are also described. The chapter also details the approach to data analysis and the strategies implemented to enhance credibility and trustworthiness. Finally, ethical considerations are discussed, highlighting the measures taken to protect participant rights and ensure research integrity.

## **Research Purpose and Questions**

## **Research Purpose**

Through qualitative inquiry, the overarching goal of the study was to document the experiences reported by adult women living with FM who chose to use cannabis for medical purposes to manage symptoms and overall quality of life related to their disorder. Therefore, the purpose of this qualitative work was to describe the subjective experiences that adult women with FM had while self-managing FM and cannabis use, and the accompanying decision-making process, within the context of living in Canada.

## **Research Question**

What are the experiences of adult women ( $\geq 19$  years) with fibromyalgia who either currently or have previously used cannabis to manage their condition?

## **Study Design**

QD was chosen as the methodological design (Sandelowski, 2000) for this thesis research since it aligns well with the research question by eliciting the study population's subjective experiences with FM and their use of cannabis for symptom control. The geographical context of Canada is hypothesized to include a unique subset of the sample population, as access to both recreational cannabis and cannabis for medical purposes is legal.

The methodology of QD draws on foundational principles outlined by key scholars in the field (Bradshaw et al., 2017; Sandelowski, 2000; Willis et al., 2016). At its core, this approach is anchored in a naturalistic tradition, emphasizing the study of phenomena in their authentic contexts (Bradshaw et al., 2017; Sandelowski, 2010). The aim of QD is to create summaries of participants recounts of events and phenomena that is low interference and 'surface' level rendering of the data collected (Sandelowski, 2000). Sandelowski explains in her description of OD the word 'surface' to describe the level of interpretative activity surrounding data collection and analysis during QD. That is not to say however, that QD is free of any interpretation, rather to convey that the data collected is free from highly abstract or subjective researcher interpretations that may otherwise be conceptually linked with specific theories and qualitative research methods such as grounded theory or phenomenology (Sandelowski, 2000). This is further supported by Bradshaw (2017) who emphasizes how a QD approach is initially focused on a straightforward, factual depiction of events, which then lays the groundwork for a deeper analysis and interpretation. This involves examining and understanding the meanings that individuals assign to various events, highlighting the capability of QD to delve into human experiences while maintaining a foundation of direct, literal description. This is crucial for

exploring the subjective experiences of adult women with FM who use cannabis as currently no qualitative research has been conducted with this population.

It is therefore critical that the interpretations drawn during this study contain both descriptive validity (i.e., an accurate account of events that most people viewing the data would agree) and interpretative validity (i.e., an accurate account of the meanings participants attribute to the events discussed during the study) (Sandelowski, 2000). Moreover, Willis et al. (2016) suggests that the findings from QD research can be transformed into practical educational or behavioral interventions because the findings produce an account that is close to the participants' stories (Sandelowski, 2000; 2010), reinforcing the method's relevance in producing outcomes with tangible benefits in clinical and health practice settings.

## **Theoretical Framework**

Story Theory, developed by Mary Jane Smith and Patricia Liehr in 1999, is a middlerange nursing theory that emphasizes the significance of storytelling in the nurse-person healthpromoting process, and was used to inform semi-structured interviews and preliminary analysis. This theory operates on the core concept of intentional dialogue within a nurse-person relationship, where nurses gather stories about health challenges that matter to the person sharing. Stories are seen as a fundamental human experience, linking the past, present, and future, and shaping connections within individual, family, and community contexts (Smith & Liehr, 2013).

At the heart of Story Theory lies the belief that "stories express who people are, where they've been, and where they are going." (Smith & Liehr, 2013, p. 225). Story Theory places significant emphasis on the researcher's role in understanding narratives. This involves a

metaphorical journey alongside the storyteller, delving deeper into the narrative to understand the underlying dynamics. Essential to this process is the researcher's dedication to identifying the links that form the narrative's structure, encapsulating its beginning, middle, and end. This is achieved through what Smith & Liehr term 'true presence': a state where the researcher engages with the storyteller's narrative in a nonjudgmental manner, constantly adjusting their focus to truly connect with the story's essence and progression (Smith & Liehr, 1999, p.189)

Story Theory is well-suited for chronic illness research due to its emphasis on intentional dialogue and personal narratives, highlighting the complexity of patients' experiences by connecting their past, present, and future (Smith & Liehr, 2013). Its key concepts of intentional dialogue, connecting with self-in-relation, and creating ease allow for a deep exploration of how individuals perceive their condition, interact with their environment, and develop coping strategies (Smith & Liehr, 1999, p.189). Story Theory's focus on the narrative aspects of patient experiences makes it a comprehensive and appropriate framework for chronic illness research, offering insights into the multi-faceted aspects of the illness experience, in both psychological, physical, and social dimensions.

## Sampling

## Inclusion and Exclusion Criteria

The sampling frame consisted of the following inclusion criteria of 1) adults 19 years of age and greater 2), women and non-binary individuals who identified with the female experience, 3) have been diagnosed with FM by a health care provider, 4) reside in Canada, 5) report cannabis use related to FM (present or past use), 6) have access to a cellphone or

computer, and 6) speak and understand English. Participants were excluded if they endorsed that they only used cannabis recreationally.

A purposeful sampling plan was used to seek participants who meet the inclusion criteria. Purposive sampling represents a fundamental technique in qualitative research, where the goal is to select individuals who have direct experience with the phenomenon being studied (Patton, 2015, p. 104). Malterud's (2016) model of "informational power" was used as a guide to approximate the sample size to assist with formulation of a timeline and financial considerations. Malterud posits that a smaller number of participants is necessary when the sample holds larger informational power and vice versa, meaning we aimed to sample until we had developed a comprehensive description of the phenomenon (Malterud et al., 2016). A sample of 10 to 15 women was anticipated as a reasonable estimate of the number of stories required to ensure adequate informational power. Study aims included capturing a range of experiences and perceptions among our population through the collection of their stories. Recruitment ceased when data saturation was achieved, including identification of no new themes or narratives reported by participants. For this study, it was evident after speaking to 15 individuals that a robust collection and variation of narratives was collected. Additional methods such as opportunistic and maximum variation sampling methods were utilized as secondary strategies of sampling methods. Variation within the sampling frame included efforts to recruit participants from a range of Canadian provinces as well as within various age groups.

## Recruitment

Recruitment for this study began after obtaining ethics approval during May and June 2024. For feasibility and convenience, the primary recruitment resource was social media and

online FM support group networks. Canadian sources were invited to share recruitment messages and materials with their community/following. Social media outreach included Facebook, Instagram, X (formally Twitter) and discussion boards/ posts/ or 'stories' that catered to the FM population. Online FM webpages and support groups in Canada were contacted via Fibromyalgia Association Canada's comprehensive list found on their website (Fibromyalgia Association Canada, n.d).

Recruitment materials included a research poster/ flyer and social media posts that were used to attract potential participants (Appendices D & E). Appendix F contains the sample email format used to connect with various online groups/organizations for permission to post information. The recruitment materials included information about the study's purpose, eligibility criteria, potential contribution of findings, and contact information for the research team (DeRenzo et al., 2020) Facebook support groups from the following provinces agreed to share recruitment information: Alberta, British Columbia, Ontario, New Brunswick, Manitoba, and Newfoundland. Additionally, Fibromyalgia Association Canada agreed to post the study poster on their website and in their monthly e-newsletter, which created further reach with other Canadian provinces. Several other online support groups and two chronic pain organizations who had an e-newsletter agreed to share recruitment materials to their members.

The original target sample size for this study was 10 to 15 participants. Recruitment methods yielded an exceptional response rate, with 30 individuals contacting the lead student investigator within a two-week period. Incentives were not a focus in recruitment materials to mitigate concerns of unethical coercion to those with financial pressures. However, an honorarium for participation was offered in the form of a \$30 gift card (for 60-minute

interviews) or \$45 (for 90- minute interviews) to a local grocery or department store of their choice and was disclosed during the initial consent process after successful screening.

Potential participants were screened by the lead student investigator to ensure they met the eligibility (inclusion) criteria for the study. Participants were asked if they use cannabis for medical or recreational purposes, or both. The inclusion of both recreational and medical cannabis use was to ensure that individuals who do not consider their cannabis use to be medical, but experience FM symptom relief were included in the study. If potential participants noted that they only use(d) cannabis recreationally, they would be excluded from participation. Refer to Appendix G for the screening form.

## **Data Generation**

#### Semi-Structured Interviews

The primary data generation strategy was one-on-one semi-structured interviews, conducted on the video-conferencing platform Zoom. To ensure accessibility and convenience for participants, the option of a telephone interview was also provided. All 15 interviews took place via Zoom and occurred at a date and time agreeable to participants. Interviews were audiorecorded (with permission) and lasted between 60 to 90 minutes. Special consideration was given to patient comfort due to the nature of their physical limitations, with the interviewer checking in if participants displayed discomfort; participants were offered the option to take a break or end the interview early if needed. While no participants requested a break, one participant appeared fatigued, and the interview was respectfully concluded.

Use of "story path" as described by Smith & Liehr (2005) was the primary framework used to develop the semi-structured interview guide (Appendix H). Additionally, the interview guide was informed through reading similar qualitative studies within the FM or cannabis user population (Ljungvall et al., 2020; Wuytack & Miller, 2011). Potential questions were discussed with the research committee and iteratively refined. All interviews were conducted solely by the primary researcher, except for participant number one. For the first interview, the student supervisor (M.N.) was present to support and evaluate the primary researcher to ensure optimal interviewing skills and suggest any improvements (e.g., strategies to prompt participant to expand on an initial response).

A "grand tour" question was used to begin the interviews, "Can you tell me a little bit about yourself so I can get to know you?" This grand tour question was aimed at being easy and straightforward to answer so that participants could become comfortable with the interviewer and the interview process (Fylan, 2015). According to Smith & Liehr (2005), the interviewer begins with the present, asking the participant to talk about what matters most about the current health challenge (i.e., FM), followed by asking the participant about the past, including what events are related to their health challenge. Story gathering includes engaging in intentional dialogue and inviting the participant to tell the story of their complicating health challenge through the developing plot and movement to resolve the health challenge (Smith & Liehr, 2005). Participants were encouraged to describe their health journey as it relates to both FM and cannabis use. The primary researcher guided participants to discuss how cannabis use has impacted their lives with FM and if it had changed their symptom management.

Story Theory ends with movement towards the resolution of the health challenge, but Smith & Liehr (2013) make it clear that "resolution does not close when the storytelling ends; it occurs in its own time" (p. 238). Story Theory highlights that sometimes, subtle recognition is a step along the complicating health challenge journey, enabling storytellers to begin thinking

about the next steps in their journey. This was an important consideration for the semi-structured interviews, as participants were asked to discuss their hopes for the future, with regards to FM and cannabis.

Notes were made during the interviews and immediately following initial impressions, reflections, and any contextual information (e.g., participant was tearful during a certain subject matter). Participants were reminded prior to their interview of their right to withdraw from the study. They were also be reminded that they have the right to refuse to answer any questions during the interview by stating "pass." Participants were advised that information provided up to the point where they withdrew would be retained unless they requested that it be removed.

# **Demographic Information**

Demographic information was also collected prior to the commencement of interviews and included the following: gender, age, ethnicity, level of highest education achieved, geographical location (province), employment status, number of years living with chronic pain (including FM diagnosis), source(s) of cannabis (including medical authorization), source(s) of information and/or education on cannabis use, and type(s) of cannabis use (including formulation, dosing, and method(s) of administration). The demographic questionnaire is available in Appendix I

## Screening

A screening tool was used to identify and select potential participants who reached out to the primary researcher via the recruitment flyer. Any participants who meet the inclusion criteria as identified by the screening tool would be invited to participate in the study. After determining if an individual met inclusion criteria, the screening information was destroyed. Participants were asked to provide their name, age, gender and/or gender identity, and confirmation of diagnosis of FM and use of cannabis related to their FM. Including gender and gender identity enabled the study to capture participants who were assigned female sex at birth but identified as non-binary. Of the 30 individuals that reached out during the recruitment phase of the study, four did not meet the inclusion criteria and two declined to participate after being invited due to conflicting schedules or loss of interest. From the remaining pool, a final sample of 15 participants was selected. Nine individuals were not invited to participate due to resource limitations and to support maximum variation sampling, with efforts made to ensure diversity in age and provincial representation. Refer to Appendix F for the screening form. All individuals that reached out to the primary investigator were given the opportunity to retain their contact information for sharing of the research findings. Individuals were informed they would receive a copy of the publication of the findings.

## **Data Management**

All data collected during this study (e.g., consent forms, interview transcripts, and audio recordings) were securely stored. All physical paper copies collected (consent forms) were stored in a locked cabinet, in a locked office at McMaster University and only the student supervisor (M.N) had access. Digital information collected (i.e., demographic questions and tables, interview transcripts, Master Linking File (i.e., participant identifying information) and audio recordings) were uploaded and stored on McMaster University's SharePoint drive to which access was limited to the primary researcher and supervisor (M.N). An additional folder was created within McMaster's SharePoint drive that included three de-identified transcripts, which was shared with the committee members (N.C. & J.W.B). SharePoint provides a secure place to store and access information and as part of McMaster's license to Microsoft Office 365 Storage,

enforcing team-wide and organization-wide two-factor authentication, single sign-on through Active Directory (Microsoft's cloud-based identity and access management service), and encryption of data in transit and at rest.

Transcripts were generated from the audio files from Zoom. Study participants were identified by a numeric identifier and any identifying information (e.g., names or locations) were removed from interview transcripts during the de-identification process by the primary researcher. The transcripts were further cleaned by editing the transcripts for spelling errors, such as medical terms or medication names that were inaccurately captured by Zoom's transcription software. Audio-recordings of interviews were securely destroyed after the transcripts were finalized. All other study data will be kept for a minimum of five years after study completion after which data will be securely destroyed in an appropriate manner.

## **Positionality Statement**

The following section will detail key information about researcher positionality and reflexivity in relation to the study discussed for this thesis. As someone living with FM, I acknowledge the risk of bias and threats of interpretive validity due to my personal connection to the research topic. However, I was mindful of how my experiences may have influenced my thoughts and subsequent analysis for this study. My commitment to this research lies in my ethical responsibility to faithfully represent the voices and stories of its participants. The first strategy to prevent my own opinions and experiences from being over-ascribed to the research results was through the development of the semi-structured interview guide. I utilized other researchers' work in similar studies (Ljungvall et al., 2020; Wuytack & Miller, 2011) in addition to the lens of Story Theory. Second, participants were not made explicitly aware of my own

diagnosis of FM in order to protect participants from: 1) feeling compelled to disclose more than they normally would if they did not know I shared the same diagnosis as themselves; and 2) to prevent participants from withholding nuanced details about their life with FM or phrasing/ terminology that perhaps they would have assumed I would understand. Any participant who explicitly asked if I shared a FM diagnosis was given the truth and reminded of my commitment to ensure the data analysis of this project was true to the participants' own words and opinions (n=2). Methodological rigor and principles of QD research, as outlined by prominent nursing scholars (Bradshaw et al., 2017; Doyle et al., 2020; Morse, 2010; Sandelowski, 2010) were regularly consulted to ensure accuracy. Finally, researcher triangulation during data analysis with my supervisor and committee members helped to maintain my reflexive stance.

Central to qualitative health research is the researcher's deep engagement with the specific culture of their study group (Bowleg, 2017). This deep understanding is vital to ensure that the research findings accurately reflect the community's reality (Bowleg, 2017; Thorne, 2011). My personal experience with chronic pain, and my professional experience as a registered nurse (RN), offered a unique perspective that aided in my ability to build rapport and trust with the research participants, a crucial aspect of equitable qualitative research (Bowleg, 2017; Luciani et al., 2019). It is my belief that my dual role as an insider in chronic pain research, and my professional experience as a registered nurse, has enabled me to present valuable insights, highlight overlooked perspectives, and identify healthcare shortcomings as it relates to this research topic.

## **Data Analysis**

To ensure methodological congruency, a reflexive thematic analysis (RTA) approach was utilized, known for its versatility and independence from specific theoretical or epistemological approaches (Campbell et al., 2021). This flexibility allows researchers to shape the study's direction and conclusions, without being restricted by pre-determined theoretical constraints, facilitating an open-ended, researcher-driven exploration (Campbell et al., 2021). Campbell and colleagues emphasize the importance of evaluating a theme's significance, rather than just its frequency. This approach supports deeper consideration of how vital and relevant each theme is to the central research question, in addition to the study's objectives. The six phases of RTA were utilized to assist with identifying codes, themes, and categories to effectively summarize the data in a way that maintained naturalistic inquiry at a semantic (surface) level. This supported reflection that was as close as possible to what was explicitly stated by the participants, ensuring data analysis remained grounded in the participants' own narratives (Campbell et al., 2021).

Initially, Story Theory was used to help inform the earlier phases of the data analysis process, specifically during the second stage of initial code generation. Thus, codes were applied to data from the first ten participants, focusing on high points, low points, and turning points. However, this approach presented challenges and became too restrictive to the intention of maintaining inquiry at the semantic level. Consequently, to ensure alignment with the epistemological foundations of QD research, the decision was made to simplify the coding process by sorting data into the reported positive and negative aspects related to cannabis use and its impact on participants' lived experience with FM.

The limitations of applying Story Theory became evident as the structured focus on high, low, and turning points often required greater researcher inference, deviating from the descriptive nature of the chosen methodology. Furthermore, participants' narratives frequently reflected concurrent experiences of both improvement and deterioration in different aspects of their lives, complicating the categorization of life events within Story Path's theoretical framework. For instance, while a participant might describe feeling a sense of achievement in managing their symptoms through a new self-care strategy, they simultaneously may have faced emotional distress. Similarly, what initially appeared to be a high point- such as finding an effective treatment- could later be followed by setbacks, such as the treatment losing effectiveness or new symptoms emerging. This cyclical and nonlinear nature of their experiences did not align with the more rigid, structured trajectory imposed by Story Theory's high, low, and turning points. By focusing on distinct categories, Story Theory risked oversimplifying the complex, ongoing process of living with FM, particularly in relation to self-care, where progression and regression often occurred simultaneously or unpredictably. These challenges underscored the unsuitability of Story Theory to fully inform this study's analysis.

The data analysis process began with the student researcher immersing themselves in participant transcripts, reading and re-reading to identify patterns for initial code generation. Coding for each transcript was conducted in Microsoft (MS) Word, with the first four transcripts also coded separately by the student supervisor (M.N.) to ensure reliability and researcher triangulation. Discrepancies in coding were discussed collaboratively, which both strengthened the researcher's coding skills and ensured consistency. Regular meetings with the supervisor addressed any challenges encountered during the coding process for subsequent transcripts.

Given the large response and both consistency and variation in the participants' narratives, it was evident that a robust and diverse collection of data had been achieved after speaking to 15 individuals. This sample size was deemed appropriate based on the richness of the interviews and the depth of information collected.

After coding was completed, a "code book" was created in MS Excel to organize and examine data holistically. This code book included codes, themes, and relevant participant quotes, ensuring that the analysis remained grounded in participants' narratives. MS Word and MS Excel were the sole programs utilized for data management and analysis. A committee meeting was then held to review the findings and integrate feedback.

During the theme generation phase (stage three), diagramming techniques (concept mapping) were employed to map positive and negative associations of cannabis use as it related to participants' experiences with FM. Braun and Clarke (2019) highlight that RTA is not a passive process of identifying pre-existing themes but rather an active, iterative construction of meaning. As part of this interpretative process, researchers can employ various analytical tools, including visual representations such as concept mapping, to explore patterns and relationships between themes. The use of such diagramming techniques aligns with RTA's commitment to meaning-making, facilitating a structured yet dynamic way to refine themes and their interconnections (Braun & Clarke, 2019). The diagrams created from this study data were iteratively refined to capture both the frequency and significance of themes.

In the final stages of analysis, themes were compared against the research question and study aims to iteratively condense and combine them, ensuring a clear and succinct presentation

of findings aligned with the study's objectives. Table 2 below summarizes the six phases of the

RTA process that were followed during this study.

# Table 2

Six Phases of Reflexive Thematic Anal	ysis
---------------------------------------	------

Analytic Phase	Description	Actions
Data familiarization		
	Immersing oneself in the data to understand depth and breadth of the content	Transcribing, cleaning and de- identifying audio data (done by S.H)
	Searching for patterns and meaning begins	Multiple readings of the dataset
		Note taking
Initial code		
generation	Generating of initial codes to organize the data, with full and equal attention given to each data item	Labelling and organizing data items into meaningful groups (high-points, low-points, turning- points).
		Consult co-investigators and committee members (M.N, N.C, J.W.B)
Generating (initial)		
themes	Organize codes into preliminary themes	Diagramming or mapping positives and negatives of cannabis use (frequency and
	Identifying meaning of and	importance)
	relationships between initial codes	Document themes and their essential characteristics
		Consult co-investigators and committee members (M.N, N.C, J.W.B)
Theme review		
	Identifying coherent patterns at the level of the coded data	Verify sufficient data backing for each theme
	Reviewing the entire data set as a whole	Combine overlapping themes

		Modify and refine codes and
		themes
		Consult co-investigators and committee members (M.N, N.C, J.W.B)
Theme defining and		
naming	Determine the narrative for each theme	Iteratively compare data with identified themes to structure the narrative
	Align the broader story of the data set to respond to the research question	Consult co-investigators and committee members (M.N, N.C, J.W.B)
Report production		
	Presenting a succinct, engaging narrative of the data and its themes, encompassing individual and collective stories	Writing a compelling argument that addresses the research question
		Consult co-investigators and committee members (M.N, N.C, J.W.B)

## MSc. Thesis - S. Holmes; McMaster University- Nursing

Adapted from Campbell et al (2021).

#### Rigor

Strategies to maintain trustworthiness and rigor have been integrated in each part of the research process. Beginning with data collection, descriptive validity and interpretive validity were integrated as key components of rigor to ensure data collected from participants was analyzed in a way that maintained the words and meanings described by participants themselves (Lincoln and Guba, 1985). Applying Story Theory as a lens during data collection and analysis and the use of the Story Path framework ensured participants' own recounts of their life with FM and the meanings they attached to them were prioritized, mitigating risks of the primary researcher's own life experiences and interpretations from altering the data. Additionally, as described in the data analysis process, committee members were regularly consulted of the findings and themes discovered during the study as a method of triangulation, as experts in

qualitative health research. This included a member of the committee (J.W.B.) with professional expertise in both chronic pain and medical cannabis research. A full list of methods to ensure rigor and trustworthiness are summarized in Table 3 below, as outlined by Lincoln & Guba (1986), including credibility, transferability, dependability, and confirmability.

# Table 3

Rigor Criteria	Purpose		Original Strategies		Strategies for this study
Credibility (internal validity)	To ensure that the findings (as perceived by the participants) are trustworthy, valid, and plausible.	•	Engaging extensively and variably with each setting. Employing effective interviewing techniques. Establishing investigator's authority and credibility. Collecting adequate and relevant materials. Conducting member checks for data validation	•	Interview guide tested with colleague Investigators have the required knowledge and research skills to perform their roles. Regular debriefing meetings with the research committee which includes an expert in the field of cannabis and chronic pain (J.W.B).
<b>Dependability</b> (reliability)	To guarantee that the outcomes of this qualitative investigation can be replicated in a similar group of participants, with the same coders and context.	•	Rich description of the study methods. Establishing an audit trail. Systematic reproduction of the data.	•	Detailed drafts of the study protocol were prepared. A detailed track record of data collection and analysis decisions and process were developed. Coding accuracy was discussed with committee; Committee members will assist with initial development of codes and coding process due to professional experience.

V Church :	1.1	1	T	0	ת יימ
Key Strategies	10 N	Iaintain	Irustwortniness	æ	Rigor.

Confirmability (objectivity)	To enhance the credibility of the results by ensuring that other researchers would be able to confirm or substantiate them.	•	Reflexivity Triangulation	•	Reflexive journaling and statement made that noted researcher positionality and bias. Researcher triangulation (during data analysis)
<b>Transferability</b> (external validity, or generalizability)	To expand the reach of the findings by elevating the level of transferability or generalizability to similar contexts or settings.	•	Purposeful sampling to form a chosen sample. Data saturation.	•	Purposive sampling techniques (including maximum variation)

Adapted from Forero et al., 2018; Lincoln & Guba, 1986.

## **Ethical Considerations**

Ethical considerations are of paramount importance in qualitative health research, especially when the research involves populations who may experience vulnerabilities, such as women living with chronic illness. This study was created in accordance with the Tri-Council Policy Statement on Ethical Conduct for Research Involving Humans in Canada (Canadian Institutes of Health Research et al., 2022). Approval from Hamilton Integrated Review Ethics Board was granted prior to commencement as an opportunity to discuss, gain feedback, and improve the research design process (study ID-17363). In the event where the information provided by a participant posed an immediate risk to their own safety, a plan was put in place where the primary researcher would report to an appropriate professional and inform the participant, to uphold concern for welfare (Morse, 2007). To protect the safety and privacy of study participants, the primary researcher ensured that virtual interviews were conducted in a private setting, identifying information was removed from findings, physical documents were stored securely, and electronic data was only accessible by specific team members with passwords (Kaiser, 2009). When information was shared using an online communication platform (McMaster's institutional subscription to Zoom), privacy and security could not be guaranteed. Participants were made aware of this during the consent process. Consent was obtained prior to commencement of the interviews in the form of verbal consent (obtained by the primary researcher) by individuals who agreed to participate in the study (refer to Appendix J for the information and consent document). At the commencement of the virtual interviews, verbal consent was again obtained.

Participants were given the opportunity to opt-out of sensitive topics and were provided with resources for support if necessary (e.g., the national suicide crisis helpline 9-8-8). To mitigate the risk of exploitation, participants were fully informed about the purpose and nature of the research during the informed-consent process and were made aware they had the right to discontinue participation at any point in the study. No participants displayed or reported distress during the interviews and no interviews ended prematurely. All participants received a copy of the study information and consent letter which contained researcher contact information as well as the outline of the study purpose, process, methods for collection and storing their information, confidentiality measures, and their rights according to the Tri-Council Policy Statement on Ethical Conduct for Research Involving Humans in Canada, as well as dissemination and knowledge translation plans. Additionally, the consent process remained ongoing throughout the study to ensure that voluntary participation was maintained, with participants having the right to limit or refuse aspects of a study that were not in line with their own expectations.

## **CHAPTER 4: FINDINGS**

## **Chapter Overview**

This chapter presents the findings of the study, divided into two sections. The first section provides critical contextual information about living with FM, highlighting the emotional and physical challenges associated with the condition, including the long and difficult journey to receiving a diagnosis and the varied experiences with symptom management. This contextual information is essential to understanding participants' perspectives on cannabis use as part of their FM management strategies.

The second section focuses on the primary research question and presents key study findings, which are categorized into four major themes: (1) Cannabis as a Core Component of Fibromyalgia Management: "Cannabis is medicine" exploring how participants perceive cannabis as an essential element of their symptom relief strategies; (2) Barriers and Challenges to Cannabis Use: "You're kind of on your own" addressing obstacles such as stigma, financial burden, healthcare provider hesitancy, and trial-and-error dosing; (3) Cannabis Use in Daily Life: "Find that balance" examining how participants navigate their cannabis use in daily life to maximize its benefits while minimizing disruptions; and (4) Advice for Health Care Professionals: "More partnership with patients" summarizing participants' preferences and wishes for HCPs. Each theme and subtheme are supported by direct participant quotations, ensuring the study remains grounded in the lived experiences of women with FM who use cannabis as a form of symptom management.

# **Participant Characteristics**

Fifteen women with FM participated in the interviews. Refer to Table 4 for a summary of their demographic characteristics. The participants were from diverse geographies, with representation from multiple provinces across Canada, including Manitoba, Alberta, British Columbia, Ontario, New Brunswick, and Quebec. The majority (53.3%) resided in urban locations and were predominantly of White/European descent (86.7%). Most participants (53.3%) were aged between 40-59 years. This age distribution suggests that the sample was largely comprised of women in mid-life, which is consistent with the demographic most affected by FM. The participants had varying durations of chronic pain, with the majority (80%) reporting living with pain for over 10 years. This is in keeping with the chronic nature of FM, which often affects individuals for many years before effective symptom management is found.

Regarding cannabis use, 12 participants (80%) reported being authorized medical cannabis, with the remaining three participants (20%) purchasing cannabis without authorization. Most participants (60%) had been using cannabis for one to five years, and 20% had been using it for six to ten years. A small group (20%) had used cannabis for over ten years. Cannabis authorization documents were obtained from a variety of sources, including medical cannabis clinics (66.7%), family doctors (25%), pain management clinics (16.7%), and online prescribers (8.3%). Participants reported using a variety of cannabis sources, with online vendors (60%) and private vendors (53.3%) being the most common, followed by registered government vendors (46.7%) and home-grown cannabis (6.7%). As for cannabis consumption routes, the most common method was through edibles (86.7%), followed by topicals (46.7%) and smoking/vaping (26.7%). The content of cannabis used varied, with 10 participants (66.7%) using CBD-dominant products, 8 participants (53.4%) using THC products, 4 participants

(26.7%) using a combination of both, and 3 (20%) participants that used other cannabinoids

(e.g., CBN, CBG, and Nabilone).

# Table 4

# Participant Demographics

Characteristics	N (%)
Age bracket	
20-29 years	1 (6.7)
30-39 years	3 (20)
40-49 years	3 (20)
50-59 years	5 (33.3)
60-69 years	0 (0)
70-79 years	3 (20)
Gender	
Woman	15 (100)
Province of residence	
Manitoba	4 (26.7)
Alberta	3 (20)
British Columbia	3 (20)
Ontario	3 (20)
New Brunswick	1 (6.7)
Quebec	1 (6.7)
Location of residence	
Urban	8 (53.3)
Suburban	4 (26.7)
Kural Educidat	3 (20)
Ethnicity	
White/Furopean	13 (86 7)
Asian	1 (6.7)
Indigenous	1 (6.7)
Employment status	
Full-time	5 (33.3)
Retired	3 (20)
Unemployed, receiving disability benefits	3 (20)
Other	3 (20)
Part-time	1 (6.7)

# MSc. Thesis - S. Holmes; McMaster University- Nursing

Education         University       8 (53.3)         College       6 (40)         High School       1 (6.7)         Years with chronic pain			
University         8 (53.3)           College         6 (40)           High School         1 (6.7)           Years with chronic pain	Education		
College $6(40)$ High School $1(6.7)$ Years with chronic pain 1-5 years $2(13.3) > 10$ years $3(20)$ Years using medical cannabis 1-5 years $9(60)$ 6-10 years $3(20) > 10$ years $3(20)Prescribed cannabisYes 12(80)No 3(20)Source of prescription*Medical cannabis clinic 8(66.7)Family doctor 3(25)Pain management clinic 2(16.7)Online prescriber 1(8.3)Cannabis source*Online Vendor(s) 9(60)Private Vendor(s) 8(53.3)Registered government vendors online or stores 7(46.7)Home grown 1(6.7)Source of information about cannabis*Online 2(16.7)Online 5(16.7)Online 5(16.7)Source of information about cannabis*Online 5(33.3)Registered government vendors online or stores 7(46.7)Home grown 1(6.7)Source of information about cannabis*Online 5(33.3)Registered government vendors online or stores 7(46.7)Home grown 1(6.7)Source of information about cannabis*Online 9(60)Family/Friends 7(46.7)Cannabis netail store 6(40)Other 6(40)Pain management clinic 1(6.7)Recreational cannabis use 7(46.7)Consumption route for cannabis*Edibles 13(86.7)Topical 31(86.7)Topical 37(46.7)$	University	8 (53.3)	
High Šchool         1 (6.7)           Years with chronic pain         -10           1-5 years         2 (13.3)           >10 years         12 (80)           Years using medical cannabis         -12 (80)           Years using medical cannabis         -10 years           1-5 years         9 (60)           6-10 years         3 (20)           Prescribed cannabis         -12 (80)           No         3 (20)           Source of prescription*	College	6 (40)	
Years with chronic pain1-5 years1 (6.7)6-10 years2 (13.3)>10 years12 (80)Years using medical cannabis1-5 years9 (60)6-10 years3 (20)>10 years3 (20)Prescribed cannabisYes12 (80)No3 (20)Source of prescription*Medical cannabis clinic8 (66.7)Family doctor3 (25)Pain management clinic2 (16.7)Online prescriber1 (8.3)Cannabis source*Online Vendor(s)9 (60)Private Vendor(s)8 (53.3)Registered government vendors online or stores7 (46.7)Home grown1 (6.7)Source of information about cannabis*Online9 (60)Family/Friends7 (46.7)Cannabis retail store6 (40)Other6 (40)Family doctor/Nurse Practitioner5 (33.3)Pain management clinic1 (6.7)Recreational cannabis use7 (46.7)Consumption route for cannabis*7 (46.7)Consumption route for cannabis*7 (46.7)Edibles13 (86.7)Topical7 (46.7)Someking/ivaping4 (26.7)	High School	1 (6.7)	
1-5 years       1 (6.7)         6-10 years       2 (13.3)         >10 years       12 (80)         Years using medical cannabis         1-5 years       9 (60)         6-10 years       3 (20)         >10 years       3 (20)         Prescribed cannabis         Yes         Yes         Yes         Yes (60)         Source of prescription*         Medical cannabis clinic       8 (66.7)         Family doctor       3 (25)         Pain management clinic       2 (16.7)         Online prescriber       1 (8.3)         Cannabis source*         Online Vendor(s)       9 (60)         Private Vendor(s)       8 (53.3)         Registered government vendors online or stores       7 (46.7)         Home grown       1 (6.7)         Source of information about cannabis*         Online       9 (60)         Family doctor/ Nurse Practitioner       5 (33.3)         Medical cannabis physician or other prescriber       5 (33.3)         Medical cannabis physician or other prescriber       5 (33.3)         Pain management clinic       1 (6.7)	Years with chronic pain		
1-5 years       1 (6.7)         6-10 years       2 (13.3)         >10 years       12 (80)         Vears using medical cannabis         1-5 years       9 (60)         6-10 years       3 (20)         Prescribed cannabis       7         Prescribed cannabis       7         Yes       12 (80)         No       3 (20)         Source of prescription <sup>a</sup> 8 (66.7)         Family doctor       3 (25)         Pain management clinic       2 (16.7)         Online prescriber       1 (8.3)         Cannabis source <sup>a</sup> 8 (53.3)         Registered government vendors online or stores       7(46.7)         Home grown       1 (6.7)         Source of information about cannabis <sup>a</sup> 7(46.7)         Online       9 (60)         Family doctor/Nurse Practitioner       5 (33.3)         Registered government vendors online or stores       7(46.7)         Connabis retail store       6 (40)         Other       6 (40)         Family doctor/Nurse Practitioner       5 (33.3)         Prescriber       5 (33.3)         Priain management clinic       1 (6.7)          7 (46.7) <td></td> <td></td>			
6-10 years       2 (13.3)         >10 years       12 (80)         Years using medical cannabis       9 (60)         1-5 years       9 (60)         6-10 years       3 (20)         Prescribed cannabis       3 (20)         Prescribed cannabis       9 (60)         No       3 (20)         Source of prescription <sup>a</sup> 8 (66.7)         Family doctor       3 (25)         Pain management clinic       2 (16.7)         Online vendor(s)       9 (60)         Private Vendor(s)       9 (60)         Private Vendor(s)       8 (53.3)         Registered government vendors online or stores       7 (46.7)         Home grown       1 (6.7)         Source of information about cannabis <sup>a</sup> 0         Online       9 (60)         Family/Friends       7 (46.7)         Cannabis retail store       6 (40)         Gramabis retail store       5 (33.3)         Pain management clinic       1 (6.7)         Recreational cannabis we       7 (46.7)         Consumption route for cannabis*       5 (33.3)         Pain management clinic       1 (6.7)         Recreational cannabis we       7 (46.7)         Consumption route	1-5 years	1 (6.7)	
>10 years         12 (80)           Years using medical cannabis         9 (60)           6-10 years         3 (20)           >10 years         3 (20)           Prescribed cannabis         (20)           Yes         12 (80)           No         3 (20)           Source of prescription <sup>a</sup> (66.7)           Family doctor         3 (25)           Pain management clinic         2 (16.7)           Online prescriber         1 (8.3)           Cannabis source <sup>a</sup> (46.7)           Online Vendor(s)         9 (60)           Private Vendor(s)         8 (53.3)           Registered government vendors online or stores         7(46.7)           Home grown         1 (6.7)           Source of information about cannabis*         6 (40)           Ohline         9 (60)           Family/Friends         7 (46.7)           Cannabis retail store         6 (40)           Other         6 (40)           Family doctor/Nurse Practitioner         5 (33.3)           Pain management clinic         1 (6.7)           Recreational cannabis use         7 (46.7)           Consumption route for cannabis*         7 (46.7)           Consumption route for can	6-10 years	2 (13.3)	
1-5 years       9 (60)         6-10 years       3 (20)         >10 years       3 (20)         Prescribed cannabis	>10 years	12 (80)	
1-5 years       9 (60)         6-10 years       3 (20)         >10 years       3 (20)         Prescribed cannabis	Years using medical cannabis		
6-10 years       3 (20)         >10 years       3 (20)         Prescribed cannabis	1-5 years	9 (60)	
>10 years         3 (20)           Prescribed cannabis           Yes         12 (80)           No         3 (20)           Source of prescription*         Medical cannabis clinic           Medical cannabis clinic         8 (66.7)           Family doctor         3 (25)           Pain management clinic         2 (16.7)           Online prescriber         1 (8.3)           Cannabis source*         00           Online Vendor(s)         9 (60)           Private Vendor(s)         8 (53.3)           Registered government vendors online or stores         7 (46.7)           Home grown         1 (6.7)           Source of information about cannabis*         0           Online         9 (60)           Family/Friends         7 (46.7)           Cannabis retail store         6 (40)           Other         6 (40)           Family doctor/Nurse Practitioner         5 (33.3)           Medical cannabis use         7 (46.7)           Recreational cannabis use         7 (46.7)           Consumption route for cannabis*         5 (33.3)           Pain management clinic         1 (6.7)           Recreational cannabis use         7 (46.7)           Topical	6-10 years	3 (20)	
Prescribed cannabis         Yes       12 (80)         No       3 (20)         Source of prescription*         Medical cannabis clinic       8 (66.7)         Family doctor       3 (25)         Pain management clinic       2 (16.7)         Online prescriber       1 (8.3)         Cannabis source*       000         Online Vendor(s)       9 (60)         Private Vendor(s)       8 (53.3)         Registered government vendors online or stores       7(46.7)         Home grown       1 (6.7)         Source of information about cannabis*       6 (40)         Online       9 (60)         Family/Friends       7 (46.7)         Cannabis retail store       6 (40)         Other       6 (40)         Gutter       5 (33.3)         Medical cannabis physician or other prescriber       5 (33.3)         Pain management clinic       1 (6.7)         Recreational cannabis use       7 (46.7)         Consumption route for cannabis*	>10 years	3 (20)	
Yes       12 (80)         No       3 (20)         Source of prescription*	Prescribed cannabis		
Yes       12 (80)         No       3 (20)         Source of prescription*	V	12 (90)	
No       3 (20)         Source of prescription*	Y es	12(80) 2(20)	
Medical cannabis clinic8 (66.7)Family doctor3 (25)Pain management clinic2 (16.7)Online prescriber1 (8.3)Cannabis source*Online Vendor(s)9 (60)Private Vendor(s)8 (53.3)Registered government vendors online or stores7(46.7)Home grown1 (6.7)Source of information about cannabis*Online9 (60)Family/Friends7 (46.7)Cannabis retail store6 (40)Other6 (40)Family doctor/ Nurse Practitioner5 (33.3)Medical cannabis physician or other prescriber5 (33.3)Pain management clinic1 (6.7)Recreational cannabis use7 (46.7)Consumption route for cannabis*Display (26.7)Topical13 (86.7)Topical1 (46.7)Smoking/vaping4 (26.7)	NO Source of prescription <sup>a</sup>	3 (20)	
Medical cannabis clinic $\$$ (66.7)Family doctor $3$ (25)Pain management clinic $2$ (16.7)Online prescriber $1$ ( $\$$ .3)Cannabis source"Online Vendor(s)Private Vendor(s) $\$$ (53.3)Registered government vendors online or stores $7(46.7)$ Home grown $1$ ( $6.7$ )Source of information about cannabis"Online $9$ (60)Family/Friends $7$ ( $46.7$ )Cannabis retail store $6$ ( $40$ )Other $6$ ( $40$ )Family doctor/Nurse Practitioner $5$ ( $33.3$ )Medical cannabis physician or other prescriber $5$ ( $33.3$ )Pain management clinic $1$ ( $6.7$ )Recreational cannabis use $7$ ( $46.7$ )Consumption route for cannabis"Consumption route for cannabisBit ( $\$$ ( $\$$ ( $\$$ ( $13$ ))FaitiblesTopical <td c<="" td=""><td>Source of prescription</td><td></td></td>	<td>Source of prescription</td> <td></td>	Source of prescription	
Family doctor3 (25)Pain management clinic2 (16.7)Online prescriber1 (8.3)Cannabis source*Online Vendor(s)9 (60)Private Vendor(s)8 (53.3)Registered government vendors online or stores7(46.7)Home grown1 (6.7)Source of information about cannabis*Online9 (60)Family/Friends7 (46.7)Cannabis retail store6 (40)Other6 (40)Gutter5 (33.3)Medical cannabis physician or other prescriber5 (33.3)Pain management clinic1 (6.7)Recreational cannabis use7 (46.7)Consumption route for cannabis*Edibles13 (86.7)Topical7 (46.7)	Medical cannabis clinic	8 (66.7)	
Pain management clinic2 (16.7)Online prescriber1 (8.3)Cannabis source*Online Vendor(s)9 (60)Private Vendor(s)8 (53.3)Registered government vendors online or stores7(46.7)Home grown1 (6.7)Source of information about cannabis*Online9 (60)Family/Friends7 (46.7)Cannabis retail store6 (40)Other6 (40)Family doctor/ Nurse Practitioner5 (33.3)Medical cannabis physician or other prescriber5 (33.3)Pain management clinic1 (6.7)Recreational cannabis useT (46.7)Consumption route for cannabis*Edibles13 (86.7)Topical7 (46.7)Smoking/vaping4 (26.7)	Family doctor	3 (25)	
Online prescriber1 (8.3)Cannabis source*Online Vendor(s)9 (60)Private Vendor(s)8 (53.3)Registered government vendors online or stores7(46.7)Home grown1 (6.7)Source of information about cannabis*Online9 (60)Family/Friends7 (46.7)Cannabis retail store6 (40)Other6 (40)Other5 (33.3)Medical cannabis physician or other prescriber5 (33.3)Pain management clinic1 (6.7)Recreational cannabis use7 (46.7)Consumption route for cannabis*Consumption route for cannabisBibles13 (86.7)Topical7 (46.7)Smoking/vaping4 (26.7)	Pain management clinic	2 (16.7)	
Cannabis source*Online Vendor(s)9 (60)Private Vendor(s)8 (53.3)Registered government vendors online or stores7(46.7)Home grown1 (6.7)Source of information about cannabis*Online9 (60)Family/Friends7 (46.7)Cannabis retail store6 (40)Other6 (40)Other5 (33.3)Medical cannabis physician or other prescriber5 (33.3)Pain management clinic1 (6.7)Recreational cannabis use7 (46.7)Consumption route for cannabis*Edibles13 (86.7)Topical7 (46.7)Smoking/vaping4 (26.7)	Online prescriber	1 (8.3)	
Online Vendor(s)9 (60)Private Vendor(s)8 (53.3)Registered government vendors online or stores $7(46.7)$ Home grown1 (6.7)Source of information about cannabis*Online9 (60)Family/Friends7 (46.7)Cannabis retail store6 (40)Other6 (40)Other5 (33.3)Medical cannabis physician or other prescriber5 (33.3)Pain management clinic1 (6.7)Recreational cannabis use7 (46.7)Consumption route for cannabis*Edibles13 (86.7)Topical7 (46.7)Smoking/vaping4 (26.7)	Cannabis source <sup>a</sup>		
Online Vendor(s)9 (00)Private Vendor(s)8 (53.3)Registered government vendors online or stores7(46.7)Home grown1 (6.7)Source of information about cannabis*Online9 (60)Family/Friends7 (46.7)Cannabis retail store6 (40)Other6 (40)Family doctor/ Nurse Practitioner5 (33.3)Medical cannabis physician or other prescriber5 (33.3)Pain management clinic1 (6.7)Recreational cannabis use7 (46.7)Consumption route for cannabis*Edibles13 (86.7)Topical7 (46.7)Smoking/vaping4 (26.7)	Online Vendor(s)	9 (60)	
Registered government vendors online or stores       7(46.7)         Home grown       1 (6.7)         Source of information about cannabis <sup>a</sup> Online       9 (60)         Family/Friends       7 (46.7)         Cannabis retail store       6 (40)         Other       6 (40)         Family doctor/ Nurse Practitioner       5 (33.3)         Medical cannabis physician or other prescriber       5 (33.3)         Pain management clinic       1 (6.7)         Recreational cannabis use       7 (46.7)         Consumption route for cannabis <sup>a</sup> 7 (46.7)         Edibles       13 (86.7)         Topical       7 (46.7)         Smoking/vaping       4 (26.7)	Private Vendor(s)	8 (53 3)	
Home grown1 (6.7)Source of information about cannabis*Online9 (60)Family/Friends7 (46.7)Cannabis retail store6 (40)Other6 (40)Family doctor/ Nurse Practitioner5 (33.3)Medical cannabis physician or other prescriber5 (33.3)Pain management clinic1 (6.7)Recreational cannabis use7 (46.7)Consumption route for cannabis*Edibles13 (86.7)Topical7 (46.7)Smoking/vaping4 (26.7)	Registered government vendors online or stores	7(46.7)	
Source of information about cannabis*Online9 (60)Family/Friends7 (46.7)Cannabis retail store6 (40)Other6 (40)Family doctor/ Nurse Practitioner5 (33.3)Medical cannabis physician or other prescriber5 (33.3)Pain management clinic1 (6.7)Recreational cannabis use7 (46.7)Consumption route for cannabis*Edibles13 (86.7)Topical7 (46.7)Smoking/vaping4 (26.7)	Home grown	1 (6.7)	
Online9 (60)Family/Friends7 (46.7)Cannabis retail store6 (40)Other6 (40)Family doctor/ Nurse Practitioner5 (33.3)Medical cannabis physician or other prescriber5 (33.3)Pain management clinic1 (6.7)Recreational cannabis use7 (46.7)Consumption route for cannabisaEdibles13 (86.7)Topical7 (46.7)Smoking/vaping4 (26.7)	Source of information about cannabis <sup>a</sup>		
Online9 (60)Family/Friends7 (46.7)Cannabis retail store6 (40)Other6 (40)Family doctor/ Nurse Practitioner5 (33.3)Medical cannabis physician or other prescriber5 (33.3)Pain management clinic1 (6.7)Recreational cannabis use7 (46.7)Consumption route for cannabisaEdibles13 (86.7)Topical7 (46.7)Smoking/vaping4 (26.7)			
Family/Friends7 (46.7)Cannabis retail store6 (40)Other6 (40)Family doctor/ Nurse Practitioner5 (33.3)Medical cannabis physician or other prescriber5 (33.3)Pain management clinic1 (6.7)Recreational cannabis use7 (46.7)Consumption route for cannabisªEdibles13 (86.7)Topical7 (46.7)Smoking/vaping4 (26.7)	Online	9 (60)	
Cannabis retail store6 (40)Other6 (40)Family doctor/ Nurse Practitioner5 (33.3)Medical cannabis physician or other prescriber5 (33.3)Pain management clinic1 (6.7)Recreational cannabis use7 (46.7)Consumption route for cannabisªEdibles13 (86.7)Topical7 (46.7)Smoking/vaping4 (26.7)	Family/Friends	/(46./)	
Other6 (40)Family doctor/ Nurse Practitioner5 (33.3)Medical cannabis physician or other prescriber5 (33.3)Pain management clinic1 (6.7)Recreational cannabis use7 (46.7)Consumption route for cannabisªEdibles13 (86.7)Topical7 (46.7)Smoking/vaping4 (26.7)	Cannabis retail store	0 (40) 6 (40)	
Paining doctor/ Nulse Plactuoner       5 (35.5)         Medical cannabis physician or other prescriber       5 (33.3)         Pain management clinic       1 (6.7)         Recreational cannabis use         7 (46.7)         Consumption route for cannabis <sup>a</sup> Edibles       13 (86.7)         Topical       7 (46.7)         Smoking/vaping       4 (26.7)	Oner Family doctor/ Nurse Prestitioner	0 (40) 5 (22 2)	
Pain management clinic     1 (6.7)       Recreational cannabis use     7 (46.7)       Consumption route for cannabis <sup>a</sup> 13 (86.7)       Edibles     13 (86.7)       Topical     7 (46.7)       Smoking/vaping     4 (26.7)	Medical cannabis physician or other prescriber	5 (33 3)	
Recreational cannabis use     7 (46.7)       Consumption route for cannabis <sup>a</sup> 7 (46.7)       Edibles     13 (86.7)       Topical     7 (46.7)       Smoking/vaping     4 (26.7)	Pain management clinic	1 (6.7)	
7 (46.7)         Consumption route for cannabis <sup>a</sup> Edibles       13 (86.7)         Topical       7 (46.7)         Smoking/vaping       4 (26.7)	Recreational cannabis use	. (***)	
Consumption route for cannabis*Edibles13 (86.7)Topical7 (46.7)Smoking/vaping4 (26.7)		7 (46.7)	
Edibles       13 (86.7)         Topical       7 (46.7)         Smoking/vaping       4 (26.7)	Consumption route for cannabis <sup>a</sup>	· · · · ·	
Topical7 (46.7)Smoking/vaping4 (26.7)	Edibles	13 (86.7)	
Smoking/vaping 4 (26.7)	Topical	7 (46.7)	
	Smoking/vaping	4 (26.7)	

Content of cannabis <sup>a</sup>	
CBD	10 (66.7)
THC	8 (53.4)
Both	4 (26.7)
Other	3 (20)

#### MSc. Thesis - S. Holmes; McMaster University- Nursing

*Note.* a = proportion does not tally to 100 as participants could select more than one response.

# Section 1: Living with Fibromyalgia

In this study, Story Theory (Smith & Lichr, 1999) was used to develop the interview guide. This middle-range nursing theory emphasizes the significance of personal narratives in understanding health challenges and the process of healing. In sharing how participants used cannabis in the management of FM, they also detailed their experiences living with this chronic condition that are important to describe to understand their personal contexts. These themes include: (1) The long and difficult journey to receiving a diagnosis, often marked by years of uncertainty, misdiagnosis, and dismissive attitudes from health care professionals; (2) Trials of various medications, many of which were minimally effective or caused intolerable side effects, leaving participants feeling defeated; (3) The stigma of FM and feeling invisible, both in medical settings and personal relationships, contributing to isolation and self-doubt; and (4) Alternative treatments, including holistic therapies and non-traditional approaches, which ultimately shaped participants' decisions about cannabis use. This description reflects the complex and often fluctuating experiences of managing FM, providing a rich foundation for understanding the role of cannabis in symptom management.

# Long and Difficult Journey to Diagnosis

The journey to getting a diagnosis was often described as a lengthy and difficult process, filled with uncertainty, misdiagnoses, and frustration. Many participants shared that their

symptoms were dismissed or misunderstood, leading to feelings of isolation and confusion. For eleven participants, the process of receiving a formal diagnosis was described as taking years, often dragging on through a long and exhausting series of appointments, tests, and consultations. This extended period of uncertainty contributed to a sense of emotional and physical fatigue, as they navigated the medical system. As one participant described, *"We feel crazy. We really do. We feel like we're losing our minds when we don't get a diagnosis for 10 years. And it takes so long to rule out everything else, that is really, really difficult"* (Participant 4). For many, the journey to find effective care meant encounters with medical professionals who either lacked the expertise to properly treat FM or were dismissive of its legitimacy. As a result, participants were often referred from one specialist to another, with no clear answers or treatment plans. The feeling of not fitting in with any specialist or being told that there was nothing more that could be done contributed to an ongoing sense of frustration and despair. As one participant described:

You go to specialists for them to basically decide that you don't fit into their domain, under their kind of care. So, you just go to like everyone, and they basically say: 'there's something wrong, but it's not my responsibility.' Which is really frustrating... You don't really fit in anywhere. So, you're kind of on your own. (Participant 1)

Some participants described years spent without effective treatment or medication, leaving them in a state of prolonged suffering and confusion about how to best manage their condition. Additionally, participants discussed the extensive testing they underwent, often with the goal of ruling out other conditions. The constant cycle of negative tests and procedures, while necessary to eliminate other potential diagnoses, contributed to a sense of frustration. For some, the repeated failure to find a clear explanation for their symptoms left them questioning whether they would ever receive the right diagnosis or treatment. *"Going through specialists, doctors …it's just* 

a game. They just make you run through all the hoops. Nobody really has any good answers or *help*" (Participant 8). The experience of being dismissed by medical professionals, particularly when they failed to recognize the validity of their symptoms, left participants feeling isolated and invalidated in their struggles. As one participant described: "You learn very quickly that there's no point in mentioning stuff, because nothing is gonna get done about it" (Participant 11). Many participants described their HCPs as often exhibiting a lack of understanding or knowledge about FM, viewing the condition as trivial or exaggerated. Some participants were accused of being hypochondriacs, with their genuine concerns dismissed as imagined or exaggerated. One participant recalled being told to "just deal" with it: "The doctor that I had, he used to say: "Well, you know, kind of just deal with this" (Participant 5). This dismissive attitude not only deepened their suffering but also made them question their own experiences, undermining their sense of agency and self-worth. Even further, some participants reported their HCPs went as far as to explicitly state that they did not 'believe' in FM (Participant 6), adding to the sense of invalidation and reinforcing the feelings of frustration and isolation for these participants. This prolonged diagnostic process was described by many as leaving them feeling disempowered and uncertain about their future health and well-being.

## **Trials of Medications**

Participants described numerous trials of medications and treatments, with many reporting that these treatments either had minimal effects on their FM or even worsened their symptoms. The process of trying different medications and therapies often felt like a constant search for relief that led to further frustration. One participant described her experience:

It was just years of doing the whole medication thing and trying to find an answer out there. But the medications were making everything worse. And I was on hydromorphone and morphine and all sorts of antidepressants, just everything nasty, causing more problems. I had to be actually hospitalized a couple of times to be taken off the medications and stuff. (Participant 8)

For seven participants, the side effects of medications were a major source of distress. Common side effects from prescription medications such as weight gain, cognitive impairments, and fatigue not only failed to alleviate their symptoms but often made them feel worse. As one participant described, *"I say most of the health crisis that I went through were caused by medication"* (Participant 8). This ongoing struggle made it difficult for participants to find hope, and the constant battle against chronic pain left many feeling defeated. Two participants recalled being told, *"There's nothing else we can do to help you"* (Participants 9 & 10). which was not only discouraging but left them feeling abandoned by the very system they turned to for relief.

## Stigma of Fibromyalgia and Feeling Invisible

The stigma surrounding FM was another significant challenge that many participants encountered. This stigma often stemmed from a lack of understanding from loved ones and the general public. Seven participants specifically mentioned feeling misunderstood or dismissed by family and friends, who struggled to grasp the complexity of FM and its profound impact on daily life. As Participant 5 described: "*People do not get it. A lot of people don't get it. And you know, I think my brother doesn't even get it. And you know "oh, [participant's name], you're always sick." And yeah, that hurts you know, that bothers me"*. These relationships were often strained as participants found it difficult to communicate the reality of living with a condition that is not well understood. The lack of empathy or acknowledgment from loved ones made it even harder to cope with the emotional and physical toll of FM, leaving participants feeling isolated, unsupported, and at times, disconnected from their social circles. One participant shared this experience: "*I mean, I found it very hard. I lost a lot of friends. Gonna be honest, I lost a lot of friends and even family members*" (Participant 10).

The invisible nature of FM also contributed significantly to participants feeling invisible in their own lives. Eight participants described being perceived as "looking healthy" or "well" on the outside, which made it even harder for others to recognize the severity of their chronic pain and other debilitating symptoms. "They finally accepted that I'm sick. It took a long time for me to get my family to see that I'm actually sick. Because I look healthy, you know" (Participant 4). This disconnect between appearance and reality led to frustration and invalidation, as the invisible nature of FM often caused others to question the authenticity of the participants' experiences. One participant described this conflict of appearances: "you look too young, or you look too fit, you don't look disabled enough" (Participant 11). Many participants reported that they didn't feel like they met the societal expectation of what a "disabled" person should look like, which led to feelings of inadequacy and guilt. As two participants expressed, they often felt they weren't "disabled enough" (Participant 2 &12) to use mobility aids, despite facing daily physical challenges that were not immediately visible to others. For those that did use choose to use mobility aids they were even accused of attention seeking behaviours: "I had people in my *life* [*saying*]- "*you're just being dramatic, you're just using the walker to get attention*" (Participant 11). For this reason, many participants chose to keep their diagnosis private. One participant shared their reasoning: "I think there's just a fear of judgment. There's a fear of also

*not being believed*" (Participant 12). This internal conflict, paired with external judgment, deepened participants' sense of being misunderstood and unseen in the broader social context.

## **Alternative Treatments and Therapies**

A key commonality among participants was their use of alternative or complementary therapies, including naturopathic advice, homeopathic remedies, mindfulness practices, and more novel approaches like hypnotherapy and cupping. This shift away from conventional medicine often stemmed from frustration with the limited options Western healthcare provided, and many described feeling more empowered and in control of their wellbeing. One participant described her philosophy:

I think I see things in a very holistic way. I don't often take one route towards an answer. I try to kind of go and see the mental, emotional, physical, spiritual side of all things...I haven't taken- I know there are some meds that people take to manage the fibro pain- I haven't. I think I tried to go a more holistic route. (Participant 12)

This sense of empowerment serves as an important backdrop for understanding why some ultimately turned to cannabis for self-management.

# **Section 2: Main Findings**

The major themes and subthemes are summarized below in Table 5.

## Table 5

Main Findings

Theme 1: Cannabis as Core Component of Fibromyalgia Management: "Cannabis is medicine"	Theme 2: Barriers and Challenges to Cannabis Use: "You're kind of on your own"	Theme 3: Cannabis Use in Daily Life: "Finding that balance"	Theme 4: Advice for Health Care Professionals: "More partnership with patients"
<ul> <li>Turning Point in Symptom and Pain Management</li> <li>Finding Symptom Relief</li> <li>Reclaiming Normalcy and Routines</li> </ul>	<ul> <li>Lacking Health Care Professional Support</li> <li>Feeling Stigmatized</li> <li>Testing Through Trial and Error</li> <li>Experiencing Side Effects</li> <li>Facing Financial Barriers</li> </ul>	<ul> <li>Tailoring Cannabis Timing or Dosing</li> <li>Being Intentional</li> </ul>	<ul> <li>Accepting Cannabis</li> <li>Building a Trusting Relationship</li> </ul>

## Cannabis as Core Component of Fibromyalgia Management: "Cannabis is medicine"

Study participants deliberately framed cannabis as "medicine" to assert its therapeutic legitimacy for managing FM. By comparing cannabis to traditional pharmaceuticals, participants highlighted parallels to prescribed pain medications. For instance, one participant stated, "*I have a baseline of normal, and when I don't have marijuana in me, people are like 'What is wrong with you? You're not yourself,' but I'm like 'I don't have my pain medication'*" (Participant 4). Similarly, another participant invoked the analogy of taking pills in front of one's children to emphasize its legitimacy: "*This is like what I need to feel better. Just like you take pills in front of your kids, right? So, I still think there is that… that stigma around it? But there's also a lack of understanding… in this case cannabis is definitely medication*" (Participant 1).

Participants felt frustrated by HCPs reluctance to recognize cannabis as a valid treatment. One participant noted the absence of medical endorsement, highlighting a broader institutional gap. "*I* don't get the inference yet from doctors to use it as a method of pain management... It's never offered" (Participant 14). This lack of acknowledgment spurred participants' call for a more inclusive view of cannabis in formal healthcare settings.

Cannabis as a core component of FM management is further detailed in the following three subthemes: (a) *Turning Point in Symptom and Pain Management*, (b) *Finding Symptom Relief*, and (c) *Reclaiming Normalcy and Routines*. Participants' experiences underscore cannabis as a flexible, individualized tool for mitigating the multifaceted impact of FM.

# **Turning Point in Symptom and Pain Management**

Ten participants described cannabis use as a true turning point or positive experience in their FM journey. Before trying it, most had undergone a long, frustrating process of experimenting with various medications that offered little relief and led to side effects, leaving them skeptical and disheartened. It was against this backdrop of disappointment that trying cannabis for the first time proved surprisingly transformative. Many participants were astonished to recall what it felt like to move freely without pain or simply exist without persistent pain. This moment often produced a kind of joyful disbelief. One participant vividly recalled the first time she was able to have full range of motion in her hands: *"I went upstairs, I woke up my husband, and I'm like, 'Look! Look at my hands…they're touching!'"* (Participant 5). Such moments reignited hope and profoundly shifted their outlook on living with FM. For some, this return to normalcy was nothing short of transformative. Some described cannabis as *"almost like a miracle"* (Participant 5), while others characterized it as a *"god send"* (Participant 10). This reduction in pain ultimately improved overall functioning. As one participant described: *"If it* 

wasn't for that [cannabis], I don't know what I...I'd still be laying in bed. I really do think I would be" (Participant 10).

Several participants explicitly characterized this experience as a pivotal moment in their approach to managing FM. Once they realized the extent of symptom relief cannabis could offer, many reported shifting away from other, less effective treatments and reorienting their strategies around cannabis. *"The main thing that I use for pain is definitely marijuana. I use it daily, and it's been the biggest help of everything that I've tried"* (Participant 4).

## **Finding Symptom Relief**

All participants described that cannabis (either currently or previously) offered some degree of pain relief, noting that it made discomfort more tolerable and easier to manage. Participants also noted that missing a dose of cannabis was quickly noticeable, both to themselves and those around them, as this participant explained, *"When I don't have marijuana in me, people are like, 'What is wrong with you? You're not yourself'"* (Participant 4). Similarly, another participant remarked, *"If I missed a dose, I would know within half an hour, I'd be in big trouble"* (Participant 8). Such observations highlighted how any interruption in cannabis use was promptly reflected in some participants' demeanor and overall functioning.

Participants commonly reported relief across multiple types of pain-joint, muscle, bone, and headaches/ migraines. For example, one participant noted, "*I do notice that the [cannabis] cream on my forehead and back of my neck really helps with migraines, my regular pressure headaches, and that keeps it from turning into a migraine most of the time, or not quite so severe*" (Participant 15). Another participant shared, "*I put the cream on- particular, when I put it on like a specific area, the pain goes away*" (Participant 3). Some participants even found cannabis helpful with all types of pain: "*The thing that I like about cannabis is that it doesn't just help with one aspect, it helps with muscle, nerve, joint, everything*" (Participant 13). Two participants stated that cannabis felt more "natural" (Participants 12 & 13) and involved fewer side effects or risks than other treatments they had tried, such as over-the-counter medications (e.g., Advil): "I feel better using weed than taking an Advil- the Advil doesn't really help anyways" (Participant 12).

Participants also highlighted a psychological aspect of pain management, which they described as the ability to dissociate or "separate" themselves from their pain: "*CBD doesn't reduce my pain at all. It just makes me separate from my pain. I am in a different world. The pain is there, I can feel it, but I can cope with it*" (Participant 6). This phenomenon was significant, as it allowed them to regain a sense of control over their bodies, reducing their preoccupation with persistent discomfort: "*When I'm in my bed and I'm high-I feel like I kind of forget that that I'm in pain, during that time*" (Participant 9). Another participant introduced the term "body neutrality" to characterize a state in which the focus on pain fades into the background:

The first time I took cannabis after being diagnosed, I just had this like body neutrality. I realized that for the last year I had been in so much pain. I didn't even realize what it felt like to not think about my body. And so, I think that's been something that's been really nice is just like feeling, yeah, just not being aware of every aspect of my body and just feeling kind of like, calm. (Participant 1)

Rather than completely removing discomfort, cannabis allowed them to reduce their constant awareness of it. This concept resonated with the experiences of other participants who, while not
using the same phrase, conveyed a similar shift in attention. They described feeling less preoccupied by their symptoms, and more at ease in their own bodies: *"When I'm in my bed and I'm high- I feel like I kind of forget that that I'm in pain, during that time. So, it's still painful, but it's like, "Oh, it doesn't matter anymore." That's why I keep doing it"* (Participant 9). In this sense, *"body neutrality"* became a fitting descriptor for both the physical and psychological aspects of pain relief that participants reported and effectively summarizing a shared experience of regaining a sense of normalcy and control.

Cannabis also helped with co-morbid symptoms for some, such as relief from arthritis: "*My* hands, like my hands are super arthritic. Okay, so I can't close them. But the weirdest thing. That night after that [cannabis] cookie, my fingers could touch my palms, and I was like- "Oh, my God!" (Participant 5). Others noted it improved their irritable bowel syndrome and asthma. Mental health improvements were reported by several participants. One participant shared, "It really helps calm me down when I'm anxious. If I get really anxious, I can go smoke, and I feel better" (Participant 4). Another participant added, "when I smoke, only 2 puffs, the sadness goes away" (Participant 6). Sleep was another area that was improved for some with the assistance of cannabis. Seven participants reported that both quality and quantity of sleep was improved, including the reduction of insomnia and the occurrence of nightmares: "I think it helps my anxiety because it totally stops my sleep paralysis, scary vivid dreams and nightmares" (Participant 6). As another participant reported, "It helped my insomnia, and it helped my pain. So, it was kind of a winning combination" (Participant 5). One participant, for example, described having "the best sleep of my life" after using cannabis, which was a marked improvement for someone who had struggled with poor sleep due to FM (Participant 12). Four participants specifically reported the ability to stay asleep throughout the night, experiencing less

interruption from pain or discomfort. As one participant described her experience: "Before I was up every 15 to 20 minutes just trying to adjust because of the pain, my mind would race a lot and stuff like that, so at night the THC really helps with that" (Participant 10). Cannabinol (CBN) was also noted as being effective in promoting restful sleep: "I was in at the store and buying THC to help me sleep, and the guy who was helping me at the store, pointed me towards CBN, which the combination of those with my sleeping pill seems to help me sleep quite well" (Participant 10). This sleep improvement, in turn, contributed to their ability to function more effectively during the day, creating a virtuous cycle of better rest and better performance in daily tasks.

### **Reclaiming Normalcy and Routines**

Several participants described how cannabis enabled them to reconnect with their preillness selves, fostering a renewed sense of normalcy in their day-to-day lives. As one participant described her first experience with cannabis: *"The first time I took it was the first time in years I felt normal"* (Participant 7). The ability to feel "normal" again was also mentioned by another participant: *"when I get up in the morning, I have to take my oil right away because it takes about 15 to 20 minutes and then I feel normal again"* (Participant 10). Another participant mentioned how their first experience with cannabis was when they felt like themselves again: *"Oh, this feels... this is great.... I feel like myself for a bit"* (Participant 1). As one participant explained, *"I just don't even know where I'd be right now if I didn't have it"* (Participant 10), reflecting a profound appreciation for the role cannabis played in restoring their usual routines. Another echoed this sentiment of the daily role of cannabis: *"It's what keeps me going and keeps me free enough of pain that I can keep going every day. I have to. It's very much part of my life"* (Participant 8). Others shared that the improvements from cannabis went beyond mere symptom relief, allowing them to partake in activities that were previously not possible, such as work, hobbies, and social events. For example, one participant described the reliance she had on cannabis to function at work or getting to work:

I found that even in the morning I would need to get up, have a couple puffs before I could even go to work... [so, I would] have one in the morning before I go to work. [then] I'd go to my lunch break, [then] I'd have one after work. I'd have one on my way home. and then I come home and sit and smoke 2 or 3 [joints] to help deal with the pain and get it all kind of settled. (Participant 4)

Cannabis use enabled some participants to resume physical activities and exercise that had previously been limited by pain and fatigue. One participant noted that cannabis helped them return to a regular exercise routine:

It's kind of a ritual now. The lights are turned off in the bedroom. And anyway, I just blow it out the window [smoke from the vape]. But then I feel so good after that. I feel like, "Oh, I'll get on the floor and do some exercises," I do all sorts of things after I've vaped. (Participant 5)

Six participants described improvements in overall physical functioning, including mobility and the ability to perform daily tasks that required more physical effort. This improvement in functioning allowed some participants to become more independent with their activities of daily living. One participant shared:

It certainly helps me get out of bed; I can tell you that. Before, I was in bed like- oh my God! There were days I couldn't even get up and take a shower. My husband would have to help me get up and set up the towel, set up everything for me, and help me physically, and then get me back in pajamas and into bed again. (Participant 10)

As one participant summarized, cannabis improved her quality of life, *"well, part of the quality of life is using my cannabis products"* (Participant 3).

In summary, participants reported cannabis as a crucial component of FM management, and many described it as a turning point in their symptom management. It provided multidimensional benefits including alleviating pain, improvements to mental health, and enhancing sleep. Cannabis also enabled participants to reclaim daily routines and independence, reinforcing its legitimacy as a therapeutic aid. While preferences varied between THC, CBD, or a combination, its integration into daily life underscored its perceived effectiveness. Despite these benefits, participants expressed frustration with the lack of healthcare support and recognition, a challenge that will be explored in the next section

### Barriers and Challenges to Cannabis Use: "You're kind of on your own"

Participants faced numerous challenges when incorporating cannabis into their symptom management, ranging from a lack of HCP support to social stigma, financial constraints, and difficulties in determining the right dosage and method of use. Many described feeling unsupported by their HCPs, often receiving little guidance, or encountering reluctance to discuss cannabis as a treatment option. Stigma further complicated their experiences, influencing interactions with medical professionals, employers, and even family members. Without clear recommendations, participants relied on trial and error to find an effective regimen, a process that was often frustrating and time-consuming. Side effects, such as cognitive impairment and functional limitations, also shaped how and when they used cannabis, requiring careful planning

around daily responsibilities. Financial barriers added another layer of difficulty, as the high cost of cannabis and lack of insurance coverage forced some to limit their use or turn to pharmaceuticals instead. This theme is illustrated by the following subthemes: (a) Lacking Health Care Professional Support, (b) Feeling Stigmatized, (c) Testing Through Trial and Error, (d) Experiencing Side Effects, and (e) Facing Financial Barriers.

### Lacking Health Care Professional Support

A prominent theme that emerged among participants was the lack of adequate support from HCPs regarding cannabis use. Participants described encountering misinformation, with some being explicitly advised to avoid cannabis entirely. As one participant shared, "*My psychiatrist was very much against the fact. When I asked him, 'What do you think about marijuana?' he was like, 'I don't want you anywhere near it, I don't want you taking that'"* (Participant 11). Others sensed that their providers possessed limited knowledge on the topic, offering medical authorization and no accompanying information. Several participants were led to navigate dosages, strain selection, and potential side effects without professional guidance or follow-up. One participant recalled, "I worked with this doctor, and he prescribed it for me. But *he didn't really give me a dose. He just said, 'Play with it and try finding something that's comfortable for you'*" (Participant 9).

Even when providers were willing to discuss cannabis, most admitted they were not comfortable offering detailed guidance due to limited knowledge or concerns about potential mental health effects, such as paranoia or anxiety. Some participants noted that their providers were more comfortable prescribing opioid medications over cannabis: "*I do have a prescription for tramadol in my drawer* ... *but she was willing to write me a prescription for that but not discuss cannabis use*" (Participant 13). This stance was a barrier to supporting participants' informed decision-making. For some participants who had sought cannabis support independent from their HCP, they relied on dispensary staff for advice. One participant expressed frustration, stating:

When you go in the dispensary- yeah, they might seem knowledgeable in the different things, but they don't know you. They don't know your body. They don't know what it works for. This one might not work for that. They don't know that stuff like a doctor does, right? (Participant 10)

Overall, these experiences highlight a significant gap in support and guidance from HCPs regarding cannabis use, leaving participants to navigate their treatment options largely on their own.

#### **Feeling Stigmatized**

Despite the increasing recreational market in Canada since legalization in 2018, participants often recalled instances of stigmatization in relation to their cannabis use. This included a number of participants feeling the need for secrecy, such as being careful to hide their cannabis use from coworkers or managers. One participant revealed, *"I said, 'Please keep this secret. Don't write that in my file, ' because if my workplace knows, by any reason they fire me "* (Participant 6). On the other hand, some participants felt compelled to disclose their cannabis use within their workplaces. Some described feeling dishonest and in response had discussions with their managers about their medical use and explicitly described how their cannabis use would not affect their professional judgment or performances. I felt obligated to tell my employers when I was using CBD with no THC in it. Even though it has virtually zero effect on my work abilities and my ability to be sober at work. I still felt the need to say something. (Participant 13)

This theme of secrecy also extended into the broader public as one participant shared they do not feel comfortable purchasing cannabis at their local stores:

It is secretive...I mean, I taught almost every kid in this town in grade one. So yeah, "There's my grade one teacher going again and buying some weed." No, so I go and buy it in [name of town], which is you know, it's a bigger city. (Participant 5)

Other participants discussed how some family members never fully accepted their cannabis use as medicinal. One participant mentioned, *"to be honest, my husband's really against it. He doesn't like it. He still doesn't, but he knows it helps me"* (Participant 10). Strain and tensions in relationships were described by several participants, either currently or in the past. One participant recalled that her cannabis use profoundly upset her teenage daughter at the time:

When I was smoking, that was one of the big issues, because my kids were like around 12 to 14 years then. So, they knew what it smelt like, and my daughter was really, really angry... and she was getting all the messages at school. You know, 'Don't do that.' She thought that I was a terrible, terrible person. (Participant 8)

While eleven participants mentioning various forms of cannabis-related stigma or bias, seven participants also felt like their cannabis use was accepted in certain settings or capacities. One participant described her families' supportive perspective: "*My family has used weed, so they have no judgments on me using it. I definitely was wary about mentioning it to employers and* 

*coworkers, things like that, because it still has some stigma around it*" (Participant 2). Another participant described her community's acceptance of cannabis:

When I moved to [City] it became very recreational to everyone around me...It just became so normalized over here that people did that. I think that the exposure was what really did it for me. I realized that even if my family didn't know that I was doing it, I was still getting support of people around me if I wanted to try it. (Participant 13)

Despite the stigma that still surrounds cannabis, some participants indicated that it was increasingly becoming normalized in their lives, particularly as societal perceptions evolve following recreational cannabis legalization in Canada. As one participant shared:

I spent a lot of time defending what I have and defending my medical marijuana. But the last 5 years has been great, because everybody is like all about the marijuana now, because it's legal. So, it's a lot easier to get things, easier to find things. (Participant 4)

A few participants even shared they did not feel any stigmatization, as noted by this participant: *"I don't recall any negativity since I was a teenager as an adult, and it being legal, I haven't heard anybody say anything"* (Participant 7). Navigating stigma thus, was a central part of managing their FM in day-to-day life.

# **Testing Through Trial and Error**

In addition to navigating their medical cannabis use without the support or formal guidance and advice from HCPs, all participants spoke about the frustrating, exhausting, time-consuming and often- financial and mentally taxing process of "trial and error." This was

described by participants as the process of finding the right cannabis formulation or strain, concentration, dosing, and/or method of administration. One participant illustrated this struggle:

I think it's not that it doesn't work, but that there isn't really any guidelines, and there's so many options of how you take it, like the strains of the dose right? So, it just becomes overwhelming. And I sometimes didn't find the perfect mix rather, for, like what I needed. (Participant 1)

Participants described a wide range of cannabis products, methods of use, schedule, and general principles they used to tailor their usage to their FM symptoms. For many participants, the process sometimes took weeks or months before they felt confident that they found the right approach for their needs.

It took a while to get to the dosage on my own...I had to get an understanding of THC and CBD... My main thing again is just always start low and slow. Sometimes it's hard for people to have that mentality to just start low, because they want instant gratification. (Participant 14)

In terms of what type of cannabis products provided the most relief, THC-containing products were the most commonly reported as most effective for pain relief related to FM. Nine participants cited THC products as most effective: "*I didn't find for me the CBD did a lot. So, I stuck to the THC*." (Participant 4) Another participant commented, "*I never did the CBD route. I went into the THC…I think the THC works so well for me*" (Participant 5).

CBD-dominant or CBD-only products was preferred by six participants, as generally these individuals could not tolerate THC products. One woman noted, *"I find that the CBD is …* 

*it addresses more than THC. THC just gave me the buzz, which is not really what I [want]* " (Participant 3). Another participant explained her rationale:

I started getting very dizzy when I did it recreationally through inhalation, and it was just not a great feeling...I was very nervous about how it [THC] would affect my body, so I started taking the gummies with zero THC in them to see if it would help- and it really did help. (Participant 13)

Additionally, there were some participants who felt they needed both THC- and CBDcontaining products to manage both the physical and mental aspects of their pain and related FM symptoms: "*I think you need a little bit of like a CBD: THC combo. I find CBD just relaxes my body a little bit more, but it doesn't necessarily take the pain away*" (Participant 12). Another participant explained:

I felt the THC was kind of a booster to the CBD. I need that little bit of boost to manage the pain level, but I need the CBD- I keep it higher, of course, to manage the calming, as I call it. The THC is definitely for the pain side though, I noticed that. (Participant 14)

Interestingly, one participant reported that THC products would worsen their pain, which led them to experiment with lower doses or to rely more heavily on CBD-dominant products: "*THC really, really increases my pain*" (Participant 6). This wide variety of cannabis preference between participants highlights the individualized nature of cannabis treatment, where what works for one participant may not necessarily work for another.

It is also important to note that some participants found that CBD or other compounds, such as CBN, could also cause functional limitations. One participant shared that the calming

effects of CBD, while beneficial for pain, made it difficult to maintain a professional demeanor at work:

Even with CBD I have tried- because, on days where I'm really in a lot of pain and [I'll say to myself] 'Oh, maybe I'll take a CBD gummy,' cause I know it's not gonna get me stoned or anything, but it [still] makes you sleepy. So, then I'm almost too relaxed at work. I'm dealing with people with high trauma, and I'm sitting there like [too tired]. I need to be able to match that energy in some sense and be a safe space for them. And if I'm googly-eyed—that's not professional. (Participant 12)

Participants also pointed out that there was inconsistency in dosing with some edible products:

I've tried edibles [but] I find it too hard to control a dosage and every edible is kind of different. You can get 10 milligrams from this company or 10 milligrams from that, and it'll feel way different. I hate the feeling of getting too high. I find because I can't really control that... I have a hard time dosing and knowing, what's the right amount? What's the wrong amount? Sometimes 10 milligrams from one company- I don't feel anything. And then 10 milligrams [from another]- it's like I'm greening out so. (Participant 12)

Similarly, another participant felt like she was never completely satisfied with dosages from edibles: "*I have tried different amounts* … *There's no right amount, it's either it hits my brain enough that I can't function, and therefore I don't have the pain or I'll get high, and it doesn't take away the pain*" (Participant 2). For others, vaping or smoking was preferred as it produced almost immediate relief, both to pain and other symptom relief, such as anxiety: "*Within, you know, 3 or 4 minutes after, 3 or 4 hits…It's unbelievable, you know. It's almost instantaneous. The difference that for me, to go from excruciating pain to feeling like 'oh, this is … I'm feeling* 

great!"" (Participant 5). Additionally, some participants noted that the consumption route of cannabis, some could take longer to have an effect- up to two hours in some cases: "Depending on how you take the marijuana, it can take another 2 hours or so to work" (Participant 11).

While many participants persisted in refining their cannabis use through trial and error to manage their symptoms, this process often also came with side effects, which are described next.

# **Experiencing Side Effects**

All participants shared the limitations of using cannabis products. Inability to drive, or use of products during working/ daytime hours were the most commonly reported limitations, as this participant detailed: "*I mean somebody could come to the door. And I ... you know I don't want to answer, and you know I'm really high. So yeah, I guess that's why I don't do it during the day*" (Participant 5). Participants discussed how they navigated the balance between cannabis side effects and symptom relief. While many found cannabis effective in managing their FM symptoms, they also had to carefully manage side effects, which varied based on the method of consumption and dosage. Several participants reported cognitive side effects, including brain fog, anxiety, fatigue, and feeling "too high" (Participants 4 & 12) or incapacitated. The sensation of being overly "high" was particularly noted as an undesirable side effect: "*Sometimes I'll take a puff, and I have to put it right out because I get like, almost a vibration in my body. It's almost like I got too high*" (Participant 4).

Physical side effects were also discussed, with some differences depending on the method of cannabis consumption. Among those who used inhaled forms like vaping or smoking, side effects included sore throat and coughing. In contrast, most participants who used edibles did not report significant adverse effects, although a few mentioned the poor taste of certain

products. A small number of participants noted experiencing mild nausea or an upset stomach after using edibles, but these complaints were rare. Other physical side effects mentioned included weight gain, increased hunger, and dizziness.

A "hangover" effect from using higher THC doses was also noted by participants. "I definitely know I've got to watch the THC level because it'll give me a hangover effect in the morning. So, then I'll bring it down or I'll go lower in formula" (Participant 14). Another woman shared, "If I took marijuana, I was often really sleepy. The next day I wasn't up to do anything. I was just really, really tired. So, I didn't like that the next morning, feeling like I was hungover" (Participant 11).

For some participants, the side effects of cannabis were transient or deemed worth enduring in light of the pain relief and other symptom management. For others, cannabis remained as an as-needed treatment and only used when their pain and/or symptoms were not relieved by other modalities.

I try to keep it ... to me it's like my last resort kind of thing. For a couple of reasons. I mean, I have kids. I don't wanna spend my time high after work. But yeah, it'll be like, after I'm flaring. Nothing else is helping, or I haven't been able to sleep. That's usually when I'll be like, "Okay no. I got to green" and just like, a reset button kind of thing. (Participant 7)

Despite these side effects, most participants continued using cannabis regularly. Ten participants reported using cannabis daily, indicating that although side effects were present, they could generally be managed by participants. By adjusting their dosages, avoiding high-THC products,

or selecting lower doses, participants were able to minimize side effects while still benefiting from the symptom relief cannabis provided.

# **Facing Financial Barriers**

The cost of cannabis was universally acknowledged as expensive, regardless of the source. One participant shared that her cannabis expenses reached upwards of \$300 to \$400 per month, which at times forced her to choose between managing her pain and other essential needs:

There's some months if I'm shorter, then I only take my CBD once a day because I can't afford to take it twice a day. You know, depending on like if my car breaks down that month, then I can't afford to take it twice a day. It sucks. But what can you do? (Participant 10)

All participants reported that cannabis was not covered by their insurance plans, which contributed to the financial burden. This in combination with coverage of prescription medications led some to rely less on cannabis products. *"It became something that I take as needed now...due to financial reasons"* (Participant 13). For some, despite a preference for cannabis to manage their FM, the high out-of-pocket costs meant they continued to rely on prescription medications covered by insurance:

We often don't have a lot of money, and so, unfortunately, pharmaceuticals are covered, whereas cannabis is not. I do believe in doing something that's natural before pharmaceutical. So, if it became something that- say the government or a healthcare company would cover- like an insurance company would cover. I would definitely titrate off some medications and switch them for cannabis, ves. (Participant 13) However, some participants were able to prioritize cannabis within their budgets, accepting the cost as part of their necessary expenses, as this participant described:

No, it's not cheap, but you know, it's another fact of life. I wear orthotics, I gotta pay for orthotics. So, I mean, this sort of thing. It's like bread and milk- these are needs. If I'm gonna be functional, it's gonna cost me money. That's just what's happened, gotta do it. (Participant 14)

While this approach worked for some, it was only feasible for participants with greater financial resources. *"It brings me down to know that well, I could be better, I just can't afford it. Or it could be better"* (Participant 15).

In summary, participants encountered significant barriers when using cannabis for FM management, including inadequate HCP support, social stigma, financial strain, and the challenges of self-dosing. Many were left to navigate cannabis use without medical guidance, relying on trial and error to determine effective dosing and administration. Stigma shaped their interactions with employers, family, and the healthcare system, sometimes leading to secrecy or discomfort in disclosing their use. Financial constraints also impacted accessibility, with high costs forcing some to reduce use or prioritize pharmaceuticals covered by insurance. Despite these obstacles, participants remained committed to integrating cannabis into their symptom management. The next section explores how they adapted their use of cannabis to maximize benefits while mitigating challenges.

#### Cannabis Use in Daily Life: "Finding that balance."

Participants described a careful and intentional approach to managing their cannabis use, balancing the need for symptom relief with their daily responsibilities. Many adjusted their

consumption based on the time of day, reserving higher-THC products for evenings when they no longer had work or caregiving duties. Even compounds like CBD required consideration, as some participants found they could still impact energy levels and focus. Beyond timing, participants emphasized the importance of using cannabis with clear purpose. Some reflected on past periods of unstructured use, recognizing the benefits of shifting toward a more mindful, goal-oriented approach. Ultimately, participants sought to integrate cannabis into their lives in a way that maximized its benefits while minimizing disruptions. This theme is explored in the following subthemes: (a) Tailoring Cannabis Timing or Dosing and (b) Being Intentional.

# **Tailoring Cannabis Timing or Dosing**

Participants described the process of carefully adjusting their consumption to align with their daily responsibilities and symptom management needs. Many tailored their cannabis use to specific symptoms such as pain, anxiety, and sleep disturbances while also managing potential cognitive and physical side effects. Some participants tracked their cannabis use through selfmonitoring, while others refined their dosing and scheduling strategies over time to maximize effectiveness while minimizing disruptions to daily life.

For participants that preferred products with higher THC content, they noted the considerations of dose timing. For example, many reported that they had to reserve their cannabis use to evenings, either when they were finished working or when they did not have to leave their home.

I never smoke in the morning, and I mean, there's random times where- if I'm in a big flare, maybe I have my period too, and whatever, I might smoke and [then] I don't feel comfortable driving at all...99% of the time I'm smoking, it's after 530, 6pm, [when] the day is done. (Participant 12)

This also included adjusting their use timing around responsibilities such family care: "I'm doing it in an evening when my spouse is home, when I don't have to drive, when I'm not the primary childcare provider. Yeah, so gotta have some things in place I feel, to be able to use it" (Participant 7). A strategy mentioned by one participant to identify patterns and make more informed decisions about when and how to use cannabis was to keep a log of cannabis usage, including dosages and other supplements: "I kept for a long time a very detailed journal… And I wrote down like, if I take cannabis, how much...So, I kept a pretty detailed log for a long time, just to kind of identify patterns" (Participant 1).

For some participants, they noted the difficulty in establishing a routine that would increase the effectiveness of their cannabis use for FM: *"I guess I'm hopeful that for me personally that I will find that perfect solution. Whatever it is, sounds like there's more to cannabis than what I've tapped into"* (Participant 9). This included the challenging nature of self-monitoring where observations were needed to determine when a dose of cannabis was required for symptom management, making it difficult to stay consistent. One participant describes this difficulty:

I'm always dismissing that I need to take a medication until I'm really in a lot of pain...I know that if I'm always on the morphine, I'm pretty steady. I don't have to think about it. I don't have to bring it to the forefront of my mind, every 2 or 3 or 4 hours...So, if I take the medicine at a prescribed time, I'll do it. But if it's something that I only take as needed, I'm really bad at it. (Participant 11) For these participants, they remained engaged in the process of trial and error through selfmonitoring. As one participant effectively summarized this ongoing journey: "*I think just continuing on that journey, continuing to investigate when I need to investigate, to also allow myself to be soft and still when needed as well. To kind of just find that balance in my life*" (Participant 1).

### **Being Intentional**

As participants navigated the complexities of managing their FM symptoms with cannabis, the concept of being "intentional" emerged as a key approach. Unlike the earlier phase of trial and error, where participants navigated unpredictability in their cannabis use, intentional use was characterized by deliberate planning and a focus on optimizing symptom management. Although this term was explicitly mentioned by only two participants, it effectively summarizes the way many others described their management of cannabis use in relation to their FM symptoms and daily activities. Being intentional meant consciously tailoring cannabis use to address specific needs, such as symptom relief, rather than relying solely on trial and error. This approach involved purposeful, goal-driven use, which helped participants avoid overuse and maximize the benefits of cannabis. Participants described practicing intentional use by adjusting their cannabis consumption based on their goals for use. For example, one participant described a period where her use was more recreational, which she found counterproductive, as it led her to ignore the core issues of pain and anxiety. As she shared:

I think to be honest; I started misusing it, in my opinion, and I think I was using it for the wrong reasons- to just cope and to dissociate and all that... But then I kind of came to a place of moderation, but also intention and purpose in using it. And that's where I really started to come to a space of realizing it does have a purpose. There's a medicinal quality to it, and 'I'm gonna use it for medicinal purposes and much less for recreation. (Participant 12)

This shift towards more intentional use allowed her to align cannabis consumption with her health goals, focusing more on pain and anxiety relief rather than seeking the recreational effects. This practice of tailoring use and dosing based on specific needs and schedules helped participants find a more effective and balanced way of managing their symptoms. Similarly, another participant shared her experience with being intentional:

So, I rarely actually do it recreationally. I really just am intentional about like, okay, this is 'cause I need this to make me feel better. This is ... this is medication. And as a result, I think my health is more stable and I have a much better understanding of my body, of my triggers, of the things that impact me, and the things that don't. And yeah, it's just taken a lot like, a long time to kind of figure it out, but definitely like healthier now. (Participant 1)

The underlying principle of purposeful, goal-oriented consumption emerged as a key approach for managing FM symptoms with cannabis. Being intentional with cannabis use was a central strategy for many participants, even if the term itself was only explicitly mentioned by a few. This strategy allowed participants to take a more active role in their treatment, enhancing their ability to manage both their symptoms and daily life.

#### Advice for Health Care Professionals: "More Partnership with Patients"

Participants shared valuable insights and advice for HCPs on how to improve care for individuals with FM and managing chronic pain, particularly those using cannabis as part of their

treatment. Their feedback emphasized the importance of being nonjudgmental, taking time to build relationships, providing guidance on pain self-management, and accepting cannabis as a medical treatment. Below, their voices are shared, offering their experiences and expectations. The following subthemes include: (a) Accepting Cannabis and (b) Building a Trusting Relationship.

# **Accepting Cannabis**

Several participants discussed the need for HCPs to be more open-minded about cannabis as a treatment option. As one participant described, "Don't be so quick to hand out pills. Marijuana is actually just as good as, if not better than some medication for this. It helps sleep. It helps appetite, and it helps pain" (Participant 4). Another participant noted the importance of HCPs being informed about cannabis and added: "If you can't [help], you refer" (Participant 3).

When discussing interactions with HCPs, some participants recounted their cannabis use was not taken seriously. One participant recalls a time she had a procedure done: *"I have it on my list of medications- medical marijuana, and there would always be jokes…it was never considered anything serious"* (Participant 8). One participant attributed some of the remaining reluctance against cannabis to how cannabis remains depicted in the media:

I think there's still a lot of things out there that make it seem like a party drug. And people who do that, they're like goofy, and can't do things. Like when you see characters on TV doing it. But I think if people only see what's on TV, that's what they think it is. And that's where you might get someone kind of judging you for it. (Participant 15)

Another participant voiced concerns that her primary care provider did not consider cannabis a legitimate form of medical treatment, sharing:

Well, the current physician that I have is definitely one of those physicians that would never recommend it. I've mentioned to her before that I do take cannabis. However, she definitely never recommends it as an option. I think she's okay hearing about it. But she doesn't really use it as a recommended form of medicine. (Participant 13)

Overall, participants wanted their cannabis use to be taken seriously and considered a legitimate form of medicine.

### **Building a Trusting Relationship**

Many participants stressed the importance of HCPs adopting a nonjudgmental and empathetic approach towards their subjective experiences of living with FM and treatment preferences. As one participant emphasized, "*Be human. Consider the person who talks to you is a human too, and before labeling them with anything in your mind, or jumping to any type of judgment, make sure that you have done your best*" (Participant 6). This sentiment was echoed by another participant who expressed frustration with feeling judged due to a lack of validation regarding their lived experience with FM: "*Honestly, there's times where I even feel very judged by healthcare providers*" (Participant 2). Similarly, participants also highlighted the need for HCPs to take the time to understand these unique experiences, including the most disruptive symptoms, the impact of pain, and the challenges associated with their condition: "Take the time to read my chart before you decide what I might be or what I may not be" (Participant 2). Similarly, another participant noted, "If you don't have a connection with your person, it doesn't matter what you prescribe- it doesn't matter" (Participant 3).

Many participants shared their need for HCPs to actively listen actively and treat them as partners in their care. As one participant shared, *"I think, just support and more partnership with* 

patients, too... More believing, more empathy would be great" (Participant 1). One participant shared a positive example of a physician who took a proactive approach: "Every single week I see her... We spend the first 3 minutes talking about what's going on in the past week, how my mental health is doing, whether there needs to be any changes to any of my medication" (Participant 13). This regular, collaborative approach was seen as invaluable. Participants also expressed frustration with the lack of time during appointments. As this participant noted, "When I go to the doctor, I would have like 10 questions, but they would only answer one question, [saying] 'Oh, we don't have time.'" One participant suggested practical solutions, such as "having that longer appointment time, or whatever on their end, that they need, so that they can be in a space to listen" (Participant 15).

Overall, participants called for a more compassionate, patient-centered approach to care. One participant summarized this well: *"I think you should listen to them. I think the awareness is the biggest part, and to know what people are going through, and to read a lot, and to be as informed as possible"* (Participant 5). Ultimately, participants sought HCPs who would treat them as partners in their care, listen without judgment, and remain open to diverse treatment options, including cannabis. As one participant fittingly concluded, *"Making sure that you're always accessible to the best of your abilities… Making sure that there's regular check-ins"* (Participant 13). This approach, grounded in empathy and collaboration, was seen as essential for improving the quality of care for individuals managing chronic pain.

### **Summary of Findings**

In summary, four main themes were identified: (1) Cannabis as a Core Component of Fibromyalgia Management: "Cannabis is medicine", (2) Barriers and Challenges to Cannabis Use: "You're kind of on your own", (3) Cannabis Use in Daily Life: "Find that balance.", and (4) Advice for Health Care Professionals: "More patient partnering."

Participants identified cannabis as a valuable tool in their FM management, reporting benefits such as pain relief, improved sleep, and reduced anxiety. Many participants described cannabis as a turning point in their symptom management, allowing them to regain some sense of normalcy and engage in daily activities with greater ease. However, they also encountered significant challenges, including limited support from HCPs, social stigma, high financial costs, and difficulties in determining the appropriate dosage and consumption methods.

Despite these obstacles, participants described strategies they used to integrate cannabis into their daily routines in a way that minimized side effects and maximized benefits. Many were intentional in their use, carefully adjusting dosages based on their needs and schedules. Some participants kept detailed records of their cannabis use, while others refined their routines through experience. While cannabis was not a universal solution, it was consistently described as an important component of their FM management. Participants also underscored the necessity of a more patient-centered approach in which HCPs build trust, actively listen, guide selfmanagement, and accept cannabis as a legitimate treatment option. This empathetic, collaborative model of care was viewed as essential to improving the overall quality of support and outcomes for individuals managing a chronic pain condition. The following chapter will discuss how the findings of this study fit into the existing literature on cannabis use for chronic pain management and FM, as well as the broader implications for healthcare policy and patient support.

### **CHAPTER 5: DISCUSSION**

#### **Chapter Overview**

This chapter discusses the findings from the experiences of women using cannabis for managing FM. The chapter integrates participant narratives with existing literature, identifies novel insights, addresses barriers encountered, and explores preferences and usage patterns of cannabis. Further, it contextualizes findings within cannabinoid pharmacology and highlights implications for clinical practice. The chapter concludes with the study's strengths and limitations, and implications for healthcare education, policy, and research.

### **Study Findings Supported by Existing Literature**

Participants in this study described cannabis as a significant and often transformative aspect of FM management. For many, cannabis represented a turning point after years of ineffective or unsatisfying experiences with conventional treatment(s). Reported improvements extended across multiple domains, including pain, sleep, anxiety, and emotional well-being. Participants frequently linked cannabis use to a restored ability to engage in everyday tasks, maintain social relationships, and return to work or caregiving responsibilities. These findings align with recent systematic reviews suggesting that cannabinoids may offer modest benefits for individuals with FM, particularly in relation to pain, sleep, and mood (Strand et al., 2023; Khurshid et al., 2021; Kurlyandchik et al., 2021; Zeng et al., 2022). Notably, Wang et al's (2021) systematic review and meta-analysis found moderate-certainty evidence for small reductions in pain and high-certainty evidence for small improvements in sleep quality and physical functioning. While inconsistency was noted in pain outcomes, improvements in sleep and functioning were more consistent across studies, highlighting the potential therapeutic value of cannabinoids for some individuals living with FM.

This study's findings regarding symptom relief from cannabis are also consistent with two large-scale survey studies of medical cannabis users with chronic pain, including persons with FM. Boehnke et al. (2021) surveyed 2,701 individuals with FM using CBD-rich cannabis products with respondents reporting improvements in pain, anxiety, sleep, and fatigue, with most side effects described as mild and manageable. Holman et al. (2022) surveyed 2,697 medical cannabis patients in Canada, including 172 with FM. Most participants used cannabis to manage chronic pain, anxiety, and insomnia. While the study did not report specific details on the types or formulations of cannabis products used, it did collect information on primary symptoms treated, frequency of use, and substitution patterns. Nearly half of respondents (47.1%) reported substituting cannabis for pharmaceuticals or substances such as opioids, alcohol, or tobacco. In both survey studies, cannabis was viewed as a helpful and often preferable alternative to conventional treatments.

Broader qualitative research has also found similar symptom relief patterns among individuals with chronic pain. Participants in the qualitative description study by Cummings et al. (2024) shared that cannabis use improved mental health, functional capacity, and reduced reliance on pharmaceuticals. AminiLari et al. (2022) in their qualitative description study similarly reported that participants with chronic pain viewed cannabis as an effective alternative with fewer side effects than conventional medications. This study's findings add to the current state of qualitative literature supporting the perceived advantages of cannabis over traditional pharmacological options for management of FM and highlighting the lived experiences of patients navigating chronic illness care.

### **Novel Study Findings**

Importantly, this study offers novel insights by illustrating how participants used cannabis not only for symptom relief, but also for emotional regulation, identity restoration, and reclaiming daily routines. One participant introduced the concept of "body neutrality," describing a shift in awareness that allowed them to coexist with pain without being overwhelmed by its presence. Rather than pursuing complete pain elimination, many participants described cannabis as facilitating a cognitive and emotional shift that enabled greater life engagement. The dissociative or distracting effects of cannabis, as described by participants in this study, appear to facilitate a psychological reorientation to the body and pain that aligns with the emerging concept of body neutrality. Rather than seeking to eliminate pain, participants often spoke of cannabis enabling them to shift their attention away from pain, reducing its emotional salience and allowing a more neutral coexistence with their bodies. Similar to how opioids have been shown to alter the emotional and attentional dimensions of pain (Fields, 2004; Leknes & Tracey, 2008), this suggests cannabis may facilitate a perceptual shift rather than direct symptom suppression. This reframing echoes findings in the mixed methods survey by Piper et al. (2017) that patients commonly value cannabis for its capacity to "change perception and experience" of chronic pain, emphasizing a shift in consciousness rather than symptom eradication (p. 1374). Similarly, in the Cummings et al. (2024) study, participants described cannabis as helping them shift attention away from pain, as illustrated in this quote, "I don't know if it's that you don't care as much or you don't think about [pain] as much... it just don't bother you" (p. 27). This parallels the experiences shared by participants in this study where pain became a less intrusive and more background sensation. Given that many participants found THC-containing products particularly effective for facilitating such dissociative or attention-shifting effects, we might

reasonably suspect that distraction is more likely to occur with THC-dominant formulations, consistent with its psychoactive properties. Framing these effects through the lens of body neutrality allows for a nuanced interpretation: cannabis may support individuals in moving away from a state of focus on their bodies and pain, but not through deliberate effort, rather as a result of feeling less consumed by their symptoms. This conceptualization broadens our understanding of therapeutic outcomes, suggesting value in interventions that help reconfigure attentional and affective relationships to chronic pain, even when physical symptoms persist.

Participants in this study also described their cannabis use as intentional and adaptive. Rather than using cannabis reactively, individuals adjusted their methods and dosages in response to daily needs, emotional states, and social settings. This pattern aligns with Pomey et al.'s (2024) scoping review, which found that the second most common reason individuals turned to medical cannabis was the ineffectiveness of their prescribed medications or a desire to reduce pharmaceutical use. These findings reinforce the interpretation that cannabis use among individuals with chronic conditions can be intentional and may be informed by previous treatment dissatisfaction. This level of self-regulation underscores the role of patient agency in chronic disease management. These findings align with a scoping review of 53 studies on chronic illness and medical cannabis that found patients valued cannabis for supporting autonomy, improving quality of life, and reducing dependence on prescription medications (Pomey et al., 2024). However, the current study expands this evidence by revealing how cannabis use was strategically integrated into participants' broader care routines, often in the absence of formal guidance from health care professionals.

### **Understanding Participant Preferences and Patterns of Use**

Individualized approaches to cannabis use in symptom relief was a key finding in this study. Participants described cannabis use not only as purposeful but as tailored and strategic, reflecting individualized approaches to symptom relief. Preferences for specific routes of administration were likely grounded in the pharmacokinetic properties of cannabis. For example, smoking or vaporizing cannabis was often selected for its rapid onset of action. Participants reported that inhalation provided quicker relief for acute symptoms such as pain spikes or anxiety and allowed them to adjust the dosage based on immediate feedback from their bodies. These preferences are consistent with pharmacokinetic evidence. Inhalation delivers cannabinoids directly to the lungs, resulting in peak plasma concentrations within minutes, and a relatively short duration of action (Huestis, 2007; Lucas et al., 2018). By contrast, oral products have delayed absorption, variable bioavailability due to first-pass hepatic metabolism, and longer durations of effect, which may be less suitable for managing episodic or unpredictable symptoms but preferred for individuals seeking sustained symptom control (Lucas et al., 2018; MacCallum & Russo, 2018). This supports this study's findings that individuals preferring oral formulations liked that they could be measured more accurately and scheduled like a daily medication. Additionally, those that faced greater stigma preferred oral cannabis formulations for its ability to maintain secrecy. Participants often adjusted their use depending on the time of day or nature of the symptoms. For example, vaporized or smoked cannabis might be used during the day to manage acute pain or anxiety, while oral oils were preferred at night to support sleep. This flexibility was seen as a benefit, allowing users to tailor their approach to meet changing needs throughout the day.

These preferences and effects can be further understood through the pharmacological mechanisms of cannabinoids and their interaction with the endocannabinoid system. The therapeutic effects of cannabis described by participants are grounded in its interaction with the endocannabinoid system, a widespread regulatory system involved in processes such as pain modulation, immune response, mood regulation, and homeostasis. The two primary phytocannabinoids found in cannabis are delta-9-tetrahydrocannabinol (THC) and cannabidiol (CBD). While THC is the main psychoactive compound, acting as a partial agonist at CB1 and CB2 receptors, CBD has a more complex pharmacological profile, functioning as a negative allosteric modulator at CB1 receptors and interacting with a variety of other receptor systems (Kendall & Yudowski, 2017; Wu, 2019). CB1 receptors are highly concentrated in the central nervous system and play a key role in modulating pain perception, emotional regulation, and cognitive function (Kendall & Yudowski, 2017). CB2 receptors are primarily expressed in immune tissues, although recent research has identified their presence in the central nervous system under certain pathological conditions. This dual system supports the use of cannabinoids for both neurological and inflammatory symptoms, which may explain why participants in this study reported improvements across multiple domains. CBD, in particular, is notable for its nonintoxicating profile and its role in modulating inflammation and anxiety.

All participants managed various side effects, including cognitive impairments, fatigue, and reduced functionality. Side effect severity and frequency depended on cannabis formulation (e.g., THC vs CBD, etc.) and route of administration and dose, which is consistent with existing literature on the different effects produced by cannabinoids (Bilbao & Spanagel, 2022). Participants in this study generally noted that products containing THC-dominant concentrations produced higher functionality-limiting side effects (such as, driving or working), which required users to carefully plan their dosing schedules. This is consistent with existing literature that confirms the cannabinoid THC produces a "high" effect in individuals stemming from its psychoactive properties at certain dosages (Leen et al., 2024). Participants who were reluctant to use THC-heavy products often preferred CBD-dominant formulations. This aligns with findings from Lucas et al. (2018), who reported that CBD may attenuate some of the adverse effects of THC, including anxiety and tachycardia. CBD may also enhance the therapeutic profile of THC when used in combination, although the precise mechanism of interaction remains an area of ongoing research. In this study, participants reported the effects of CBD or CBN to have less serious side effects, leading to an increased ability for daytime use. These experiences align closely with findings from a survey of persons with FM using cannabis who reported sleepiness as the most common side effect of CBD use in FM management (Boehnke et al., 2021). In this study, participants reported that CBD or CBN generally caused fewer disruptive side effects than THC, which made these products more suitable for daytime use in some cases. However, a few participants did experience sleepiness with CBD, and in certain contexts, such as professional or caregiving settings, this was seen as a limitation. These experiences align with findings from Boehnke et al. (2021), who reported sleepiness as the most common side effect of CBD use among individuals with FM. Participants also mentioned functional limitations related to cannabis consumption, consistent with qualitative descriptions by Cummings et al. (2024) and AminiLari et al. (2022), which emphasized adverse effects such as cognitive impairment and sedation.

Despite the growing interest in cannabinoid therapeutics, the variability in cannabis products remains a significant challenge. Cannabis can be broadly categorized into three product types: THC-dominant, CBD-dominant, and balanced THC-CBD formulations (MacCallum &

Russo, 2018). Each of these categories may have different effects depending on the route of administration, dose, and individual patient factors. This diversity of cannabis formulations and the lack of standardized dosing units pose significant challenges for both patients and clinicians. Efforts are underway to develop universal dosing frameworks that can support safer and more effective cannabis use. Consensus recommendations on dosing of cannabis in treatment of chronic pain, propose titration guidelines that prioritize safety and efficacy and recommend different protocols based on patient characteristics and treatment goals (Bhaskar et al., 2021).

As our understanding of cannabinoid pharmacology advances, so too does our appreciation for its complexity. There remains much to learn about how specific cannabinoids and their metabolites interact with the endocannabinoid system, as well as how individual differences in genetics, metabolism, and health status shape therapeutic outcomes. Nevertheless, the findings of this study suggest that cannabis, when used with intention and attention to individual needs, may offer meaningful relief for individuals living with FM. However, this study challenges the notion that a uniform treatment plan will serve all individuals equally. Instead, it is worth considering that a structured initiation process, guided by clinical best practices, may serve as a helpful starting point within an individualized care model. These study findings support the perspective that tailored cannabis use may be a feature, not a flaw, in its application for FM, particularly in the context of a fluctuating condition where symptom intensity and needs vary across time (Ashe et al, 2017).

In light of this, participants emphasized the need for more partnership-based care, where HCPs acknowledge the individualized nature of cannabis treatment and actively support patients' self-management. Participants did not just expect prescriptive instructions, but rather called for clinicians to validate their experiences, offer guidance when possible, or refer to specialists when

beyond their scope. Several participants recommended that providers take time to understand their goals, symptoms, and responses to treatment, with one describing the importance of regular check-ins and collaborative adjustments. Others voiced the need for nonjudgmental listening and for HCPs to see cannabis as a legitimate, patient-directed strategy for symptom relief. Above all, participants advocated for a relationship built on mutual respect, where their experiential knowledge was recognized and valued within the care process.

A key finding of this study was the experimental approach adopted by participants, who had developed their own strategies through trial and error. Indeed, the trial-and-error process described by participants was central to understanding the highly individualized nature of cannabis use. Participants experimented with different formulations, ratios of THC to CBD, dosing schedules, and routes of administration, often over extended periods. This approach reflects recommendations from a clinical practice guideline on cannabis dosing for HCPs on a titration method of "start low, go slow, and stay low" designed to balance therapeutic effect with tolerability (MacCallum & Russo, 2018). Similarly, Bhaskar and colleagues' (2021) consensus recommendations suggest initiation with CBD-dominant products, gradual titration, and the addition of THC if needed, based on patient response and goals. While developed using expert consensus methods such as the Delphi technique, these recommendations do not replace formal BPGs, as they are not solely grounded in high-quality evidence. Taken together, these recommendations reflect a standardized process of introduction and dose adjustment, even if patient outcomes and end-use patterns remain diverse. Importantly, while these recommendations promote titration protocols as a way to balance efficacy and tolerability, they also emphasize the need for patient-centered conversations that support individualized decisionmaking around risks, benefits, and evolving treatment goals.

These patterns of adaptation were not always immediate. Several participants initially discontinued cannabis use after experiencing unsatisfactory results, only to revisit it later with improved outcomes. This suggests that early discontinuation may not reflect ineffectiveness, but the complexities of self-directed navigation, particularly in a landscape marked by variable formulations, inconsistent effects, and limited professional guidance. As such, participants' trajectories reveal not only the individualized nature of cannabis response, but also the need for iterative support and realistic expectations during early stages of use.

The individualized nature of cannabis response, and the lack of standardized dosing units, continues to present challenges in both clinical practice and research. Factors such as product formulation, bioavailability, and patient characteristics significantly influence therapeutic outcomes (Bhaskar et al., 2021). This reinforces the earlier discussion of how participants' preferences for routes of administration, such as inhalation for acute relief or oral formulations for sustained effects, were not arbitrary, but informed by the pharmacokinetic profiles of different products. The variability in bioavailability and onset times described by participants reflects not only individual trial-and-error but also underscores the clinical significance of formulation as a determinant of effectiveness. In this way, participants' adaptive strategies exemplify the very complexities that continue to hinder the development of standardized cannabis dosing protocols.

These individualized approaches to cannabis use, while sometimes effective, also required sustained experimentation with various products, an undertaking that many participants found financially burdensome. Participants cited the high out-of-pocket expenses of cannabis, due to the lack of insurance or government coverage for persons with FM. Although some private insurance providers do reimburse medical cannabis for certain conditions such as cancer,

multiple sclerosis, HIV/AIDS, and rheumatoid arthritis, FM is generally not listed among the eligible conditions (Medical Marijuana Consulting, 2023). At this time, Veterans Affairs Canada (VAC) remains the only known organization in Canada that provides reimbursement for cannabis use related to FM (Veterans Affairs Canada, 2022). This is consistent with similar medical cannabis literature, where patients frequent note the cost of cannabis as a reason to discontinue or limit use (AminiLari et al 2022; Boehnke et al 2021; Cummings et al 2024). Some participants in this study noted that while they preferred cannabis over other prescribed pharmaceuticals used to treat their FM, they were forced to choose the most economically feasible treatment option. This concern is echoed in emerging research examining the financial burden of medical cannabis use; for example, Jeddi et al. (in press) explore the cost-effectiveness of cannabis versus opioids for chronic noncancer pain, which may offer further insight into the economic factors influencing such treatment decisions. Additionally, given that a varying period of trial-and-error exists with new users, the financial burden of purchasing products that may be ineffective may lead to a discouraging process of financial loss, with more significant outcomes to those that have fewer financial resources. Given that literature on the lived of experience of FM frequently cites financial hardships for this population due to difficulties with maintaining regular work and government assistance, (Ashe et al, 2017; Brown, 2018; Wuytack & Miller, 2011) the current lack of insurance coverage and realties of cannabis product prices may prove as a permanent barrier for the FM population until financial support programs are created.

# Navigating Cannabis Without Healthcare Support

A prominent finding was the lack of support and guidance from HCPs regarding cannabis use. Participants described encounters characterized by misinformation, dismissiveness, and limited professional knowledge, leading many to independently manage cannabis dosing and administration. These experiences may be related to HCPs' ability to offer evidence-based recommendations given the heterogeneity of cannabis products, most products do not have a Drug Identification Number from Health Canada, perceived gaps in research evidence, and limited education during training (Bell et al., 2024; Health Canada, 2018; Ng et al., 2021; 2022). Research has documented that many chronic pain patients, including those with FM, report a strong demand for HCP collaboration in their pain management journeys, yet they often struggle to receive the support they seek (Holman et al., 2022).

These experiences align closely with the findings of a Canadian survey of persons with FM who reported mixed confidence in primary care providers' abilities to integrate cannabis into treatment (Holman et al., 2022). Approximately 18% of their study participants expressed no confidence in their providers' knowledge and integration abilities, and almost 40% of participants rated their providers' knowledge about cannabis as either poor or fair, indicating that a significant portion of medical cannabis users may have providers whose knowledge base about cannabis may limit their ability to support them. The literature further underscores the significance of the patient-provider relationship concerning cannabis use. Pomey et al's 2024 scoping review highlights a clear need for improved HCP-patient engagement, including updated educational training for HCPs to effectively guide patients on medical cannabis use given their finding that 26% of included studies found providers' lack of information on cannabis as a reason to not use cannabis.

While educational gaps play important roles in shaping provider hesitancy, a significant barrier to clinician engagement with medical cannabis is the limited and often inconsistent evidence base for its use in chronic pain and FM. Systematic reviews and clinical guidelines frequently emphasize that existing studies are heterogeneous, underpowered, and lack long-term

follow-up, making it difficult to draw strong conclusions about efficacy or safety (Fitzcharles et al., 2021; Bhaskar et al., 2021). For FM specifically, evidence is particularly weak, with few randomized controlled trials and limited replication of findings across diverse populations. These limitations complicate evidence-informed decision-making and may lead many providers to avoid cannabis-related discussions altogether or to consider it only after more established treatment options have been explored. Given the current state of evidence, it is reasonable that many clinicians consider cannabis only after conventional therapies have been trialed, especially in light of existing recommendations that prioritize non-pharmacologic and non-opioid strategies as first-line options (Busse et al., 2021). Thus, provider reluctance is not simply a reflection of conservatism, but also of the broader uncertainties in the current scientific landscape surrounding cannabinoid therapeutics.

These gaps in support often forced participants to independently navigate cannabis use, making dosing and product selection a trial-and-error process. This hesitancy among providers exists in contrast to the increasing accessibility and availability of cannabis products following legalization in Canada. The rapidly expanding cannabis market has forced many HCPs into discussions about medical cannabis, even as they remain reluctant to fully integrate it into treatment plans (Pomey et al., 2024). The research-to-practice gap created by the limited evidence base has, in turn, created tensions between patients seeking alternative treatments and providers who remain skeptical about cannabis as a therapeutic tool (Ng et al 2021; 2022).

For participants in this study, these difficulties were compounded by the pre-existing and well-documented stigmatization of FM itself. Many individuals with FM already face skepticism and dismissive attitudes from HCPs, which has been widely reported in the literature (Ashe et al., 2017; Doebel et al., 2020; Climent-Sanz et al., 2023; Wuytack & Miller, 2011). Physicians
remain divided on whether FM should be considered a biomedical or psychosocial disorder, with nearly 51% viewing it as primarily psychosocial (Agarwal et al., 2024). This skepticism leads to delegitimization of FM symptoms, particularly among women, and contributes to negative provider perceptions of FM patients as time-consuming, demanding, and overly focused on their illness (Agarwal et al., 2024). FM patients frequently report poor provider relationships, which are often characterized by a lack of coordination, poor continuity of care, and limited support beyond prescription medication (Doebel et al., 2020). Despite longstanding recommendations for collaborative and multimodal care, such as the 2012 Canadian guidelines that advocate for active patient involvement and individualized treatment planning to improve function and support continued employment (Fitzcharles et al., 2012), the stigmatization of FM continues to act as a barrier to effective care.

These challenges were further amplified by stigma associated with cannabis use. Despite legal authorization, several participants reported feeling judged by HCPs, employers, or family members. This combination of stigma related to both FM and medical cannabis deepened the sense of delegitimization and discouraged some from disclosing their cannabis use or seeking support from their providers. As AminiLari et al. (2022) and Bottorff et al.'s (2013) qualitative studies have shown, cannabis users are often perceived as irresponsible or socially deviant even when using the substance for therapeutic purposes. Stigma surrounding cannabis continues to constrain open dialogue in clinical settings, impeding shared decision-making and contributing to a lack of continuity in care (Pomey et al., (2024). For individuals living with a condition that is already frequently dismissed by clinicians, the added stigma of cannabis use may compound experiences of marginalization and limit access to the supportive care needed for effective symptom management.

The process of trial-and-error in finding the right cannabis formulation, managing side effects, and determining effective symptom management strategies was largely undertaken alone, without guidance from their HCPs. This aligns with previous findings that FM patients often resort to self-management strategies due to dissatisfaction with prescription treatments and a perceived lack of knowledge among HCPs regarding alternative therapies (Climent-Sanz et al., 2023; Blanchard et al., 2022).

The convergence of these two stigmatized identities places FM patients who use cannabis at heightened risk of experiencing medical and social marginalization. Addressing these challenges requires a shift in provider attitudes, including improved medical education on both FM and medical cannabis, as well as greater efforts to integrate patient perspectives into clinical decision-making. Without such changes, the barriers to collaboration and support will continue to hinder FM patients seeking to manage their condition effectively.

HCP concern regarding cannabis use disorder (characterized by persistent cravings, impaired control over use, and continued consumption despite negative consequences) is another factor limiting the uptake of cannabis into clinical practice (Miller et al., 2017). Dual use, defined as individuals using cannabis both medicinally and recreationally, is often viewed with clinical concern. Some participants in this study were exclusively using medical cannabis, while others described dual use, as they had the desire to incorporate cannabis into both symptom relief and moments of enjoyment or relaxation. For some, the experience of euphoria, typically framed as recreational, was described as therapeutic, offering respite from persistent discomfort and distress. Recent research highlights the complexity of distinguishing therapeutic from recreational cannabis use. A study by Gendy et al. (2023) examining individuals admitted for substance use disorder treatment found that those who reported both medical and recreational

cannabis use were more likely to meet the criteria for cannabis use disorder, compared to those who used for medical purposes alone. However, the authors noted that dual users also endorsed cannabis as a tool for managing anxiety, sleep, and trauma-related symptoms. Medical cannabis users often feel perceived as irresponsible or socially deviant, with some being accused of using cannabis recreationally rather than medicinally (Bottorff et al., 2013). This raises important questions about how cannabis use is classified and assessed, especially among those managing chronic health conditions. The conflation of euphoric effect with misuse may obscure its perceived value as a therapeutic experience, and those that reject the label of recreational use may continue to face assumptions and accusations.

## **Strengths and Limitations**

A key strength of this study was that it is the first known qualitative research exploring the preferences of cannabis use among individuals with FM. As such, it provides new insight into the decision-making, planning, and self-management processes individuals living with FM engage in when using cannabis for symptom relief. Another strength was the variation in participant characteristics, particularly in terms of geographic location and age. Participants were recruited from multiple provinces across Canada, including Alberta, Manitoba, New Brunswick, Quebec, Ontario, and British Columbia. This geographic diversity allowed for a broader range of experiences and contextual influences to emerge, enriching the overall findings. Age variation also contributed to the depth of perspectives, as it reflected different stages of life, health journeys, and coping strategies. A further strength was the diversity in cannabis preferences and use patterns. Participants reported using a variety of consumption routes such as edibles, topicals, and smoking or vaping. They also expressed preferences for different types of cannabinoids, including THC, CBD, a combination of both, as well as less commonly discussed cannabinoids

like CBN. Additionally, participants shared individual routines for cannabis use that reflected personal experimentation, adaptation, and self-management. This level of detail helped to uncover how individuals tailor their use based on changing needs and goals, contributing to a deeper understanding of the personalized nature of medical cannabis use in this population.

While in-depth interviews provided rich and detailed insights, the study does have some limitations. The small sample size (n=15) limits the transferability of findings to the broader FM population. Although limited generalizability is a common feature of qualitative research, which emphasizes depth and contextual understanding over statistical inference (Malterud et al., 2016), the specific characteristics of this sample may not capture the full diversity of experiences among individuals with FM who use cannabis. Therefore, the findings should be interpreted as exploratory and understood within the specific context in which the study was conducted. Another limitation was the homogeneity of the sample in terms of gender. All participants identified as women, which restricts exploration of how gender may influence experiences with FM and medical cannabis. While FM is more prevalent among women (Rusu et al., 2015), little is known about how men or non-binary individuals engage with cannabis for symptom management. Additionally, societal expectations- especially those related to caregiving and maternal roles- may shape how women perceive and navigate cannabis-related stigma (Hathaway et al., 2011; Hemsing & Greaves, 2020), potentially influencing their decisionmaking in ways that differ from other gender identities.

The method of participant recruitment also presented limitations. All participants were recruited from online FM support groups, potentially introducing bias. Those involved in such communities may possess shared values, coping strategies, or levels of condition engagement that differ from individuals who do not participate in peer support, which may limit the broader applicability of the findings. Furthermore, the lack of ethnic diversity in the sample restricts the relevance of findings to racialized groups. Most participants identified as White or of European descent, limiting insight into how cultural background, systemic discrimination, or differing access to healthcare may shape both FM experiences and cannabis use. Without broader representation, it is difficult to capture the full spectrum of sociocultural influences on cannabis-related decisions.

An additional limitation relates to the variability in cannabis use among participants. There were notable differences in product formulations (e.g., THC, CBD, CBN, or mixed products), routes of administration, and timing of use based on symptoms or daily context. These individualized practices made it difficult to draw conclusions about specific dosages or regimens. Moreover, demographic and product-related information, such as precise dosages or cannabinoid ratios were not consistently shared by participants. All findings were based on self-report, which may be influenced by recall bias or subjective interpretation, especially in the absence of standardized documentation or clinical verification.

Future research should aim to recruit participants from a broader range of gender identities, racial backgrounds, and community contexts including those not connected to support networks and should consider more structured data collection around cannabis use to better understand patterns, preferences, and outcomes. In addition, a larger cross-sectional study that examines the use of different cannabis products, including varying doses, formulations, and methods of administration, could help identify patterns across a more representative population and enhance the generalizability of these findings.

# Implications

# Practice

This study reaffirms that cannabis use for FM is often complex, individualized, and evolving. As such, the expectations placed on HCPs, especially those in primary care settings including family physicians, NPs and Registered Nurses (RN), can be extensive. Providers are being asked to understand a wide range of cannabis formulations, dosing strategies, and patientspecific factors that may influence treatment outcomes. For many primary care practitioners who lack advanced knowledge in cannabinoid therapeutics, this level of clinical oversight may exceed their comfort or expertise. Nurses are often the first point of contact in patient care and play a key role in monitoring symptom progression, medication effects, and patient concerns, making their engagement in cannabis-related education and referral particularly critical.

As highlighted earlier, due to a lack of standardized education for HCPS, providers who do not feel confident supporting patients through medical cannabis treatment should consider referral to cannabis clinics or cannabinoid-specialized providers (Ng et al., 2021; Prosk et al., 2021). These clinics often use a multidisciplinary approach with structured intake, individualized titration plans, and frequent follow-ups (Prosk et al., 2021). This level of care is particularly suited for managing complex cases such as FM, where symptom clusters are variable and dynamic. However, as with all healthcare services, the level of expertise at individual cannabis clinics may vary. While access varies depending on location and healthcare infrastructure, cannabis-specific clinics or cannabinoid-specialized providers are increasingly available in urban areas through both public and private channels. Open communication about the rationale for referral can help patients navigate these options and feel supported in their treatment journey. It

is important that providers refer to specialists, when reputable and available, and communicate openly with patients about the rationale.

Several participants reported feeling stigma from family, friends, and coworkers, despite using cannabis legally and often through medical authorization. Persistent stigma may discourage individuals from seeking guidance or disclosing their cannabis use to nurses and other HCPs. Public health education strategies could aim to reduce stigma by presenting cannabis as a possible treatment option for chronic pain conditions such as FM. Normalizing medical cannabis use may also improve social support for patients, reducing isolation and enabling more open conversations about treatment. Such normalization may require cannabis products to resemble conventional drug therapies, including standardized formulations, consistent dosing, and Drug Identification Numbers to facilitate prescribing and insurance coverage. However, it remains uncertain whether all patients would embrace this form of medical cannabis.

Providers have the opportunity also be transparent about current knowledge gaps in the field. Rather than dismissing cannabis use due to limited data, nurses and other HCPs can acknowledge the evolving evidence base and engage in shared decision-making that respects patients' lived experiences and symptom narratives. For individuals managing complex and stigmatized conditions like FM, a collaborative, nonjudgmental approach is essential to fostering trust and enabling safer, more integrated cannabis use.

# Education

One of the most consistent findings from participants was the lack of provider support, which was often attributed to limited knowledge about cannabis products, dosing, and side

effects. Participants described being left to navigate their cannabis use alone, often relying on trial-and-error or advice from dispensary staff. These experiences align with previous literature identifying significant gaps in cannabis education among HCPs, including medical and nursing students, and frontline providers such as primary care physicians (Ng et al., 2021; Ziemianski et al., 2015; Schuhmacher et al., 2024). Without formalized education and training, HCPs, including NPs and RNs, are often unable or unwilling to provide evidence-informed guidance to patients seeking support.

This study also highlights the need for cannabis education tailored to chronic pain conditions such as FM. Participants emphasized the complexity of their symptoms and the individualized nature of their cannabis routines, including timing, product formulation, and route of administration. Education for HCPs should therefore include comprehensive content on the role of cannabinoids in symptom management, including THC, CBD, and lesser-known compounds such as CBN. Training should also address how to support patient-led experimentation in a safe and collaborative manner, as participants in this study described a strong desire for more partnership in their care.

In addition to formal HCP education, nurses have the opportunity to play an important role in patient education and cannabis literacy. Participants in this study frequently emphasized the trial-and-error nature of cannabis use, highlighting that ideally patient education provided by nurses would include accessible information about titration, product selection, and selfmonitoring. Clear communication and ongoing dialogue may reduce frustration and enhance adherence to individualized regimens. Patients should be made aware that medical cannabis use typically requires iterative treatment planning, often involving multiple product trials, and close symptom monitoring. Educating patients on the highly personalized nature of medical cannabis,

and the value of working with a specialist familiar with such processes, may reduce frustration, improve adherence, and enhance safety and integration with other treatments (Bell et al., 2024).

# Policy

A significant barrier identified by participants was the high cost of cannabis products and the lack of insurance coverage. Several participants described having to limit their cannabis use or return to prescription medications covered by public or private drug plans, despite perceiving cannabis to be more effective. Policy makers could explore expanding insurance coverage for medical cannabis, particularly for individuals with chronic health conditions like FM. Subsidy programs or tax deductions for medically authorized cannabis may also help address affordability and promote equitable access. The VAC reimbursement program, which provides federal support for eligible veterans, potentially provides a policy model that could be adapted to serve other patient populations. However, the lack of comparable coverage for non-veterans has raised concerns about inequity and sustainability, and VAC has also been criticized for limited evaluation of program effectiveness (Berthiaume, 2022; Veterans Affairs Canada, 2022). Recent federal review findings suggest that since legalization, medical cannabis access remains uneven across populations and lacks consistent national policy or cost-effectiveness evaluation (Health Canada, 2024).

Another policy consideration is the inconsistency of cannabis product labeling and dosing. Participants expressed difficulty finding reliable products and often reported varying effects between brands, despite using similar dosages. This inconsistency undermined participants' ability to manage symptoms effectively and contributed to frustration during the trial-and-error period. These concerns are supported by recent findings from Doggett et al.

(2024), who identified that a substantial proportion of legal oral cannabis oil products in Ontario had inaccurate THC and CBD labeling, with over 40% exceeding allowable variability thresholds for THC content. Strengthening regulatory standards for product labeling and potency, including clearer cannabinoid profiles and consumption guidelines, may improve consumer safety and confidence. Policymakers could work with licensed producers and Health Canada to ensure that product information is consistent, accessible, and patient-friendly.

Despite growing evidence and public interest, cannabis remains underrepresented in most FM clinical guidelines. The inclusion of cannabis as a treatment option would help formalize its role within chronic pain care and may encourage more HCPs to engage in cannabis-related discussions. Incorporating patient values and preferences, as outlined in recent guidelines for chronic pain (Busse et al., 2021), is essential in ensuring that cannabis policy reflects lived experiences.

Finally, the study findings point to broader health equity concerns. Most participants accessed information and products online or through private vendors, and the study sample was largely comprised of women living in urban or suburban settings. Individuals in rural areas, low-income households, or from racialized communities may face additional barriers to accessing cannabis or credible information about its use. Policymakers have the opportunity to explore targeted outreach efforts and funding models that support diverse populations in making informed choices about cannabis use.

## Research

Future studies should explore how intersecting identities influence cannabis preferences, experiences of stigma, and access to care. This could include efforts to recruit more diverse

samples of participants such as offering screening tools and interviews in other languages, or distribution of recruitment materials through cultural centers or faith-based settings. Understanding these perspectives is vital for developing equitable clinical practices and health education resources. Another important direction for research involves exploring the perspectives of nurses and other HCPs on cannabis use for FM, including how professional roles and training influence their ability to support patients. While previous studies have identified general gaps in cannabis education among physicians and nurses (Ziemianski et al., 2015; Elkrief et al., 2020; Balneaves et al., 2023), few have focused specifically on how HCPs view cannabis use in the context of FM. Research is needed to investigate HCP comfort levels, perceived barriers, and educational needs when supporting patients using cannabis for chronic pain. Such findings could inform continuing education and clinical guideline development.

Future research could also focus on evaluating long-term outcomes associated with cannabis use for FM. While participants in this study reported improvements in pain, sleep, anxiety, and quality of life, these findings were based on personal experiences and are not yet supported by high-certainty longitudinal data. Research that tracks cannabis use over time, including symptom management, functioning, mental health, and safety outcomes, would provide valuable insight into its effectiveness and limitations. Studies that compare different cannabinoid profiles, routes of administration, and dosing strategies could help inform individualized treatment planning.

Finally, future research could focus on knowledge translation and implementation strategies that integrate patient voices into clinical practice. The findings of this study, along with emerging literature, suggest that some individuals with FM view cannabis as a central part of their care. Creating resources that bridge patient experiences with clinical knowledge may

support both nurses and patients in making safe, informed decisions. Taken together, these research directions will support more inclusive, evidence-informed, and patient-centered approaches to cannabis use in the management of FM.

### Conclusion

This study provides the first known qualitative exploration into how women living with FM use cannabis to manage their symptoms. Participants described cannabis as a critical component in reclaiming aspects of their daily lives, offering relief from pain, improved sleep, reduced anxiety, and enhanced capacity for everyday activities. These experiences illustrate the complex, individualized nature of FM management and support cannabis's therapeutic potential. However, accessing and effectively using cannabis involved navigating significant obstacles, including limited nursing and other HCP support, persistent stigma, financial barriers, adverse effects, and the challenges inherent in self-directed dosing. These barriers reflect systemic shortcomings within chronic pain care, emphasizing an urgent need for improved education, policy reform, and healthcare collaboration. For participants, cannabis represented more than symptom relief: it embodied self-advocacy, resilience, and personal agency. Their narratives urge nurses, HCPs, and policymakers to genuinely engage with patient perspectives, placing lived experiences at the center of evolving care models. Understanding cannabis use not only as a therapeutic practice but also as a means of fostering autonomy, adaptability, and improved quality of life can inform more compassionate and inclusive approaches to FM care and chronic illness management more broadly.

# References

- Agarwal, A., Emary, P. C., Gallo, L., Oparin, Y., Shin, S. H., Fitzcharles, M.-A., Adachi, J. D., Cooper, M. D., Craigie, S., Rai, A., Wang, L., Couban, R. J., & Busse, J. W. (2024).
  Physicians' knowledge, attitudes, and practices regarding fibromyalgia: A systematic review and meta-analysis of cross-sectional studies. *Medicine*, *103*(31), e39109. <u>https://doi.org/10.1097/MD.00000000039109</u>
- Agarwal, A., Oparin, Y., Glick, L., Fitzcharles, M.-A., Adachi, J. D., Cooper, M. D., Gallo, L.,
  Wong, L., & Busse, J. W. (2018). Attitudes Toward and Management of Fibromyalgia: A
  National Survey of Canadian Rheumatologists and Critical Appraisal of Guidelines. *JCR: Journal of Clinical Rheumatology*, 24(5), 243–249.
  https://doi.org/10.1097/RHU.00000000000679
- AminiLari, M., Kithulegoda, N., Strachan, P., MacKillop, J., Wang, L., Pallapothu, S., Neumark, S., Sharma, S., Sethi, J., Zacharias, R., Blain, A., Patterson, L., & Busse, J. W. (2022).
  Benefits and Concerns regarding Use of Cannabis for Therapeutic Purposes Among People Living with Chronic Pain: A Qualitative Research Study. *Pain Medicine (Malden, Mass.)*, 23(11), 1828–1836. https://doi.org/10.1093/pm/pnac085
- Arnold, L. M., Bennett, R. M., Crofford, L. J., Dean, L. E., Clauw, D. J., Goldenberg, D. L.,
  Fitzcharles, M. A., Paiva, E. S., Staud, R., Sarzi-Puttini, P., Buskila, D., & Macfarlane,
  G. J. (2019). AAPT diagnostic criteria for FM. *The Journal of Pain, 20*(6), 611–628.
  <a href="https://doi.org/10.1016/j.jpain.2018.10.008">https://doi.org/10.1016/j.jpain.2018.10.008</a>

- Ashe, S. C., Furness, P. J., Taylor, S. J., Haywood-Small, S., & Lawson, K. (2017). A qualitative exploration of the experiences of living with and being treated for fibromyalgia. *Health Psychology Open*, 4(2), 205510291772433. https://doi.org/10.1177/2055102917724336
- Balneaves, L. G., Watling, C. Z., Strus, J. A., Boscow, M., Davis, L., Graveline, K., Harrigan, T., Henriquez, N., Mitchell, K., & Thompson, G. (2023). Baccalaureate nursing students' knowledge, attitudes, educational needs, and use of medical and non-medical cannabis at five institutions in Manitoba, Canada: A cross-sectional analysis. *Nurse Education Today*, *130*, 105955. https://doi.org/10.1016/j.nedt.2023.105955
- Berthiaume, L. (2022, September 14). Ottawa has lost control of \$150M program for reimbursing veterans' cannabis: Audit. CBC News. Press. <u>https://www.cbc.ca/news/politics/veterans-medical-cannabis-marijuana-reimbursement-1.6583167</u>
- Bell, A. D., MacCallum, C., Margolese, S., Walsh, Z., Wright, P., Daeninck, P. J., Mandarino,
  E., Lacasse, G., Kaur Deol, J., De Freitas, L., St. Pierre, M., Belle-Isle, L., Gagnon, M.,
  Bevan, S., Sanchez, T., Arlt, S., Monahan-Ellison, M., O'Hara, J., Boivin, M., ...
  Balneaves, L. (2023). Clinical Practice Guidelines for Cannabis and Cannabinoid-Based
  Medicines in the Management of Chronic Pain and Co-Occurring Conditions. *Cannabis*and Cannabinoid Research, can.2021.0156. https://doi.org/10.1089/can.2021.0156
- Ben-Yosef, M., Tanai, G., Buskila, D., Amital, D., & Amital, H. (2020). Fibromyalgia and Its Consequent Disability. *The Israel Medical Association Journal: IMAJ*, 22(7), 446–450.

- Bhaskar, A., Bell, A., Boivin, M., Briques, W., Brown, M., Clarke, H., Cyr, C., Eisenberg, E., De Oliveira Silva, R. F., Frohlich, E., Georgius, P., Hogg, M., Horsted, T. I., MacCallum, C. A., Müller-Vahl, K. R., O'Connell, C., Sealey, R., Seibolt, M., Sihota, A., ... Moulin, D. E. (2021). Consensus recommendations on dosing and administration of medical cannabis to treat chronic pain: Results of a modified Delphi process. *Journal of Cannabis Research*, *3*(1), 22. <u>https://doi.org/10.1186/s42238-021-00073-1</u>
- Bilbao, A., & Spanagel, R. (2022). Medical cannabinoids: A pharmacology-based systematic review and meta-analysis for all relevant medical indications. *BMC Medicine*, 20(1), 259. https://doi.org/10.1186/s12916-022-02459-1
- Blanchard, N., Deslauriers, S., Gervais-Hupé, J., Hudon, A., Roy, J.-S., Bernatsky, S., Feldman,
  D. E., Pinard, A. M., Fitzcharles, M.-A., Desmeules, F., & Perreault, K. (2022). "It feels
  like an endless fight": A qualitative study exploring healthcare utilization of persons with
  rheumatic conditions waiting for pain clinic admission. *BMC Musculoskeletal Disorders*,
  23(1), 878. https://doi.org/10.1186/s12891-022-05808-6
- Boehnke, K. F., Gagnier, J. J., Matallana, L., & Williams, D. A. (2021). Cannabidiol Use for
  Fibromyalgia: Prevalence of Use and Perceptions of Effectiveness in a Large Online
  Survey. *The Journal of Pain*, 22(5), 556–566. https://doi.org/10.1016/j.jpain.2020.12.001

- Bottorff, J. L., Bissell, L. J., Balneaves, L. G., Oliffe, J. L., Capler, N. R., & Buxton, J. (2013). Perceptions of cannabis as a stigmatized medicine: A qualitative descriptive study. *Harm Reduction Journal*, *10*(1), 2. <u>https://doi.org/10.1186/1477-7517-10-2</u>
- Boulton, T. (2019). Nothing and Everything: Fibromyalgia as a Diagnosis of Exclusion and Inclusion. *Qualitative Health Research*, *29*(6), 809–819.

https://doi.org/10.1177/1049732318804509

- Bowleg, L. (2017). Towards a Critical Health Equity Research Stance: Why Epistemology and Methodology Matter More Than Qualitative Methods. *Health Education & Behavior*, 44(5), 677–684. https://doi.org/10.1177/1090198117728760
- Bradshaw, C., Atkinson, S., & Doody, O. (2017). Employing a Qualitative Description Approach in Health Care Research. *Global Qualitative Nursing Research*, *4*, 233339361774228. https://doi.org/10.1177/2333393617742282
- Braun, V., & Clarke, V. (2019). Reflecting on reflexive thematic analysis. *Qualitative Research in Sport, Exercise and Health, 11*(4), 589–597.

https://doi.org/10.1080/2159676X.2019.1628806

Brown, N. (2018). Exploring the lived experience of fibromyalgia using creative data collection methods. *Cogent Social Sciences*, 4(1), 1447759. https://doi.org/10.1080/23311886.2018.1447759

- Busse, J. W., Vankrunkelsven, P., Zeng, L., Heen, A. F., Merglen, A., Campbell, F., Granan, L.-P., Aertgeerts, B., Buchbinder, R., Coen, M., Juurlink, D., Samer, C., Siemieniuk, R. A. C., Kumar, N., Cooper, L., Brown, J., Lytvyn, L., Zeraatkar, D., Wang, L., ... Agoritsas, T. (2021). Medical cannabis or cannabinoids for chronic pain: A clinical practice guideline. *BMJ (Clinical Research Ed.)*, *374*, n2040. https://doi.org/10.1136/bmj.n2040
- Campbell, K., Orr, E., Durepos, P., Nguyen, L., Li, L., Whitmore, C., Gehrke, P., Graham, L., & Jack, S. (2021). Reflexive Thematic Analysis for Applied Qualitative Health Research. *The Qualitative Report*. https://doi.org/10.46743/2160-3715/2021.5010
- Canadian Institutes of Health Research, Natural Sciences and Engineering Research Council of Canada, & Social Sciences and Humanities Research Council of Canada. (2022). Tri-

Council Policy Statement: Ethical Conduct for Research Involving Humans.

Canadian Medical Association (2020). Authorizing cannabis for medical purposes.

https://policybase.cma.ca/viewer?file=%2Fmedia%2FPolicyPDF%2FPD15-

04.pdf#page=1

- Canadian Medical Association. (n.d). *Medical Marijuana*. <u>https://www.cma.ca/medical-</u> <u>marijuana</u>
- Canadian Nurses Association. (n.d). *Cannabis*. <u>https://www.cna-aiic.ca/en/policy-advocacy/advocacy-priorities/cannabis</u>

Critical Appraisal Skills Programme. (2020). *CASP checklist for systematic reviews*. https://caspuk.net/casp-tools-checklists/systematic-review-checklist/ 0.

Critical Appraisal Skills Programme. (2018). CASP checklist for qualitative research.

https://casp-uk.net/casp-tools-checklists/qualitative-studies-checklist/

- Climent-Sanz, C., Hamilton, K. R., Martínez-Navarro, O., Briones-Vozmediano, E., Gracia-Lasheras, M., Fernández-Lago, H., Valenzuela-Pascual, F., & Finan, P. H. (2023).
  Fibromyalgia pain management effectiveness from the patient perspective: A qualitative evidence synthesis. *Disability and Rehabilitation*, 1–16.
  https://doi.org/10.1080/09638288.2023.2280057
- Cohen-Biton, L., Buskila, D., & Nissanholtz-Gannot, R. (2022). Review of Fibromyalgia (FM) Syndrome Treatments. *International Journal of Environmental Research and Public Health*, 19(19), 12106. https://doi.org/10.3390/ijerph191912106
- Collado-Mateo, D., Chen, G., Garcia-Gordillo, M. A., Iezzi, A., Adsuar, J. C., Olivares, P. R., & Gusi, N. (2017). "Fibromyalgia and quality of life: Mapping the revised fibromyalgia impact questionnaire to the preference-based instruments." *Health and Quality of Life Outcomes*, 15(1), 114. https://doi.org/10.1186/s12955-017-0690-0
- College of Nurses of Ontario. (2023). *Nurse Practitioner* (Practice Standard No. 41038). https://www.cno.org/globalassets/docs/prac/41038\_strdrnec.pdf

- Cox, C. (2018). The Canadian Cannabis Act legalizes and regulates recreational cannabis use in 2018. *Health Policy*, *122*(3), 205–209. https://doi.org/10.1016/j.healthpol.2018.01.009
- Cummings, H., Ul Haq, M. Z., Dargham, A., Shakeel, N., Busse, J., Darzi, A., & Alvarez, E.
  (2024). Individuals' Values and Preferences Regarding Medical Cannabis for Chronic
  Pain: A Descriptive Qualitative Study. *Journal of Pain Research, Volume 17*, 21–34.
  https://doi.org/10.2147/JPR.S432823
- DeRenzo, E. G., Singer, E. A., & Moss, J. (2020). Recruiting research participants. In *Ethical Considerations When Preparing a Clinical Research Protocol* (pp. 141–148). Elsevier. https://doi.org/10.1016/B978-0-12-386935-7.00007-4
- Doebl, S., Macfarlane, G. J., & Hollick, R. J. (2020). "No one wants to look after the fibro patient". Understanding models, and patient perspectives, of care for fibromyalgia: Reviews of current evidence. *Pain*, *161*(8), 1716–1725.
  https://doi.org/10.1097/j.pain.00000000001870
- Doggett, A., Fein, A., Campbell, T., Henriquez, N., Busse, J. W., & MacKillop, J. (2024). Label accuracy of legal oral cannabis oil products in Ontario, Canada. *JAMA Network Open*, 7(6), e2414922. <u>https://doi.org/10.1001/jamanetworkopen.2024.14922</u>
- Doyle, L., McCabe, C., Keogh, B., Brady, A., & McCann, M. (2020). An overview of the qualitative descriptive design within nursing research. *Journal of Research in Nursing*, 25(5), 443–455. https://doi.org/10.1177/1744987119880234

Elkrief, L., Belliveau, J., D'Ignazio, T., Simard, P., & Jutras-Aswad, D. (2020). Assessing the current state of medical education on cannabis in Canada: Preliminary findings from Quebec. *Paediatrics & Child Health*, 25(Suppl 1), S29–S33.

https://doi.org/10.1093/pch/pxaa015

Fields, H. L. (2004). State-dependent opioid control of pain. *Nature Reviews Neuroscience*, 5(7), 565–575. https://doi.org/10.1038/nrn1431

Fitzcharles, M.-A., Rampakakis, E., Sampalis, J. S., Shir, Y., Cohen, M., Starr, M., & Häuser, W. (2021). Use of medical cannabis by patients with fibromyalgia in Canada after cannabis legalisation: A cross-sectional study. *Clinical and Experimental Rheumatology*, 39 Suppl 130(3), 115–119. https://doi.org/10.55563/clinexprheumatol/qcyet7

- Forero, R., Nahidi, S., De Costa, J., Mohsin, M., Fitzgerald, G., Gibson, N., McCarthy, S., & Aboagye-Sarfo, P. (2018). Application of four-dimension criteria to assess rigour of qualitative research in emergency medicine. *BMC Health Services Research*, 18(1), 120. https://doi.org/10.1186/s12913-018-2915-2
- Fylan, F. (2015). *Semi-structured interviewing* (Vol. 1). Oxford University Press. https://doi.org/10.1093/med:psych/9780198527565.003.0006
- Geddes, A., Parker, C., & Scott, S. (2018). When the snowball fails to roll and the use of 'horizontal' networking in qualitative social research. *International Journal of Social Research Methodology*, 21(3), 347–358. https://doi.org/10.1080/13645579.2017.1406219

Gendy, M. N.S, Taisir, R., Sousa, S., Costello, J., Rush, B., Busse, J. W., & Mackillop, J. (2023).
Prevalence of cannabis use disorder among individuals using medical cannabis at admission to inpatient treatment for substance use disorders. *Addictive Behaviors*, 142,

107667. https://doi.org/10.1016/j.addbeh.2023.107667

Government of Canada. (2021, 05 19). Accessing cannabis for medical purposes from a licensed producer. <u>https://www.canada.ca/en/health-canada/services/getting-cannabis-from-licensed-producer/accessing-from-licensed-producer.html</u>

Government of Canada. (2022). Taking stock of progress: Cannabis legalization and regulation in Canada. <u>https://www.canada.ca/en/health-canada/programs/engaging-cannabis-</u> <u>legalization-regulation-canada-taking-stock-progress/document.html</u>

Government of Canada. (2022, 09 12). Current and Forthcoming General Minimum Wage Rates in Canada. https://srv116.services.gc.ca/dimt-wid/sm-mw/rpt1.aspx

Government of Canada. (2023). Research to Insights: Cannabis in Canada.

https://www150.statcan.gc.ca/n1/pub/11-631-x/11-631-x2023006-eng.htm

Hammond, D., Goodman, S., Wadsworth, E., Rynard, V., Boudreau, C., & Hall, W. (2020).
Evaluating the impacts of cannabis legalization: The International Cannabis Policy Study. *International Journal of Drug Policy*, 77, 102698.
https://doi.org/10.1016/j.drugpo.2020.102698

Hathaway, A. D., Mostaghim, A., Erickson, P. G., Kolar, K., & Osborne, G. (2018). "It's Really No Big Deal": The Role of Social Supply Networks in Normalizing Use of Cannabis by Students at Canadian Universities. *Deviant Behavior*, 39(12), 1672–1680.

https://doi.org/10.1080/01639625.2017.1411047

Health Canada. (2024). Legislative review of the Cannabis Act: Final report of the expert panel.
Government of Canada. https://www.canada.ca/en/healthcanada/services/publications/drugs-medication/legislative-review-cannabis-act-finalreport-expert-panel.html
Health Canada. (2018). Information for health care professionals: Cannabis (marihuana, marijuana) and the cannabinoids. Government of Canada.

https://www.canada.ca/en/health-canada/services/drugs-

medication/cannabis/information-medical-practitioners/information-health-careprofessionals-cannabis-cannabinoids.html

Heidari, F., Afshari, M., & Moosazadeh, M. (2017). Prevalence of fibromyalgia in general population and patients, a systematic review and meta-analysis. *Rheumatology* 

International, 37(9), 1527–1539. https://doi.org/10.1007/s00296-017-3725-2

Hemsing, N., & Greaves, L. (2020). Gender Norms, Roles and Relations and Cannabis-Use Patterns: A Scoping Review. International Journal of Environmental Research and Public Health, 17(3), 947. <u>https://doi.org/10.3390/ijerph17030947</u>

Holman, A., Kruger, D. J., Lucas, P., Ong, K., Bergmans, R. S., & Boehnke, K. F. (2022).
Healthcare provider and medical cannabis patient communication regarding referral and medication substitution: The Canadian context. *Journal of Cannabis Research*, 4(1), 32. https://doi.org/10.1186/s42238-022-00141-0

Huestis, M. A. (2007). Human Cannabinoid Pharmacokinetics. *Chemistry & Biodiversity*, 4(8), 1770–1804. <u>https://doi.org/10.1002/cbdv.200790152</u>

Isomeri, R., Mikkelsson, M., Partinen, M., Kautiainen, H., & Kauppi, M. (2021). Fibromyalgia is often connected with disability pension: A very long-term follow-up study in Finland. *Scandinavian Journal of Rheumatology*, 50(2), 167–168. https://doi.org/10.1080/03009742.2020.1771765

Jeddi, H. M., Busse, J. W., Sadeghirad, B., Levine, M., MacCallum, M., Wang, L., Couban, R.

J., & Tarride, J.-E. (in press). Cost-effectiveness of cannabis for medical purposes versus opioids for chronic noncancer pain. *Cannabis and Cannabinoid Research*.

Joanna Briggs Institute. (2020). Checklist for analytical cross-sectional studies. The University of Adelaide. https://jbi.global/critical-appraisal-tools

- Kaiser, K. (2009). Protecting respondent confidentiality in qualitative research. *Qualitative Health Research*, *19*(11), 1632–1641. https://doi.org/10.1177/1049732309350879
- Kendall, D. A., & Yudowski, G. A. (2017). Cannabinoid Receptors in the Central Nervous System: Their Signaling and Roles in Disease. *Frontiers in Cellular Neuroscience*, 10. <u>https://doi.org/10.3389/fncel.2016.00294</u>
- Khurshid, H., Qureshi, I. A., Jahan, N., Went, T. R., Sultan, W., Sapkota, A., & Alfonso, M.
  (2021). A Systematic Review of Fibromyalgia and Recent Advancements in Treatment: Is
  Medicinal Cannabis a New Hope? *Cureus*. https://doi.org/10.7759/cureus.17332
- Koschorke, M., Oexle, N., Ouali, U., Cherian, A. V., Deepika, V., Mendon, G. B., Gurung, D., Kondratova, L., Muller, M., Lanfredi, M., Lasalvia, A., Bodrogi, A., Nyulászi, A., Tomasini, M., El Chammay, R., Abi Hana, R., Zgueb, Y., Nacef, F., Heim, E., ... Kohrt, B. A. (2021). Perspectives of healthcare providers, service users, and family members about mental illness stigma in primary care settings: A multi-site qualitative study of seven countries in Africa, Asia, and Europe. *PLOS ONE*, *16*(10), e0258729. https://doi.org/10.1371/journal.pone.0258729
- Kurlyandchik, I., Tiralongo, E., & Schloss, J. (2021). Safety and Efficacy of Medicinal Cannabis in the Treatment of Fibromyalgia: A Systematic Review. *The Journal of Alternative and Complementary Medicine*, 27(3), 198–213. https://doi.org/10.1089/acm.2020.0331

Lauche, R., Cramer, H., Häuser, W., Dobos, G., & Langhorst, J. (2015). A Systematic Overview of Reviews for Complementary and Alternative Therapies in the Treatment of the Fibromyalgia Syndrome. *Evidence-Based Complementary and Alternative Medicine*, 2015, 1–13. https://doi.org/10.1155/2015/610615

- Leen, N. A., Kowal, M. A., Batalla, A., & Bossong, M. G. (2024). The effects of standardized cannabis products in healthy volunteers and patients: A systematic literature review. *Frontiers in Pharmacology*, 15, 1411631. <u>https://doi.org/10.3389/fphar.2024.1411631</u>
- Leknes, S., & Tracey, I. (2008). A common neurobiology for pain and pleasure. *Nature Reviews Neuroscience*, 9(4), 314–320. https://doi.org/10.1038/nrn2333
- Lincoln, Y. S., & Guba, E. G. (1986). But is it rigorous? Trustworthiness and authenticity in naturalistic evaluation. New Directions for Program Evaluation, 1986(30), 73–84. https://doi.org/10.1002/ev.1427
- Ljungvall, H., Rhodin, A., Wagner, S., Zetterberg, H., & Åsenlöf, P. (2020). "My life is under control with these medications": An interpretative phenomenological analysis of managing chronic pain with opioids. *BMC Musculoskeletal Disorders, 21*, Article 61. https://doi.org/10.1186/s12891-020-3055-5

- Longo, R., Oudshoorn, A., & Befus, D. (2021). Cannabis for Chronic Pain: A Rapid Systematic Review of Randomized Control Trials. *Pain Management Nursing*, 22(2), 141–149. https://doi.org/10.1016/j.pmn.2020.11.006
- Luciani, M., Jack, S. M., Campbell, K., Orr, E., Durepos, P., Li, L., Strachan, P., & Di Mauro, S. (2019). An Introduction to Qualitative Health Research. *Professioni Infermieristiche*, 72(1), 60–68.
- MacCallum, C. A., & Russo, E. B. (2018). Practical considerations in medical cannabis administration and dosing. *European Journal of Internal Medicine*, 49, 12–19. https://doi.org/10.1016/j.ejim.2018.01.004
- Malterud, K., Siersma, V. D., & Guassora, A. D. (2016). Sample Size in Qualitative Interview Studies: Guided by Information Power. *Qualitative Health Research*, 26(13), 1753–1760. https://doi.org/10.1177/1049732315617444
- McMahon, L., Murray, C., & Simpson, J. (2012). The potential benefits of applying a narrative analytic approach for understanding the experience of fibromyalgia: A review. *Disability and Rehabilitation*, *34*(13), 1121–1130. https://doi.org/10.3109/09638288.2011.628742
- Medical Marijuana Consulting. (2023). *Insurance coverage for medical cannabis*. <u>https://medmc.ca/resource/insurance-coverage-for-medical-cannabis/</u>

- Miller, N. S., Oberbarnscheidt, T., & Gold, M. S. (2017). Marijuana Addictive Disorders and DSM-5 Substance-Related Disorders. *Journal of Addiction Research & Therapy*, *S11*. <u>https://doi.org/10.4172/2155-6105.S11-013</u>
- Morse, J. M. (2007). Ethics in Action: Ethical Principles for Doing Qualitative Health Research. Qualitative Health Research, 17(8), 1003–1005. https://doi.org/10.1177/1049732307308197
- Morse, J. M. (2010). How Different is Qualitative Health Research From Qualitative Research?
  Do We Have a Subdiscipline? *Qualitative Health Research*, 20(11), 1459–1464.
  https://doi.org/10.1177/1049732310379116
- Murphy, K. A., Statistics Canada, & Public Health Agency of Canada (Eds.). (2006). Health state descriptions for Canadians: Musculoskeletal diseases. Statistics Canada. https://www150.statcan.gc.ca/n1/pub/82-619-m/82-619-m2006003-eng.pdf
- Ng, J. Y., Quach, H., Phillips, M. R., & Busse, J. W. (2022). Surveying Canadian Pain Physicians' Attitudes and Beliefs Regarding Medical Cannabis for Chronic Noncancer Pain: A Qualitative Study. *Journal of Pain Research, Volume 15*, 3899–3910. https://doi.org/10.2147/JPR.S382589
- Ng, J. Y., Gilotra, K., Usman, S., Chang, Y., & Busse, J. W. (2021). Attitudes toward medical cannabis among family physicians practising in Ontario, Canada: A qualitative research study. *CMAJ Open*, 9(2), E342–E348. https://doi.org/10.9778/cmajo.20200187

- Patton, M. Q. (2015). *Qualitative research & evaluation methods: Integrating theory and practice* (Fourth edition). SAGE Publications, Inc.
- Penn, I.-W., Chuang, E., Chuang, T.-Y., Lin, C.-L., & Kao, C.-H. (2019). Bidirectional association between migraine and fibromyalgia: Retrospective cohort analyses of two populations. *BMJ Open*, 9(4), e026581. https://doi.org/10.1136/bmjopen-2018-026581
- Pfalzgraf, A. R., Lobo, C. P., Giannetti, V., & Jones, K. D. (2020). Use of Complementary and Alternative Medicine in Fibromyalgia: Results of an Online Survey. *Pain Management Nursing*, 21(6), 516–522. <u>https://doi.org/10.1016/j.pmn.2020.07.003</u>
- Philpot, L. M., Ebbert, J. O., & Hurt, R. T. (2019). A survey of the attitudes, beliefs and knowledge about medical cannabis among primary care providers. *BMC Family Practice*, 20(1), 17. https://doi.org/10.1186/s12875-019-0906-y
- Piper, B. J., Beals, M. L., Abess, A. T., Nichols, S. D., Martin, M. W., Cobb, C. M., & DeKeuster, R. M. (2017). Chronic pain patients' perspectives of medical cannabis. *Pain*, 158(7), 1373–1379. <u>https://doi.org/10.1097/j.pain.00000000000899</u>
- Prosk, E., Arboleda, M. F., Rapin, L., El Hage, C., & Dworkind, M. (2021). The model of care at a leading medical cannabis clinic in Canada. *Complementary Therapies in Medicine*, 60, 102740. https://doi.org/10.1016/j.ctim.2021.102740

Rabheru, K., Conn, D. K., Checkland, C., & Parsons, D. (2021). 401—Cannabis and Older Adults. *International Psychogeriatrics*, 33(S1), 28–29. https://doi.org/10.1017/S1041610221001605

Richards, H. M. (2002). Ethics of qualitative research: Are there special issues for health services research? *Family Practice*, *19*(2), 135–139. https://doi.org/10.1093/fampra/19.2.135

Rico-Villademoros, F., Postigo-Martin, P., Garcia-Leiva, J. M., Ordoñez-Carrasco, J. L., & Calandre, E. P. (2020). Patterns of pharmacologic and non-pharmacologic treatment, treatment satisfaction and perceived tolerability in patients with fibromyalgia: A patients' survey. *Clinical and Experimental Rheumatology*, *38 Suppl 123*(1), 72–78.

- Romero-Sandoval, E. A., Fincham, J. E., Kolano, A. L., Sharpe, B. N., & Alvarado-Vázquez, P.
  A. (2018). Cannabis for Chronic Pain: Challenges and Considerations. *Pharmacotherapy: The Journal of Human Pharmacology and Drug Therapy*, 38(6), 651–662.
  https://doi.org/10.1002/phar.2115
- Russell, C., Gregory, D., Ploeg, J., & DiCenso, A. (2005). Qualitative research. In A. DiCenso,
  G. Guyatt, & D. Ciliska (Eds.), *Evidence-based nursing: A guide to clinical practice* (pp. 121–136). Elsevier Mosby
- Rusu, C., Gee, M. E., Lagacé, C., & Parlor, M. (2015). Chronic fatigue syndrome and fibromyalgia in Canada: Prevalence and associations with six health status indicators.

Health Promotion and Chronic Disease Prevention in Canada: Research, Policy and Practice, 35(1), 3–11. https://doi.org/10.24095/hpcdp.35.1.02

- Sandelowski, M. (2000). Whatever happened to qualitative description? *Research in Nursing & Health*, 23(4), 334–340. https://doi.org/10.1002/1098-240X(200008)23:4<334::AID-NUR9>3.0.CO;2-G
- Sandelowski, M. (2010). What's in a name? Qualitative description revisited. *Research in Nursing & Health*, *33*(1), 77–84. https://doi.org/10.1002/nur.20362
- Sanjari, M., Bahramnezhad, F., Fomani, F. K., Shoghi, M., & Cheraghi, M. A. (2014). Ethical challenges of researchers in qualitative studies: The necessity to develop a specific guideline. *Journal of Medical Ethics and History of Medicine*, *7*, 14.
- Sarzi-Puttini, P., Giorgi, V., Marotto, D., & Atzeni, F. (2020). Fibromyalgia: An update on clinical characteristics, aetiopathogenesis and treatment. *Nature Reviews Rheumatology*, *16*(11), 645–660. https://doi.org/10.1038/s41584-020-00506-w
- Schmidt-Wilcke, T., & Clauw, D. J. (2011). Fibromyalgia: From pathophysiology to therapy. *Nature Reviews Rheumatology*, 7(9), 518–527. https://doi.org/10.1038/nrrheum.2011.98
- Schuhmacher, S., Gaid, D., Bishop, L. D., Fleming, L., & Donnan, J. (2024). Planting the seeds for success: A qualitative study exploring primary healthcare providers' perceptions about medical cannabis. *PLOS ONE*, 19(3), e0295858.

https://doi.org/10.1371/journal.pone.0295858

Siracusa, R., Paola, R. D., Cuzzocrea, S., & Impellizzeri, D. (2021). Fibromyalgia: Pathogenesis, Mechanisms, Diagnosis and Treatment Options Update. *International Journal of Molecular Sciences*, 22(8), 3891. https://doi.org/10.3390/ijms22083891

- Smith, M. J., & Liehr, P. (2005). Story Theory: Advancing Nursing Practice Scholarship. *Holistic* Nursing Practice, 19(6), 272–276. https://doi.org/10.1097/00004650-200511000-00008
- Smith, M. J., & Liehr, P. R. (Eds.). (2013). *Middle Range Theory for Nursing* (pp. 978-0-8261-9552–9554). Springer Publishing Company. https://doi.org/10.1891/9780826195524
- Statistics Canada. (2023). Research to insights. Cannabis in Canada. Statistics Canada. https://www150.statcan.gc.ca/n1/pub/11-631-x/11-631-x2023006-eng.htm
- Strand, N. H., Maloney, J., Kraus, M., Wie, C., Turkiewicz, M., Gomez, D. A., Adeleye, O., & Harbell, M. W. (2023). Cannabis for the Treatment of Fibromyalgia: A Systematic Review. *Biomedicines*, 11(6), 1621. https://doi.org/10.3390/biomedicines11061621
- Thorne, S. (2011). Toward Methodological Emancipation in Applied Health Research. *Qualitative Health Research*, *21*(4), 443–453. https://doi.org/10.1177/1049732310392595
- Veterans Affairs Canada. (2022, November 3). *Cannabis for medical purposes*. Government of Canada. <u>https://www.veterans.gc.ca/en/about-vac/reports-policies-and-</u> legislation/departmental-reports/cannabis-medical-purposes
- Wang, L., Hong, P. J., May, C., Rehman, Y., Oparin, Y., Hong, C. J., Hong, B. Y., AminiLari, M., Gallo, L., Kaushal, A., Craigie, S., Couban, R. J., Kum, E., Shanthanna, H., Price, I.,

Upadhye, S., Ware, M. A., Campbell, F., Buchbinder, R., ... Busse, J. W. (2021). Medical cannabis or cannabinoids for chronic non-cancer and cancer related pain: A systematic review and meta-analysis of randomised clinical trials. *BMJ*, n1034.

https://doi.org/10.1136/bmj.n1034

Willis, D. G., Sullivan-Bolyai, S., Knafl, K., & Cohen, M. Z. (2016). Distinguishing Features and Similarities Between Descriptive Phenomenological and Qualitative Description Research. Western Journal of Nursing Research, 38(9), 1185–1204.

https://doi.org/10.1177/0193945916645499

- Woolf, N. H., & Silver, C. (2017). *Qualitative analysis using NVivo: The five-level QDA method*. Routledge. https://doi.org/10.4324/9781315181660
- Wu, J. (2019). Cannabis, cannabinoid receptors, and endocannabinoid system: Yesterday, today, and tomorrow. Acta Pharmacologica Sinica, 40(3), 297–299.

https://doi.org/10.1038/s41401-019-0210-3

- Wuytack, F., & Miller, P. (2011). The lived experience of fibromyalgia in female patients, a phenomenological study. *Chiropractic & Manual Therapies*, 19(1), 22. https://doi.org/10.1186/2045-709X-19-22
- Zeng, L., Lytvyn, L., Wang, X., Kithulegoda, N., Agterberg, S., Shergill, Y., Esfahani, M. A., Heen, A. F., Agoritsas, T., Guyatt, G. H., & Busse, J. W. (2021). Values and preferences towards medical cannabis among people living with chronic pain: A mixed-methods

systematic review. BMJ Open, 11(9), e050831. https://doi.org/10.1136/bmjopen-2021-050831

- Zeraatkar, D., Cooper, M. A., Agarwal, A., Vernooij, R. W. M., Leung, G., Loniewski, K.,
  Dookie, J. E., Ahmed, M. M., Hong, B. Y., Hong, C. J., Hong, P. J., Couban, R.,
  Agoritsas, T., & Busse, J. W. (2021). Long-term and serious harms of medical cannabis
  and cannabinoids for chronic pain: A systematic review of non-randomized studies. *Pain Medicine*. https://doi.org/10.1101/2021.05.27.21257921
- Ziemianski, D., Capler, R., Tekanoff, R., Lacasse, A., Luconi, F., & Ware, M. A. (2015).
  Cannabis in medicine: A national educational needs assessment among Canadian physicians. *BMC Medical Education*, *15*(1), 52. https://doi.org/10.1186/s12909-015-0335-0

## Appendices

# Appendix A: Search Strategy & Results

<u>Search#1</u> fibromyalgia AND cannabis OR cannabinoids OR delta-9-tetrahydrocannabinol OR Dronabinol OR cannabidiol OR THC OR marijuana.

**OVID search engine**- Embase, Emcare, PsycInfo, AMED: Allied and Complementary Medicine, Global Health, Health and Psychosocial Instruments (HaPI), HealthSTAR Journal Abstracts and Table of Contents, Mental Measurements Yearbook, MEDLINE, PsycINFO.

886 results

English language, human, and year 2018-2023

540 results returned.

Hand searched, applying inclusion & exclusion criteria.

#### Final results =

• 3 Systematic Reviews (Khurshid et al., 2021; Kurlyandchik et al., 2021; Strand et al., 2023).

### Search #2

fibromyalgia AND cannabis OR cannabinoids OR delta-9-tetrahydrocannabinol OR Dronabinol OR cannabidiol OR THC OR marijuana

database= CINAHL

results = 0

### Search #3

chronic pain AND qualitative research AND Canada.

Database= Medline

# MSc. Thesis - S. Holmes; McMaster University- Nursing

Results=83

Hand searched, applying inclusion & exclusion criteria.

## Final results=

- 1 Mixed Methods = (Zeng et al., 2021)
- 1 Qualitative Description = (AminiLari et al., 2022)

### Search #4

Chronic pain AND cannabis AND Canada

Database= Medline

Results = 73

Hand searched, applying inclusion & exclusion criteria.

## Final results=

• 1 Cross Sectional Survey (Boehnke et al., 2021).

## Search #5

Qualitative research AND fibromyalgia AND Canada

Database= Medline

Results = 16

Hand searched, applying inclusion & exclusion criteria.

## Final results=

• 2 Qualitative Description = (Blanchard et al., 2022; Boulton, 2019)

### Search #6

Fibromyalgia AND cannabis OR cannabinoids AND qualitative

Database = **OVID search engine**- Embase, Emcare, PsycInfo, AMED: Allied and Complementary Medicine, Global Health, Health and Psychosocial Instruments (HaPI), HealthSTAR Journal Abstracts and Table of Contents, Mental Measurements Yearbook, MEDLINE, PsycINFO.

Results = 264

Duplicates removed.

Results=204

Hand searched, applying inclusion/ exclusion criteria.

#### Final results=

• 1 Qualitative Evidence Synthesis = (Climent-Sanz et al., 2023)

#### Search #7

Fibromyalgia AND qualitative

Search engine= Eliclit.org

Hand searched, applying inclusion & exclusion criteria.

### Final results=

• 3 Phenomenology= (Ashe et al., 2017; Brown, 2018; Wuytack & Miller, 2011)

#### Search #8

Search Engin: Web of Science

Databases: All (core + specialized)

Search dates: 2023-09-01 – 2025-06-10

Search Terms: Fibromyalgia AND cannabis

 $\mathbf{Results} = 45$ 

 $\rightarrow$  Hand searched, no qualitative studies on FM+ cannabis

Search Engin: EBSCOhost

Databases: CINAHL; ebook collection (EBSCOhost); Open Dissertations
Search dates: same as above

Search Terms: same as above

#### **Results**= 64

 $\rightarrow$  Hand searched, no qualitative studies on FM+ cannabis

Search Engin: Google

Databases: N/A

Search Dates: N/A

Search Terms: fibromyalgia AND cannabis +/- qualitative +/- dissertations

**Results**= N/A

 $\rightarrow$  Hand searched, no qualitative studies on FM+ cannabis

	Cannabis Use Evidence									
	CASP TOOL for Systematic Reviews (2022)									
Study, Design	1) Focused question?	2) Right type of papers?	3) Relevant studies?	4) Quality of included studies assessed?	5) Reasonable to combine results?	6) Overall results?	7) Precision?	8) Local applic- ability?	9) All outcomes considered?	10) Benefits outweigh harm & costs?
Strand et al. (2023) Systematic Review	Yes, P- FM I- cannabis or cannabinoid products C- usual care or treatment O- pain	Yes, Inclusion criteria : observational, retrospective, or prospective human study design; English language; patients with FM; effects of cannabinoid products on FM pain.	Can't Tell, non-english studies not investigated - other databases could have been searched - could have included other cannabis search terms - no experts consulted	Yes, Risk of bias scales used, adequate follow up if period > 6 months, and a minimum of 95% of participants remaining under observation at the endpoint. - GRADE (for overall quality of evidence).	No, Significant heterogeneity in treatments and outcomes, complicating direct comparison and combination of results	Low- quality evidence; some benefit noted	No, Lack of confidence intervals or statistical analysis	Yes	No, Lacks longer- term follow- up and standardized outcome measures. -valuable information might be omitted due to heterogeneity and reporting limitations.	Yes, side effects are mild; no severe adverse effects reported.
Khurshid et al. (2021) Systematic Review	Yes, P-FM I- use of cannabinoids C- usual care O- Analgesic and anti- inflammatory effects.	Yes, RCTs, and observational studies on cannabinoids for FM.	Yes, Multiple databases and search terms.	Yes, Multiple risk of bias scales depending on type of study.	No, Significant heterogeneity in treatments and outcomes	Evidence mixed; benefits noted	No, Lack of confidence intervals, Specific numerical outcomes provided when available,	Yes	Yes, Variety of outcomes considered. - includes both patient reported and clinical scales. - missing longer-term follow up data	Yes, potential benefits in symptom improvement and quality of life -Most adverse effects are mild

## Appendix B: Critical Appraisal of Included Studies in Literature Review

MSc. Thesis - S. Holmes; McMaster University- Nursing

Kurlyandchik et	Yes,	Yes,	Yes,	Yes,	No,	Improved	No,	Yes	Can't Tell,	Yes,
al. (2021)	"Is medicinal	Included a	multiple	Used critical	Significant	pain/QoL in	lacking		Long-term	potential
Systematic	cannabis safe and	broad range of	databases	appraisal tools	heterogeneity	some	consistent		effects,	benefits,
Review	effective for the	study designs.	and search	for included	in treatments		precision		dependency,	mild to
	treatment of pain	Excluded	terms,	studies	and outcomes.		indicators,		and	moderate
	and symptomology	studies	included				high		detailed	adverse
	experienced by	published before	grey				heterogeneity		cannabis	events,
	people with FMS?"	2000	literature				in outcome		comparisons	no
							measurement		not	serious
							tools		extensively	events
									reported.	reported.
Zeng et al. (2021)	Yes,	Yes,	Yes,	Yes,	Yes,	Mixed	No,	Yes	No,	Can't
Mixed-Methods	<b>P</b> - people living	included a broad	multiple	6 paired	Systematic	willingness,	evidence low		Long-term	Tell,
Review	with chronic cancer	range of study	databases	reviewers,	comparison	generally	to moderate		effects and	Benefits
	or non-cancer pain.	designs.	searched,	disagreements	across study	positive	(GRADE)		socioeconomic	may
	I- use of medical	Excluded	including	resolved by	types justified	experiences,	- Lack		impacts not	outweigh
	cannabis.	studies without	grey	discussion,	combining	preferences	of detailed		explored	harms for
	C- usual care	rigorous	literature.	used GRADE	results.	vary.	statistical			some
	<b>O-</b> values and	methodologies	Excluded	and critical			precision			
	preferences related		studies that	appraisal tools			measures			
	to medical cannabis		were small							
	use.		and not							
			robust.							

	JBI Cross-Sectional Appraisal Tool (2020)										
Study, Design	1) Inclusion criteria?	2) Subjects & setting?	3) Exposure measured in a valid and reliable way?	4) Objective, condition measures?	5) Confounding factors identified?	6) Strategies to deal with confounders?	7) Statistical analysis?	8) Overall Appraisal?			
Boehnke et al. (2021) <b>Mixed- Methods Cross-Sectional</b>	Yes, The survey targeted individuals diagnosed with FM.	Yes, survey was distributed via the National Fibromyalgia Association's networks, across all 50 states and beyond.	Yes, asked detailed questions about CBD use patterns, reasons for use or discontinuation, and perceptions of effectiveness.	Yes, used the 2011 FM Survey Criteria and the Complex Medical Symptom Inventory (CMSI) to objectively measure FM symptoms and related conditions.	Yes, identified several potential confounders, such as past-year marijuana use and the number of diagnosed pain conditions, and included them in the regression analysis.	Yes, Multinomial regression modeling used to adjust for confounders.	Yes, Descriptive statistics, Pearson's Chisquare tests, ANOVA, and multinomial regression analyses	Include			

	Fibromyalgia Literature										
	CASP TOOL for Qualitative Studies (2018)										
Study, Design	1)	2)	3)	4)	5)	6)	7)	8)	9)	10)	
	Focused question?	Looked for	All relevant	Quality	Was it	Overall	How	Local	All	Benefits	
		right type	studies	assessed?	reasonable to	results?	precise	applicability?	important	outweigh	
		of papers?	included?		combine		are the		outcomes	harm and	
					results?		results?		considered?	costs?	
Climent-Sanz et al.	Yes,	Yes,	Can't Tell,	Yes,	Yes,	Varied	Qual	Can't Tell,	No,	N/A	
(2023) Qualitative	<b>P-</b> adults with	Utilized	Search was	Applied	Inductive	patient	research	Too many	Could have		
Evidence Synthesis	FM	both	comprehensive	GRADE-	thematic	perspective	provides	contextual	explored		
	I- perspectives on	MeSH	but excluded	CERQual	analysis is	on pharma-	depth	factors like	impact on		
	pain management	terms and	non-English	framework	suitable for	cological	rather	country of	quality of		
	strategies,	free-text	studies and grey	and the	Qual evidence	treatments	than	origin.	life and/or		
	including	terms	literature.	CASP	synthesis.	highlight a	statistical		use of		
	prescribed	related to	Unknown if	Qualitative	-	strong desire	precision		alternative		
	treatments	FM and	consultation	checklist	Included	among			therapies.		
	C- usual care	qualitative	with experts		studies	patients to					
	<b>O</b> -perceptions of	research.	was done.		displayed	understand					
	pain management				homogeneity.	and manage					
	effectiveness and					pain more					
	treatment					effectively.					
	experiences										

	Qualitative Evidence Critique from Evidence Based Nursing (2005)									
	Are the Results Valid?	)	-		What are the results?					
Study,	1)	2)	3)	4)	5)	6)				
Country	Was the research	Was the design	Was the sampling	Were data collected and	Were data analyzed	Was the description of results				
	question clear and	appropriate for the	appropriate for the	managed	appropriately?	thorough?				
	adequately	research question?	research question	systematically?						
	substantiated?		and design?							
Boulton,	No explicit research	Yes,	Yes,	Yes,	Yes,	Yes,				
(2019)	question stated	Qualitative	Purposeful	- In-depth, narrative	- Thematic analysis to	- Results were presented as				
Canada & UK	Aim= to explore the	interviews as part of	sampling was	interviews conducted	interpret the interview	thematic findings, illustrating the				
	experiences of	a larger cross-cultural	utilized to capture	either face-to-face or via	data.	varied and				
	individuals diagnosed	research project.	diverse experiences	phone.	- Analysis aimed to	complex nature of living with FM.				
	with fibromyalgia,	- use of qualitative	- The sample was	- Interviews were tape-	capture the complexity	- The study effectively used quotes				
	focusing on the	interviews within a	balanced between	recorded and	of FM experiences.	from participants to enrich the				
	diagnostic process	narrative	participants from	transcribed verbatim,	- Analysis was iterative	narrative				
	and	framework was	the UK and Canada.	ensuring systematic data	and involved coding,	and substantiate the themes				
		fitting for capturing		management and	categorizing, and	identified.				

	their feelings about the diagnosis	the depth and variability of FM		preparation for analysis.	identifying themes in relation to the research	
Cummings et al., (2024) Canada	No explicit research question stated. Aim= Explore values and preferences of people living with chronic pain (PLwCP) regarding medical cannabis use. Goal= to inform guideline development and shared decision- making in clinical practice.	Yes, Qualitative Description methods fits the exploratory nature of the research question.	Yes, Intensity and snowball sampling targeted PLwCP with in-depth knowledge. - Recruited via Canada-wide networks, social media, and medical cannabis clinics.	Yes, Participants completed a demographic questionnaire before the semi-structured interviews via Zoom/phone. - Audio recordings were transcribed and uploaded into <b>NVivo</b> for initial transcription and data cleaning.	Yes, Two researchers independently coded each transcript using both deductive and inductive approaches. - Regular team meetings to discuss emerging themes and resolve discrepancies. - Member checking with participants to validate findings.	Detailed reporting of participant demographics, chronic pain characteristics, and medical cannabis use characteristics. - Identification of 8 themes related to values and preferences around medical cannabis use. - Insights into types of cannabis products used, routes of administration, sources of medical cannabis, and information sources on medical cannabis use.
AminiLari et al., (2022) Canada	No explicit research question stated. <b>Aim=</b> exploring perceptions of chronic pain patients regarding benefits and concerns of using cannabis therapeutically.	Yes, Qualitative Descriptive design suitable for capturing diverse patient perspectives	Yes, Purposive sampling from hospital and community clinics in Ontario.	Yes, Semi-structured interviews used for in- depth exploration, interviews with transcribed verbatim.	Yes, Thematic analysis with inductive approach. - codes and themes developed concurrently with data collection.	Yes, Detailed demographic information, comprehensive thematic findings, supported by participant quotes.
Ashe et al., 2017 UK	No explicit research question stated. <b>Aim=</b> explore experiences of living with and being treated for FM to inform treatment development.	Yes, Qualitative interviews with <b>Interpretative</b> <b>Phenomenological</b> <b>Analysis (IPA)</b> Framework suitable for exploring lived experiences.	Yes, Purposeful recruitment of 14 participants with diagnosed FM. - variety in age with men and women represented.	Yes, Semi-structured interviews conducted and digitally recorded.	Yes, IPA used for analysis, suitable for ideographic exploration of chronic illness experiences. -Themes were grounded in data, with cross-validation by researchers.	Yes, 6 main themes identified, capturing the complexity of living with FM, including its impact on identity, relationships, work, and healthcare experiences.
Blanchard et al., (2022) Canada	No explicit research question stated. <b>Aim=</b> understanding the experiences	Yes, Qualitative Descriptive design suitable for in-depth exploration of	Yes, Purposeful sampling aimed to include a diversified group of	Yes, Semi-structured interview guide developed from prior studies.	Yes, Inductive thematic analysis used, allowing themes to emerge from the data without	Yes, 3 main themes identified, reflecting challenges in accessing healthcare, systemic barriers, and resilience in self-management.

	and perceptions of individuals with rheumatic conditions awaiting pain clinic services.	individuals' perceptions and experiences.	individuals to capture varied perceptions and experiences. - Targeted adults living with painful rheumatic conditions in Quebec, awaiting, denied, or having received pain clinic services within the last six months. - combination of convenience and snowball sampling also used.	<ul> <li>Interviews conducted over the phone or in- person.</li> <li>verbatim transcribed for accuracy.</li> </ul>	preconceived categories. - Analysis methods reflected engagement with the data.	- Detailed presentation of themes with supporting quotes demonstrates comprehensive analysis and understanding of the data.
Brown, (2018) UK	No explicit research question stated. <b>Aim=</b> to explore the lived experience of fibromyalgia through creative methods, linking theoretical conceptualizations of illness experiences with participants' experiences.	Yes, Phenomenology, using interpretative phenomenological analysis (IPA) methods aligns with the study aims.	Yes, Purposeful sampling from a larger pool of 5 white female participants. - All formally diagnosed and living with FM for a minimum of 3 years. - This choice supports the IPA requirement for detailed exploration within a homogeneous group.	Yes, Data was systematically collected and managed through identity boxes, photographs, and email explanations. - semi-structured interviews based on participants' earlier submissions.	Yes, Data analysis combined IPA with visual methodologies, considering both textual and visual (photographs) data forms, allowing for an in-depth understanding of participants' experiences.	Yes, Results are described thoroughly, -The creative methods allowed participants to express complex emotions and experiences, which were then detailed in the analysis.
Wuytack and Miller, (2011)	No explicit research question stated.	Yes, Descriptive	Yes, 6 female	Yes, Data was collected	Yes, A thematic framework	Yes, 4 main themes identified.
Belgium	Aim: 10 gain a better understanding of	pnenomenology, using Husserl's	participants diagnosed with	interviews.	was used for data analysis.	and individuality of the negative
	the subjective experience of FM,	concept of	FM in Belgium.	-Interviews were audio- recorded, transcribed	- Emerging themes and categories were	impact of FM on patients' lives.

focusing on the	transcendental	-The sampling	verbatim, and translated	identified through	
personal,	subjectivity or	method was	into English by the	coding to ensure	
occupational,	"bracketing".	purposeful,	researcher.	systematic analysis.	
and social impact of	- appropriate for	aiming to gather			
the condition on	exploring the	data reflective of			
patients' lives.	lived experiences of	the participants'			
	FM patients.	experiences.			

Adapted from Evidence-Based Nursing: A Guide to Clinical Practice (2005), Chapter 8.

# Appendix C

## Literature Review Table

Author Name & Year	Study Aim	Study Design	Sample Population or Sample
Khurshid et al., 2021	To explore the therapeutic role of medicinal cannabis in treating fibromyalgia.	Systematic Review	N= 22 (2 RCTs, 2 retrospective case series, 2 prospective observational, 1 cross-sectional, 1 longitudinal observational, 3 systematic reviews, 11 narrative reviews)
			Adults with diagnosed fibromyalgia
			Synthetic and plant-based cannabis (e.g., nabilone, dronabinol, Bedrocan strains)
			Routes: oral, vaporized, smoked
Kurlyandchik et	To assess whether medicinal cannabis is safe and	Systematic Review	N= 10 (3 RCTs, 6 observational, 1 chronic pain comparison)
al., 2021	effective for treating fibromyalgia symptoms.		Adults with fibromyalgia
			Plant-based and synthetic cannabis (e.g., dronabinol, nabilone, bedrocan strains)
			Routes: oral, inhaled, vaporized, smoked
Strand et al.,	To review clinical evidence on the use of	Systematic Review	N= 9 (4 RCTs, 5 observational)
2023	cannabis for treating fibromyalgia.		Adults diagnosed with fibromyalgia
			Cannabinoid-based therapies (e.g., THC, CBD)
			Routes: oral, inhaled (vaporized or smoked)
Zeng et al.,	To explore values and preferences toward	Mixed Methods	N=5 (9 Quantitative, 5 Qualitative, 1 Mixed-Methods)
2021	medical cannabis among people with chronic pain.	Systematic review	Adults with chronic pain (some with fibromyalgia)
			Focus: attitudes, formulation preferences (THC/CBD ratio, delivery method), decision influences (e.g., stigma, cost)

Boehnke et al., 2021	To explore how individuals with fibromyalgia use CBD, including perceived benefits, side effects, and communication with healthcare providers.	Cross-sectional Survey	<ul> <li>N = 2,701</li> <li>Adults with diagnosed fibromyalgia (mostly U.Sbased; 94.7% women; mean age ~57)</li> <li>CBD use for FM symptom management</li> <li>Online cross-sectional survey</li> <li>Explored current, past, and never users of CBD</li> </ul>
Ashe et al., 2017	To explore how people with FM experience daily life and treatment, with the goal of designing interventions from the patient's perspective.	Phenomenology	N = 14 UK-based adults with diagnosed fibromyalgia Age range: 29–58 years Gender: 12 women, 2 men
Brown, 2018	To understand how women with FM experience the condition and make sense of it.	Phenomenology	N = 5, women in the UK Age range: 24–65 All formally diagnosed, living with fibromyalgia ≥3 years
Wuytack & Miller, 2011	To understand how women with FM experience and make sense of the condition's impact on their personal, social, and occupational lives.	Phenomenology	N = 6 Women aged 36–66 (mean ~51) All diagnosed with fibromyalgia at University Hospital Gent, Belgium
AminiLari et al., 2022	To explore how people with chronic pain perceive the benefits, drawbacks, and barriers of using cannabis for therapeutic purposes.	Qualitative Description	N = 13 Adults with chronic non-cancer pain in Ontario, Canada Age range: Median 53 (IQR 45–64) Gender: 7 men, 6 women Conditions: Neuropathy, arthritis, injuries, ulcerative colitis, carpal tunnel, fibromyalgia.

			Route: Oral (e.g., capsules, edibles), inhaled (smoked/vaped), or
Blanchard et al.,	To examine how people with rheumatic pain	Qualitative	N = 26 adults (22 women, 4 men) in Quebec
2022	conditions use healthcare services while waiting for admission to pain clinics.	Description	Mean age: 54 (range 39–82)
			Diagnoses: 18 had fibromyalgia; others included RA, OA, ankylosing spondylitis
Boulton, 2019	To examine how individuals diagnosed with FM	Qualitative	N = 31 (25 women, 6 men) in Canada and the UK
	experience and interpret the diagnostic process and label.	Description	Age range: 21–69 (mean: 43)
			All had fibromyalgia diagnoses
Cummings et	To explore values and preferences of people	Qualitative	N = 52 participants (40 current users, 10 former, 2 never used)
al., 2024	with chronic pain regarding their use of medical cannabis, including benefits, risks, and access	Description	Age range: 18 to >65; half were 55+
	challenges.		Gender: 26 women, 23 men, 3 non-binary
			Routes: Oral (capsules, oils), inhaled (smoking/vaping), etc
Climent-Sanz et	To synthesize patient perspectives on pain	Qualitative Meta-	N = 728 (35  studies)
al., 2023	management strategies and healthcare experiences in FM.	synthesis	Adults diagnosed with fibromyalgia
			Pain management from patient perspectives
			Utilized GRADE-CERQual

Appendix D

**Research Poster/ Flyer** 



This research is being conducted by the student researcher Samantha Holmes, MSc Student. The Hamilton Integrated Research Ethics Board has reviewed this study under project #17363

## Appendix E

## **Social Media Posts**

## Facebook



#### Instagram



## Twitter/ X



## Appendix F

## EMAIL TO INQUIRE ABOUT SHARING RECRUITMENT MESSAGE

To whom it may concern,

My name is Samantha Holmes, and I am a student researcher in the School of Nursing at McMaster University. I am conducting a study to understand the subjective experiences of women living with Fibromyalgia who take Cannabis products. I am hoping people will share their experiences and perspectives with me. This information can be used to help inform health care professionals understand how Cannabis effects people living with Fibromyalgia.

Would it be possible to share our recruitment poster and contact information with your client base? The images are attached if you agree to share.

Alternatively, you can share our social media pages: https://www.instagram.com/nursegradresearcher\_sh/ https://twitter.com/SH\_NurseGrad https://www.facebook.com/profile.php?id=61560532850337

We can also provide further details about the study if needed.

Thank you for your assistance.

Best regards, Samantha Holmes.

#### **Contact Information:**

Samantha Holmes, student researcher from McMaster University's Nursing Graduate Program.

Email: holmes10@mcmaster.ca

## Appendix G

### SCREENING FORM

At the initial encounter with women with Fibromyalgia interested in the study, the primary investigator will:

- 1. Determine if potential participant if they can read, speak and understand English?
- 2. Introduce the study by describing its purpose, the length of the interview (approximately 1 to 1.5 hours), main research activities, risks and benefits, and participant rights using the information available in the consent form.
- 3. Inform the women with Fibromyalgia that they will be asked a few questions to determine if they are eligible for the study. (If they are ineligible, such individuals will be informed that they are ineligible to participate in the study.)
- 4. Obtain the individual's verbal agreement to ask the questions; then
- 5. Ask the initial screening and demographic questions and document the individual's responses in the form below.

[See Telephone Script]

Screening form (place a check $\sqrt{\text{mark next to the response given by participants}}$	

Eligibility criterion	Question to ask	Possible responses
Ability to provide	Based on the information that I just gave you about the study, can you tell me: What are the risks of taking part in the study?	Minimal risk
consent		Feeling of discomfort in
		answering some questions in the survey
		Fatique
	What are you asked to do when you take part in	Complete an interview
	this study?	
Age	How old are you?	Years
Experience of being a	Do you identify as a woman?	Yes
woman		No
		If NO, then ask "Do you identify in a
		way that aligns with the experiences and challenges traditionally
		associated with women?"
		Yes
		No

Fibromyalgia	Do you have Fibromyalgia diagnosed by a health care provider?	Yes No
Cannabis	Do you currently use any cannabis products to help you live with Fibromyalgia (prompts- such as symptoms like pain or sleep)?	Yes No
	<ul> <li>Have you used any in the past and stopped?</li> </ul>	Yes No
	If YES, do you report your cannabis use to only be recreational? (prompt- for 'fun').	Yes No
Language	Do you read, speak, and understand English?	Yes No
Willing to complete interview	Are you willing to complete an interview about yourself that will take approximately 1-1.5 hours to complete?	Yes No

## Appendix H

### SEMI-STRUCTURED INTERVIEW GUIDE

Review and obtain informed consent - see informed consent form. Please note: (i) we will keep your information anonymous, and will use only it for research, and (ii) you can stop me at any time. (iii) you can choose to not answer or skip any questions.

Do you agree to be interviewed? (Yes) or (No).

OK to record (circle): Y / N

Thank you for agreeing to be part of this study. I will be asking you questions about your experiences living with fibromyalgia and current or previous cannabis use. Please answer as accurately as you can. Also, please feel free to ask me if you want any clarifications. This information will be kept confidential, and any information used for data purposes will not link you to any of the information you provide. Do you have any questions before we start?

#### I: Introduction

1. **Present Focus:** "As we start, could you share what matters most to you right now in dealing with

fibromyalgia?"

2. Present Experience: "In your current daily life, how does fibromyalgia affect you, and how does/did your

use of cannabis play a role?"

#### II: Journey to Current Health Challenge

- Initial Experiences: "Can you recall when you first started experiencing fibromyalgia symptoms? How did this initially impact your life?"
- 4. **Evolution of Treatment:** "Could you walk me through the different treatments you've tried over time, including cannabis? What led to these changes?"
- 5. **Decision for Cannabis:** "What was the turning point for you in considering cannabis as a treatment option? If you have stopped using cannabis, what led to that decision?"

#### III: Cannabis and Fibromyalgia Management

 Cannabis Journey: "Can you describe your journey with cannabis? Include how you started, learned it, how you've been using it, and if applicable, why you stopped."

- 7. Effectiveness and Challenges: "Tell me about how cannabis has affected your symptoms, both while you were using it and after if you've stopped." Support Systems: "How have your family and friends felt about your use of cannabis? Did their views change over time or impact your decision to start or stop using it?"
- 8. Healthcare Professional Involvement: "How have healthcare professionals been involved in your use of cannabis?"

#### **IV. Reflection on Past Experiences**

- 10. . **Reflecting on Changes:** "Looking back, what has changed since your diagnosis? If you've stopped using cannabis, what changes have you noticed since then?"
- 11. **Impact on Relationships and Activities:** "How has fibromyalgia and the use of cannabis affected your relationships and daily activities, both while using cannabis and after if you've stopped?"

#### **V: Hopes and Future Aspirations**

- 12. Future Goals and Aspirations: "Considering your journey with fibromyalgia and cannabis, what are your hopes or goals for the future?"
- 13. Advice and Suggestions: "What advice or suggestions would you give to healthcare professionals about cannabis use for fibromyalgia, from the perspective of both current and former users?"

#### VI. Conclusion

- 14. **Final Thoughts:** "Is there anything else you would like to share or any part of your story we haven't covered that you think is important?"
- 15. **Closing:** "Thank you for sharing your story and for your time. Your experiences provide valuable insights that can help others understand the journey of living with fibromyalgia and using cannabis. Is it ok to contact you again if I need any clarifications or have other questions?"

OK to contact for further interview: Y / N

Adapted from (Smith & Liehr, 2005)

## Appendix I

## **Demographic questionnaire**

Thank you for agreeing to be part of this study. Please answer the following questions as best as you can. There will be a chance to have questions explained if something is not clear. This information will be kept confidential, and any information used for data purposes will not link you to any of the information you provide.

1. What is your age?

What best describes your current region of residence? (Select one)

- $\Box$  Urban (in the city)
- $\Box$  Rural (in the country)
- □ Suburban (mixed-use or residential area, existing either as part of a city area or as a separate residential community within commuting distance of a city)
- □ Other: \_\_\_\_\_
- 2. In which Province or Territory do you currently live? (Select one)
  - $\Box$ British Columbia
  - □ Alberta
  - $\Box$  Saskatchewan
  - 🗆 Manitoba
  - □ Ontario
  - □ Quebec
  - $\Box$  New Brunswick
  - 🗆 Nova Scotia
  - □ Prince Edward Island
  - $\Box\,$  Newfoundland and Labrador
  - □ Yukon
  - □ Northwest Territories
  - $\Box$  Nunavut
  - □ Other \_\_\_\_\_

- 3. A) Do you identify as a woman?
  - □ Yes
  - 🗆 No

B) If you answered NO to 4a, do you identify in a way that aligns with the experiences and challenges traditionally associated with women?

- □ Yes
- $\Box$  No
- 4. Which of the following best describes your ethnicity? (Select one)
  - □ Asian East (e.g. Chinese, Japanese, Korean)
  - 🗆 Asian South (e.g. Indian, Pakistani, Sri Lankan, Indo-Caribbean/West Indian)
  - □ Asian Southeast (e.g. Malaysian, Filipino, Vietnamese, Cambodian)
  - 🗆 Asian West (e.g. Afghan, Israeli, Saudi Arabian, Iranian, Turkish)
  - □ Australasian (e.g. Australia, New Zealand, New Guinea, Melanesia)
  - 🗆 Black Africa (e.g. Ghanaian, Kenyan, Somali)
  - □ Black North America
  - □ Black Caribbean Region (e.g. Barbadian, Jamaican)
  - □ Hispanic
  - 🗆 Indigenous (e.g. Inuit, First Nations, Non-Status Indian, Metis, Indigenous person from outside Canada)
  - Latin American (e.g. Argentinean, Chilean, Salvadoran)
  - U White/European (e.g. English, Italian, Portuguese, Russian)
  - $\Box$  Prefer not to answer
  - $\Box$  Do not know
  - □ Other:
- 5. What best describes your current employment status? (Select one)
  - □ Employed, full-time

	Employed, part-time
	□ Unemployed
	$\Box$ Unemployed, and receiving disability benefits
	□ Retired
	$\Box$ Prefer not to answer
	□ Other:
6.	What is your highest formal education level? (Select one)
	Elementary School
	□ High School
	□ College Degree
	□ University Degree
	$\Box$ Prefer not to answer
	□ Other:

7. For how long have you been living with chronic pain? (Select one) Chronic pain is defined by Health Canada as pain that continues for longer than 3 months.

https://www.canada.ca/en/public-health/services/diseases/chronic-pain.html

- $\Box$  Less than 3 months
- $\Box$  3 months 6 months
- $\Box$  6 months 12 months
- $\Box$  1-5 years
- $\Box$  6-10 years
- $\Box$  More than 10 years
- 8. Do you currently use cannabis for chronic pain? (Select one)

□ Yes

- -If yes, For how long have you been using cannabis for chronic pain? (Select one)
- $\Box$  Less than three months

 $\Box$  3 months – 6 months

 $\Box$  6 months – 12 months

 $\Box$  1-5 years

□ 6-10 years

 $\Box$  More than 10 years

🗆 No

-If no, Have you used cannabis for chronic pain in the past? (Select one)

□ Yes

 $\Box$  No

9. Have you ever been prescribed/authorized medical cannabis for chronic pain? (Select one)

□ Yes

-If yes, who prescribed/authorized your medical cannabis? (Select all that apply)

- $\Box$  Family doctor
- $\Box$  Medical cannabis clinic
- $\Box$  Pain management clinic
- □ Psychiatrist

Other specialist (Describe)

□ Other non-doctor healthcare professional (Describe)

Online prescriber (Describe)

Other (Describe)

🗆 No

-If no, have you tried to have medical cannabis prescribed/authorized for your chronic pain? (Select one)

 $\Box$  Yes

-If yes, why were you not prescribed/authorized medical cannabis for chronic pain?

(Describe)

 $\Box$  No

-If no, what is the reason you have not tried to have medical cannabis prescribed/authorized?

(Describe)\_\_\_\_\_

10. If you use or have used medical cannabis for chronic pain, is/was the cannabis covered by insurance? (Select one)

□ Yes

🗆 No

- 11. If you use or have used cannabis, from where do you/did you buy the cannabis? (Check all that apply)
  - $\Box$  Private vendor(s)
  - □ Registered government vendors online or stores
  - $\Box$  Other online vendor
  - $\Box$  I grow it myself with a license to grow
  - $\Box$  Family or friends with a license to grow
  - $\Box$  unlicensed venue
  - $\Box$  Prefer not to answer
  - □ Other(s)\_\_\_\_\_
- Where do you receive or look for information to help you make decisions about whether or not to use cannabis for your chronic pain, and/or what type(s) and doses to use? (Check all that apply)
  - □ Family doctor/ Nurse Practitioner
  - □ Medical cannabis physician or other prescriber
  - □ Pain management clinic
  - $\Box$  Other healthcare professional
  - $\Box$  Cannabis retail store
  - $\Box$  Online
  - $\Box$  Family or friends
  - □ Patient organization or health charity
  - □ Other (Describe)

13. Do you use or have you ever used cannabis recreationally? (Select one)

□ Yes

 $\Box$  No

14. If you currently use or have used cannabis for chronic pain, please provide information on the type(s) of medical cannabis currently or most recently used. (Please use additional page if needed) Please note: THC is tetrahydrocannabinol and CBD is cannabidiol.

Formulation	Route
(Describe, if known)	-smoked plant
-Milligrams of THC	-vaporizer (plant or extract)
-milligrams of CBD	-vape pen (liquid concentrate)
-% THC	-other inhaled -oral (pill, oil),
-% CBD	-edible,
-Ratio of THC:CBD	-drink
	-dermal (applied to skin)

## Appendix J

## PARTICIPANT INFORMATION SHEET AND CONSENT FORM

**Title of Study:** Experiences of Women with Fibromyalgia using Cannabis for Symptom Management: A Qualitative Description Study Proposal

#### Lead Student Researcher:

Samantha Holmes, RN, BScN, MSc Student e-mail: <u>holmes10@mcmaster.ca</u>

Local Principal Investigator (LPI) / Student Supervisor: Dr. Melissa Northwood, RN, PhD, GNC(C) Assistant Professor, School of Nursing McMaster University, Hamilton, ON Telephone: (905) 525-9140 extension 22447 E-mail: northwm@mcmaster.ca

#### **Co-Investigator/ Student Committee Member**

Dr. Nancy Carter, RN, PhD Assistant Dean, Graduate Nursing Programs Associate Professor, Department Education Coordinator McMaster University, Hamilton, ON Telephone: (905) 525-9140 extension 22259 Email: <u>carternm@mcmaster.ca</u>

## **Co-Investigator/ Student Committee Member**

Dr. Jason Busse, DC, PhD Professor, Department of Anesthesia Professor, Department of Health Research Methods, Evidence and Impact Associate Chair of Research, Department of Anesthesia Pain Lead, Division of Perioperative Care and Research, McMaster University Director, Michael G. DeGroote National Pain Centre Associate Director, Michael G. DeGroote Centre for Medicinal Cannabis Research Canada Research Chair in Prevention & Management of Chronic Pain McMaster University, Hamilton, ON Telephone: (905) 545-9140 extension 21731 Email: <u>bussejw@mcmaster.ca</u>

Funding Source: School of Graduate Studies, McMaster University.

You are being invited to take part in this research study because you are living with fibromyalgia and report using cannabis. This study is about investigating life with fibromyalgia and the effects cannabis has on the fibromyalgia experience.

This study will investigate effects cannabis has on fibromyalgia and the subjective experiences of its participants.

To decide whether you want to be a part of this research study or not, you should understand what is involved and the potential risks and benefits. Enrollment in another study is allowed when participating in this study. By participating in this study, you do not give up any rights to which

you are entitled under the law. This form provides detailed information about the research study, which will be discussed with you by the primary investigator. You should take as much time as you need to make your decision. Before you make your decision, feel free to talk about the study with your family, and/or friends. If you choose to take part in this study, you will be asked to provide verbal consent.

### WHY IS THIS RESEARCH BEING DONE?

This research is being done to help provide knowledge to health professionals (such as doctors, nurses) on how cannabis effects people living with fibromyalgia. **WHAT IS THE PURPOSE OF THIS STUDY?** 

The purpose of this study is to understand the subjective experiences of individuals living with fibromyalgia and how cannabis affects their symptoms, and their overall quality of life.

### WHAT WILL MY RESPONSIBILITIES BE IF I TAKE PART IN THIS STUDY?

If you volunteer to take part in this study, you will be asked to participate in the following ways (described below).

(a) You will be asked to share your thoughts during an interview.

Interviews will be held between May 2024 and August 2024. Each meeting will take about one (60 minutes) hour to one-and-a-half (90 minutes) hours. Meetings will be held by Zoom video conference.

Meeting minutes (notes) will be taken by the lead student investigator. Meetings will be audio-recorded. The audio recordings will be destroyed after the transcripts are cleaned and de-identified; and transcripts destroyed after data analysis is done. Transcripts will be retained with other study documents and destroyed at the 5-year mark.

## WHAT ARE THE POSSIBLE RISKS AND DISCOMFORTS?

There are minimal risks to taking part in this study. You may feel uncomfortable answering some questions during an interview. You may refuse to answer any question by stating "pass". You may pause or stop an interview at any time with no penalty to you. Information can also be collected by telephone if you prefer that method.

The time required to participate in this research may cause some inconvenience to you. We will decrease this risk by considering when you are available when we plan interviews, and by letting you know in advance when your interview is scheduled.

#### HOW MANY PEOPLE WILL BE IN THIS STUDY?

Up to 15 participants also living with fibromyalgia.

## WHAT ARE THE POSSIBLE BENEFITS FOR ME AND/OR FOR SOCIETY?

We cannot promise any personal benefits to you by taking part in this study. Understanding your thoughts and views will help us to assess the potential benefits and harms of taking cannabis products as a treatment modality for fibromyalgia.

## IF I DO NOT WANT TO TAKE PART IN THE STUDY, ARE THERE OTHER CHOICES?

It is important for you to know that you can choose not to take part in the study. Throughout the course of the study, you will be given information that is relevant to your decision to continue or withdraw from participation.

### WHAT INFORMATION WILL BE KEPT PRIVATE?

Your personal information will not be shared with anyone except with your consent or as required by law. All personal information such as your name, address, email, and phone number will be removed from the data and will be replaced with a number. A list linking the number with your name will be kept in a secure place, separate from the data. Any data collected on paper, including this consent form, will be stored in a locked cabinet in a locked research office at McMaster University. Any data collected electronically will be stored in encrypted files on a secure webbased SharePoint site at McMaster University.

This study will use Zoom to collect data during meetings or interviews. Zoom is an externally hosted cloud-based services.

A link to Zoom's privacy policy is available here: <u>https://zoom.us/privacy#\_Toc44414835</u> and <u>https://zoom.us/docs/doc/Zoom-Security-White-Paper.pdf</u>).

The Hamilton Integrated Research Ethics Board has approved using Zoom to collect data for this study. However, there is a small risk of a privacy breach for data collected on external servers. If you are concerned about this, we would be happy to make other arrangements for you to participate. This could be by telephone. Please talk to the researcher if you have any concerns.

All recorded interviews will be transcribed word for word by the lead student investigator (SH). Any information that may identify you will be removed at the time of transcription. The audio recordings and the transcripts will be labelled with a unique study number. They will not be labelled with your name or other information that identifies you. Audio recordings of the interviews and electronic copies of the transcripts will be encrypted and stored on a secure webbased SharePoint at McMaster University. Audio recordings will be destroyed after the transcripts are prepared by the lead student researcher (SH), double-checked, and de-identified.

The lead student investigator (SH) will use e-mail to communicate with study participants, to coordinate study activities. This includes sharing the time/dates and Zoom information for meetings and coordinating interviews.

There are common risks of using email to communicate:

- Information travels electronically and is not secure in the way a phone call or regular mail would be.
- If someone sees these emails, they may know that you are a participant in this study.
- E-mails may be read or saved by your internet or phone provider (i.e., Rogers, your workplace, "free internet" providers).
- Copies of an e-mail may continue to exist, even after efforts to delete the email have been made.
- There is always a chance with any unencrypted email, that it could be intercepted or manipulated.

If you would prefer to be contacted by telephone, please let the student investigator (SH) know.

It is important to understand that even with the protections described in this section, there is still the risk of an unintentional release of information. The chance that personal information or study data will be accidentally released or accessed without authorization is small.

To ensure proper monitoring of the research study, it is possible that a member of the Hamilton Integrated Research Ethics Board, and this institution and affiliated sites may consult your research data for quality assurance purposes. However, no records which identify you by name or initials will be allowed to leave the University. By providing consent, you authorize such access.

If the results of the study are published, your name will not be used. Direct quotes may be used. No information that identifies you will be released or published without your specific consent.

Study data will be destroyed 5 years after the study ends.

## CAN PARTICIPATION IN THE STUDY END EARLY?

Your participation in this study is voluntary. You may leave the study at any time. Information provided up to the point where you leave the study will be kept unless you request that it be removed. If at any time you choose to leave the study, please contact the lead student investigator (SH) or Local Principal Investigator (MN).

### WILL I BE PAID TO PARTICIPATE IN THE STUDY?

You will receive a \$30 gift card of your choice in recognition for participating in an interview. For interviews lasting 1.5 hours, you will receive a \$45 gift card.

## WILL THERE BE ANY COSTS TO ME IN THIS STUDY?

There will be no costs to participate in this study.

## IF I HAVE QUESTIONS ABOUT THIS STUDY, WHO SHOULD I CALL?

If you have any questions about the research now or later, please contact:

#### Lead Student Investigator, Samantha Holmes

Email: <u>holmes10@mcmaster.ca</u>

Or Local Primary Investigator (LPI) / Student Supervisor, Dr. Melissa Northwood, at McMaster University

Telephone: 905-525-9140, ext. 22447

Email: <u>northwm@mcmaster.ca</u>

This study has been reviewed by the Hamilton Integrated Research Ethics Board (HIREB). The HIREB is responsible for ensuring that participants are informed of the risks associated with the research, and that participants are free to decide if participation is right for them. If you have any questions about your rights as a research participant, please call the Office of the Chair, Hamilton Integrated Research Ethics Board at 905-521-2100 ext. 42013

Participant Consent Statement	Yes	No
Do you understand that you have been asked to be in a research study?		
Please tell me what activities you understand will be part of participation? (i.e., participate in an interview, answer questions about myself).		
Do you understand the benefits and risks involved in taking part in this research study?		
Do you understand that you are free to leave the study at any time, without having to have a reason?		
Has the issue of confidentiality been explained to you?		
Do you understand who will have access to your data, including personally identifiable information?		
Do you agree not to make any unauthorized recordings of the content during the meetings?		
Do you have any questions about the study?		
Would you like to have more time to consider participating in this study? If yes, what time would be best for a follow-up call?		
Do you agree to take part in this study?		
If no, do you have any reason for not participating?		

## **CONSENT STATEMENT**

The participant has read the consent form, had an opportunity to ask questions and those questions have been answered. The participant verbally agreed to participation in the study. The participant will receive a copy of the informed consent form including this completed signature page. By participating in this study, you do not give up any of your legal rights.

PRINTED NAME of Participant

Date consent was provided

Signature of Person Conducting the Consent Discussion

PRINTED NAME & ROLE