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Exploring women's intentions to seek medicinal cannabis prescriptions in New Zealand using the theory of planned behaviour

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ABSTRACT

Background: Women are an emerging demographic for legal medicinal cannabis (MC) in New Zealand and overseas, yet their information sources and prescription pathways remain underexplored. This study examines how women learn about MC and the factors influencing their prescription decisions, including motivations tied to prior cannabis experience.

Methods: Interviews with 23 women who sought MC prescriptions in the last 12 months. The Theory of Planned Behaviour guided the deductive thematic analysis to explore the factors influencing their intention to seek MC prescriptions.

Results: Participants were primarily motivated by positive online testimonies from other women MC consumers. Unregulated forums, social media, and cannabis clinics websites provided accessible channels for MC information, supporting self-guided treatment and perceptions of prescription pathways (private cannabis clinics vs. regular physicians). Past negative experiences with medical professionals influenced these choices. While some women feared stigma and judgement, others felt empowered to prioritise their needs and challenge gendered views of cannabis.

Conclusion: The TPB model showed that positive beliefs about MC, accessible prescriptions, and support encouraged legal MC use, while stigma and negative physician interactions discouraged it. Digital platforms enabled self-guided treatment, however, limit reliable information. Credible online resources are needed to support women's growing interest in MC.

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Introduction

Illegal cannabis use has historically largely been associated with recreational use by men, while medicinal use is associated more with women (Cuttler et al., 2016; Tumati et al., 2022). The legalisation of medicinal cannabis around the world and emergence of specialist medicinal cannabis (MC) clinics in some jurisdictions thus positions women as an emerging patient group (Glazer & CannaWay Clinic, 2022; Gulbransen et al., 2020; Prosk et al., 2021). Women have been found to use cannabis medically to treat pain, anxiety, inflammation, sleeping problems, and nausea (Bruce et al., 2021; Leung et al., 2022). Evidence based on self-reports by women also shows encouraging results for using MC to treat gynaecological conditions (Sinclair et al., 2023), mainly endometriosis (Sinclair & Armour, 2023; Jasinski et al. 2024) but also pelvic floor conditions (Bonanni et al., 2024) and primary dysmenorrhea (Sinclair et al., 2022; 2023), as well as menopausal conditions (Dahlgren et al., 2022).

Women's legal MC consumption continues to increase in New Zealand (NZ), with the number of MC prescriptions for women reported to have doubled from 23,952 in 2022 to 47,633 in 2023 (New Zealand Herald, 2024). From 2020–2022, women received more MC prescriptions than men (Ministry

of Health, formal response to Official Information Request (OIA), December 6, 2024); however, from 2023–2024, men received more prescriptions than women (who received 42% of total prescriptions). However, from the age of 60 years, women received more prescriptions than men, indicating that older women may be a key demographic for MC use in NZ. Māori women may be underrepresented in MC prescriptions, as Māori patients received only 12.9% of prescriptions, even though Māori comprise 17.7% of NZ population (Statistics New Zealand, 2023) and are more likely than other ethnicities to use cannabis for medical reasons (Rychert & Wilkins, 2024).

Women access legal MC products through the New Zealand Medicinal Cannabis Scheme (NZMCS), which was implemented in 2020. This involves obtaining a prescription from a registered physician and receiving approved products from a pharmacy or a specialist cannabis clinic dispensary. Currently, products under the NZMCS include oral liquids, oils, sprays, and dried cannabis flower for inhalation via vapouriser or preparation in tea (Ministry of Health, 2022). With no list of eligible conditions, NZ physicians use clinical judgement to prescribe MC to patients they deem suitable. However, both in NZ and overseas, physicians remain hesitant to prescribe MC due to limited scientific evidence (Dobson et al. 2024; Rønne et al., 2021; Withanarachchie et al., 2023).

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Reluctance to prescribe MC by physicians has engendered the unprecedented growth of specialist MC clinics, where patients can access MC prescriptions and advice from medical professionals outside of their regular health providers (Dobson et al., 2024; Withanarachchie et al., 2023). According to one commentary, the emergence of cannabis clinics in Australia may have contributed to the 208% increase in MC prescriptions administered per month between 2017 and 2022. (Hallinan & Bonomo, 2022). A recent NZ media item reported that around 12,000 MC products are being prescribed monthly by a cannabis clinic franchise, accounting for approximately a third of NZ's total MC prescriptions (Radio New Zealand, 2024). Despite the NZMCS being implemented four years ago, there is little understanding about how women patients learn about legal MC and their informational pathways to prescriptions. This gap is particularly evident in relation to how cannabis clinics are shaping women's access to legal MC products, highlighting the need for further research.

Many factors are reported to influence intentions to seek MC prescriptions, however few studies have explored how women learn about MC prescriptions in NZ and their access pathways to legal prescriptions. A study by Sinclair et al. (2022) that involved an online survey explored legal and clinical challenges related to cannabis use for endometriosis from the perspectives of Australian (n=186) and New Zealand women (n=51) with endometriosis, such as communication with health professionals, motivations to ask for legal prescriptions, and other management strategies for endometriosis. The study occurred during the phased implementation of the NZMCS in 2021 and found that NZ women with endometriosis were primarily motivated to use MC due to poor pain relief and side effects from conventional medicines. The study's early timing in NZ's MC legalisation may explain why only four of these participants had received a MC recommendation from a doctor, ten had not disclosed their MC use to health professionals, twelve did not intend to, and eight feared legal consequences, suggesting limited awareness of its legality. Non-gender specific studies (Bottorff et al., 2011; Nayak et al., 2023; Troup et al., 2022) have identified cannabis-associated social stigma, fear of disclosing use to family, friends and others, and reluctance to discuss MC with health providers as barriers to accessing legal MC. Prior studies (Armour et al., 2021; Sinclair et al., 2022, 2023) with Australian and New Zealand women using cannabis treatment for gynecological conditions have found that social stigma influenced their use and raised concerns about its impact on their professional standing and community ties. Consequently, some chose to keep their MC use discreet to avoid judgement. Similarly, Jasinski et al. (2024) surveyed 114 German women with endometriosis who had used cannabis (n=114) for self-management in the past 6 months. The authors noted that MC was rarely prescribed due to complex regulations at the time; however, participants highlighted stigma in the workplace and social circles as their concerns as MC users. Other studies show women perceive less support than men from their physicians (Bruce et al., 2021) and family and friends for consuming MC (Leos-Toro, Shiplo, & Hammond, 2018), suggesting stigma may disproportionately affect their access to legal MC products.

A recent NZ Health Survey found women are more likely than men to report cost as hindering access to their regular health providers, potentially compounding the challenges women face accessing MC prescriptions (Ministry of Health, 2023). A handful of studies have highlighted the influence of informational environments on MC health seeking behaviours. One US study of MC patients with chronic conditions (N=30) found participants preferred sourcing information about the efficacy and therapeutic effects of cannabis online from academic literature and cannabis company websites as it provided them anonymity compared to discussing it within their social circles (Brady et al., 2020). Another Canadian study of older MC patients (N=36) found they relied on online searches to locate MC information and engaged in chat forums with other older cannabis consumers to seek answers to their questions (Butler et al., 2023). Studies focused on women have primarily examined the information needs of pregnant women seeking guidance on the safety of recreational and MC use for themselves and their foetus via online forums (Jarlenski et al., 2016; Lebron et al., 2022; Micalizzi et al., 2024). Outside of these studies, little attention has been paid to how women learn about MC and how the interplay of individual and social factors influences their treatment decisions.

More broadly, there is a lack of understanding of the pathways to MC prescriptions for women with and without previous experience of consuming cannabis via the illegal market. We apply the theory of planned behaviour (TPB) to identify the factors that influence women's health seeking behaviours and decision-making related to MC. The TPB model is a psychological, decision-making model that explains how three constructs collectively predict an individual's intent to perform a behaviour (McTaggart-Cowan et al., 2021). These constructs are behavioural beliefs (perceived positive or negative consequences of the behaviour), normative beliefs (perceived social pressure to (not) carry out the behaviour), and control beliefs (perceived ability to control the behaviour). An individual's positive behavioural belief coupled with social norms and strong belief that a behaviour is within their control generally results in an intention to act (Bosnjak et al., 2020). The TPB has been used to predict a range of women's health behaviours such as seeking health information online (Shamlou et al., 2022), self-medicating (Karimian et al., 2021; Karimy et al., 2019), and uptake of prescriptions for women who inject drugs (Tran et al., 2021). The TPB is frequently used in preventative health research to explore how personal beliefs, social norms, and knowledge influence women's intentions to screen for breast cancer (Chin & Mansori, 2019) and cervical cancer (Xin et al., 2023). This model is also commonly applied to research on women's contraceptive use and preferences (DeMaria et al., 2019; Setyorini et al., 2022). The TPB has been applied to MC studies on only a handful of occasions. These studies have focused on intentions to use MC for cancer symptoms (McTaggart-Cowan et al. 2021; Bentley et al., 2022) and health professionals' recommendation of MC (Zolotov et al., 2019). While the TPB has been used to gain valuable insights into health seeking behaviours and informational environments in many areas of women's health, no studies to our knowledge have used this lens to explore

women's understanding of MC and their intentions to seek legal prescriptions.

This paper aims to explore women's informational and health-seeking behaviours related to MC to better understand the factors that influence their pathways to obtaining legal MC prescriptions in New Zealand and help inform improvements to the newly implemented MC cannabis scheme.

Methods

Participants and recruitment

The first author carried out qualitative, semi-structured individual interviews (Warren, 2002) with 23 NZ women who had obtained a legal MC prescription in the last 12 months. Interviews were conducted online via Zoom® from January to March 2024, with interview times ranging from 60 to 90 mins. A convenience sampling approach was used to recruit participants via a research poster disseminated on social media forums, e.g. Reddit, Discord, and Facebook, and distributed by local women's centres and groups to their networks (e.g. Ovarian Cancer Foundation NZ, Endo Warriors). Participants were asked to use the username 'Participant' for the virtual interviews and not disclose any specific names or locations to avoid the collection of identifying details. The first author gained written consent from participants in anticipation of the interviews and verbal consent at the start of interviews. This study was approved by Massey University Human Ethics Ohu Matatika 1 on 29 January 2024 (Application number OM1 23/50).

The theory of planned behaviours and the interview process

The interview questions were open-ended and guided by the key components of TPB: behavioural beliefs, normative beliefs, and control beliefs. Participants were asked how they became aware of legal medicinal cannabis prescriptions, what self-education they personally conducted, their motivation for seeking a legal prescription, how attitudes around them influenced their intention to seek a prescription, barriers they perceived to obtaining a prescription, and where they believed they could obtain a prescription. Interviews were recorded and transcribed by the first author.

Data analysis

The first author thematically analysed the transcripts via Nvivo qualitative software using initial codes based on the TPB framework. Behavioural beliefs codes included beliefs about MC being more natural, having fewer side effects than other pharmaceuticals, and improving gynaecological conditions such as menstrual pain and endometriosis. Normative codes focused on support from social circles, health professionals, perceived societal views of cannabis consumers, and stigma. Control codes reflected the legality of MC, perceived affordability, and access routes to medicinal cannabis. We conducted deductive thematic analysis (Pearse, 2019), using

the TPB as a theoretical lens to analyse the data from a top-down approach. Figure 1 represents a schematic of the theory of planned behaviour for women's intentions to seek MC prescriptions in New Zealand. The first author coded the transcripts using the three TPB constructs and then identified key sentiments that were expressed across participants' responses. Trustworthiness of the results was established through a collaborative process that involved in-depth discussions with the second and third researchers to refine the analysis and present the findings aligned with the conceptual constructs within the TPB framework.

Results

Of the 23 participants interviewed, nine had been exclusively using legal products via legal prescriptions (described subsequently as 'prescription only' users) and 14 had been consuming medicinal cannabis from both the legal and illegal, unregulated market in the last 12 months (described subsequently as 'transitional' users). The term 'transitional' is used to reflect participants partially transitioning to the legal MC market. All participants were 20 years or older, with their ages ranging from 22 to 65 years. A detailed description of participant demographics, medical characteristics, and routes of administration are reported in Table 1. Note all participants used medicinal cannabis to treat more than one condition and two identified with multiple ethnicities. Participants self-reported the conditions for which they used MC during the interviews; this was not corroborated with their medical records. Some had an official medical diagnosis; however, this was not a requirement to participate.

Theme 1. Behavioural beliefs

The first theme captured how participants had learned about MC and how they perceived the consequences of its use. Ten participants were informed about MC through online, searches and friends and family who had prescriptions themselves, while 13 women had sourced MC information exclusively online via social media, blogs, and through internet searches. All participants were motivated to conduct self-education about MC online before considering their options. Online search information significantly influenced the beliefs of respondents with gynaecological conditions like endometriosis, dysmenorrhea, and premenstrual dysphoric disorder. They followed sub-reddit forums on Reddit and Facebook pages dedicated to these conditions, where positive testimonials from women using MC highlighted significant benefits such as reduced pain, improved mood regulation, and better sleep. Online users also felt they experienced less side effects using MC compared to other pharmaceuticals and described the former as a more natural alternative therapy. Many participants described these positive testimonials as instrumental in their decisions to consider MC as a treatment for their conditions:

I recall stumbling upon a discussion in the NZ subreddit about endometriosis and the new drug driving laws and the potential for obtaining a prescription. I then ventured into the medicinal

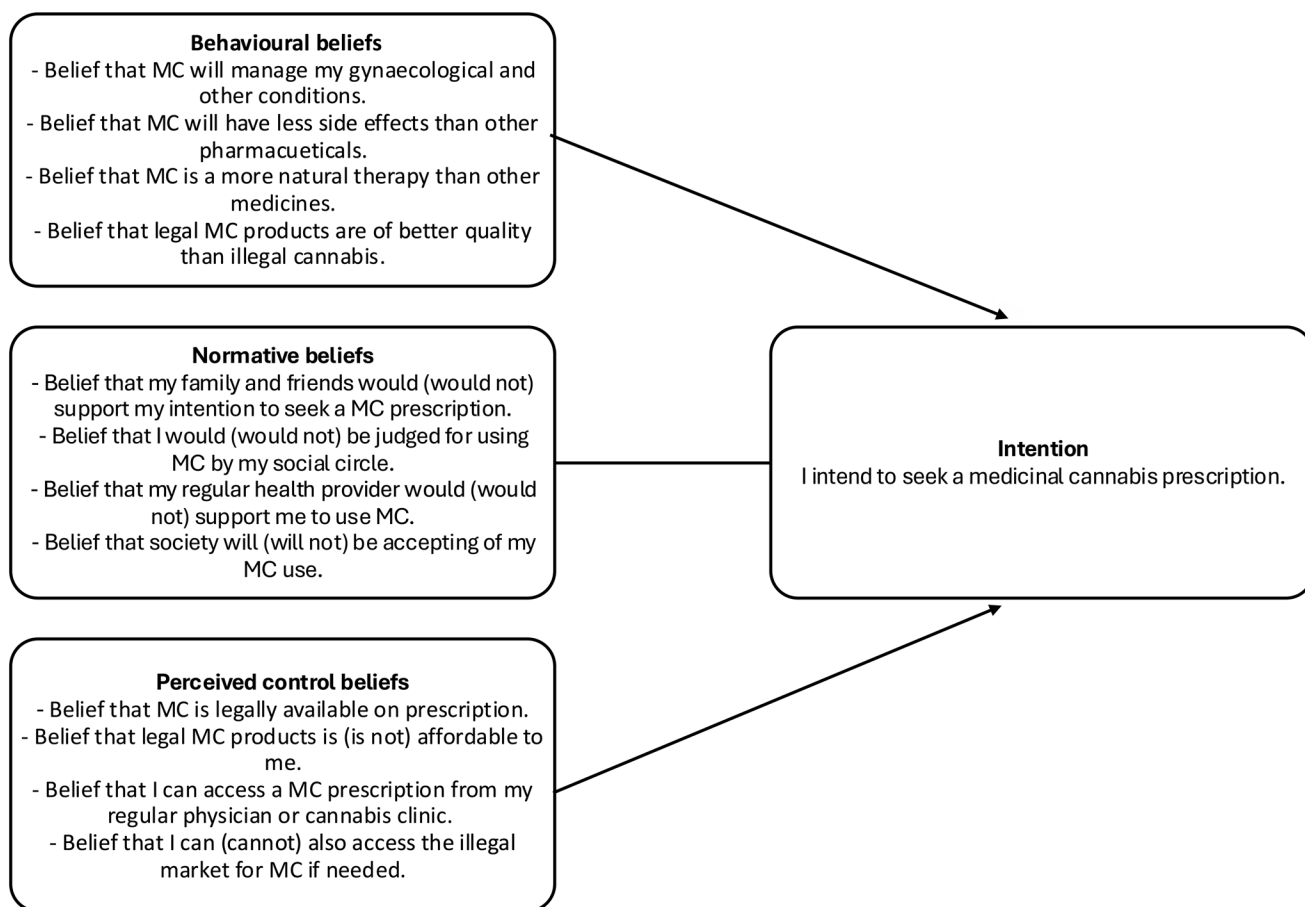


Figure 1. Schematic of the theory of planned behaviour for women's intentions to seek MC prescriptions.

cannabis subreddit where I immersed myself in others' experiences and the overwhelmingly positive feedback. I did some price comparisons in my head, weighing the benefits and drawbacks. (P8, Transitional user)

I went and did a Google search and went on Reddit and found the medicinal cannabis subreddit, which is where I saw the advertisement for this study. I went into quite the rabbit hole for a while just trying to gather as much information as possible before making an appointment myself. It was about two, three months of just researching it and hearing other people's anecdotes. (P7, Transitional user)

Women sought a range of information online related to MC such as how MC could treat their conditions and symptoms, side effects, sources to access prescriptions, information on doses, NZ prices, pharmacies, and how MC use affects driving, employment, and encounters with the police. Participants also discovered dedicated medicinal cannabis clinics through these online forums and through further searches on the Internet. Many commented that other online consumers depicted pathways to legal MC prescriptions as simpler through a cannabis clinic than through their regular health providers and shared information that compared prices, physicians' attitudes, and locations of these clinics. Participants read online that regular healthcare providers were less convinced of the therapeutic benefits of cannabis compared to cannabis clinicians, and that other people online had been declined a MC prescription by their general practitioners or referred to a cannabis clinic. The largely positive

experiences other consumers described with cannabis clinics motivated participants to continue their informational journeys by learning more about MC through clinic websites. Several participants commented that cannabis clinic websites had sections with information specific to women's health conditions, i.e. endometriosis, fertility, and menopause. For some, reading about how MC could effectively treat gynaecological conditions encouraged their intention to book a consultation.

I didn't go straight away to get an appointment because I didn't really believe you could have a tele-appointment and get cannabis sent to you at home. I thought it was all a bit scammy at the start. I was looking for reviews and obviously it was legal overseas so I thought, 'Oh, well, clearly they've got some sort of medicinal structure in place.' So I thought I would make an appointment with the cannabis clinic. (P4, Transitional user)

I wanted to try CBD because a doctor suggested it might help with my gut health issues. I searched for 'prescription CBD' online, which led me to the cannabis clinics websites... So, I thought it was beneficial for me to go through a clinic with doctors who had a specialized interest [in MC] so that I could ask questions, and they would be able to know the answers rather than it being the other way around. (P12, New prescription user)

For 14 participants who previously accessed cannabis illegally for medicinal purposes, information discovered online about the prices in NZ, quality, and availability of legal products were the key factors they considered when deciding to

Table 1. Participant demographics.

Characteristic	N
Location	
Auckland	4
North Island (not Auckland)	11
South Island	8
Age	
20–30 years	3
30–40 years	11
40–50 years	5
50–60 years	3
60+ years	1
Ethnicity	
New Zealand European	16
Māori/ Scottish	1
Māori	1
Tongan/ New Zealand European	1
Indian	2
Arabic	1
American	1
Education	
Didn't finish High School	8
Certificate/Diploma/Technical Study	5
Bachelor's Degree	7
Master's Degree	3
Employment	
Full time employed	9
Part time employed	3
Self-employed	3
Not currently employed	8
Medical reasons	
Gynaecological health – Endometriosis, Dysmenorrhea, Menopause	15
Mental health conditions – Depression, Anxiety, Premenstrual Dysmorphic Disorder, Bipolar Disorder, Post-Traumatic Stress Disorder	9
Sleep disorder	5
Gastrointestinal issues	4
Migraines	1
Attention-Deficit/Hyperactivity Disorder	1
Arthritis	1
Cancer	1
Weight management	1
Main product used by the dominant active ingredient	
CBD-only	7
CBD-dominant	5
Balanced CBD:THC	2
THC-dominant	8
THC-only	1
Source of supply	
Prescription only	9
Both illegal and prescription	14

access MC prescriptions. In terms of relative importance, discovering that MC could be available via prescription initially motivated these participants to consider a legal route due to no criminal wrongdoing and the opportunity for consistent, quality-assured supply. Next, price was in many ways a deciding factor as many felt the street price of cannabis closely matched the prescription price (approximately NZD \$300–400 for three months), and the better quality of legal products was considered a bonus. Women who could receive a similar amount of cannabis from known illegal suppliers for \$100 or less weighed the higher costs against the benefits of consuming better-quality products that could improve their health. These women also commented they were likely to continue using from both illegal and legal sources due to financial constraints:

Once I found out that it was available medicinally and legally, and considering the security of supply, I decided to give it a try knowing it would always be available legally removes the stress of searching for it. Quality control and security of supply were major

factors for me. I expect I'll stay on it for the rest of my life. (P16, Prescription only user)

For nine new prescription users who could not compare the quality between the two markets, awareness that MC was legally available coupled with the positive testimonies they read online was the main reason they intended to seek a prescription. While many commented they felt the prices were high in NZ, the possibility of experiencing less side effects than they had with conventional medications was a motivating factor. On the other hand, a handful of participants were concerned about some of the issues other online consumers had experienced, such as ambiguity around how MC intersected with workplace and driving laws, including negative experiences with employers who had discovered their use. Stories shared online also included feeling poorly informed about how MC adversely affected their memory, caused fatigue, and interacted with other prescribed medicines they consumed. Two participants who uncovered these implications during their online searches were more inclined to explore MC as an option through discussions with their health providers than to immediately pursue a prescription via a cannabis clinic.

Theme 2. Normative beliefs

Participants discussed several people within their social circles who had influenced their perceptions of MC, from where they considered sourcing legal products, and how they felt they would be perceived by others for seeking medicinal cannabis. The opinions that affected them the most were those of their family and friends, followed by health professionals, and society in general. While the first two groups (family and friends) influenced the support participants received for wanting to procure an MC prescription, which in turn affected their health seeking behaviours, collectively these groups (family and friends; health professionals, and society) also influenced how openly they discussed their decisions.

Family and friends

Participants who described their family members as open minded (Participant 20) and supportive (Participant 7,14, and 23) were more likely to discuss their intention to consume MC without fear of judgement. Māori participants and one Polynesian woman described MC as a culturally accepted 'healing practice' (Participant 21, New prescription user) due to growing up in families that valued cannabis as a therapeutic and spiritual part of health. Though most of their family members preferred homegrown cannabis, they supported the pursuit of legal prescriptions. In contrast, most Caucasian and Asian participants described their families as conservative (Participants 6 and 8) and felt their values were influenced by cannabis prohibition and the 'War on Drugs' (Participants 1 and 5) rhetoric. Only a handful of these participants felt their family members overcame initial reluctance to discuss MC after learning about how it had improved the health of others with similar conditions and witnessing participants exhaust their conventional treatment options. Participants from these families commented that they often concealed

their intent to seek MC for fear of disapproval and garnering a label as a drug user. Furthermore, they commented they had to overcome their own prior negative perceptions of cannabis due to childhood conditioning to accept MC as a potential treatment option for themselves:

Growing up in a Baptist Christian household, topics like drugs were totally off-limits. I had zero education about using them safely and I was honestly terrified of even touching anything remotely drug related. It took a lot of work to shake off that religious conditioning and realise I'm an adult with my own choices. So, at first, CBD seemed like a safe option, non-psychoactive and all. (P15, Prescription only user)

Before I got a MC prescription, I was supported to use MC through a relative of a friend of mine, who grew it illicitly. One day I was moaning about my headaches, and I think it was quite well known with my friends that I used to get these migraines. I had them all through high school, and it was always related to my period. A friend's mother said, 'Here, try some of this.' (P4, Transitional user)

Four participants had friends who grew cannabis or were using it from the illegal market and who recommended it for treating anxiety, headaches, dysmenorrhea, and restless leg syndrome. Two participants had friends recommend medicinal cannabis prescriptions as legal consumers themselves, and advocated for the safety, legality, and affordability of prescribed products. In general, participants felt that the opinions of their friends were less influential on their MC health seeking behaviours, except when they were part of conservative social circles. It was observed based on responses that the two common scenarios that emerged were mothers afraid their parenting would be judged if they used MC and women in their twenties worried about gaining a reputation as a recreational drug-seeker by their peers. In both cases, participants were concerned that their medicinal use of cannabis would be stigmatised, and they would be judged according to negative stereotypes associated with recreational cannabis use.

Health professionals

Participants' relationships with their regular healthcare providers strongly influenced where they intended to source an MC prescription. Only two of the 23 participants described having a positive physician–patient relationship and intending to discuss MC with their GP in the first instance. One new prescription user had a GP working in a holistic integrated clinic who she felt would be comfortable administering MC prescriptions without judgement. The other transitional user also preferred to discuss MC with her regular GP, as they had knowledge of her mental health struggles and history of past medication use. The remaining 21 participants described feeling hesitant to discuss MC with their GPs for a myriad of reasons. Many of the women commented that they had experienced their pain being underestimated or misdiagnosed in the past, which prevented them from accessing the treatment they felt they needed. This history led them to believe their request for an MC prescription would be dismissed in the same way, reducing their intent to discuss it with their GPs. Participants commented that 'women are

generally not taken seriously' (P15) in healthcare and sexism among physicians meant that in the past their symptoms had been attributed to their 'hormones,' 'depression' (P7), and other mental health issues. Mistrust in the patient–physician relationship had driven many participants to seek different doctors in the past and, as a result, now they commented that they consider cannabis clinics a more accessible pathway to MC prescriptions. However, participants also commented that online forums have discussed that cannabis clinics may be financially driven to administer MC prescriptions, which made them uncomfortable.

I need a doctor who will listen to me. I need a doctor who will hear what I'm saying. I think that that is a big thing because so often you go to the doctor and you're describing your symptoms, and they'll say, 'oh, have you thought about losing some weight?' It feels like for so long so much about women's health has just been in the too hard basket. (P5, Transitional user)

I see online [from other MC consumers] that a lot of these cannabis clinicians are unsure about how they're prescribing, and they're worried about the money side of it and it's like, that's where they've got it wrong, it's about the people, right? It's not about the money guys. It's about making sure that you're being honest about the prescriptions you're giving and really doing your due diligence. (P22, Transitional user)

Societal views

The participants indicated that though 'men are considered more of the stoner type' (P3), men and women alike face judgement for consuming cannabis. Many expressed concerns about inheriting a reputation as a recreational cannabis user and being viewed as 'lazy and unmotivated, accomplishing nothing, and lounging around all day' (P19), in strong contrast to their self-perceptions. When participants were asked how they would distinguish themselves from recreational users, their responses were rooted in their relationships with the health system, needing to use other medicines for their health, and shared histories with other women with similar medical issues. They positioned their intent to seek an MC prescription as a medical necessity: 'It'll enable me to be able to function differently than it does for like 99% of the population.' (P22). This quote speaks to participants' personal beliefs that their cannabis use is for legitimate medical reasons and to improve their daily functioning, unlike their perceptions of others using it for recreational purposes.

Many participants argued that women face greater judgement by society for general cannabis use and could struggle to obtain legal prescriptions. Some commented that society accepts and normalises men 'coping' (P11) with cannabis for any reason, while women are perceived as 'indulging in certain behaviours' (P17) and 'judged more harshly for their personal choices than men' (P8). They attributed these differences to a societal double standard that ascribes unfair gendered expectations to women:

Women are judged more because they're seen as caregivers and nurturer. For mums using cannabis, it's like, 'Hey, what about the kids?' But if a guy does it, it's more like, 'Yeah, he probably needs it.' It's a double standard. (P21, Prescription only user)

While vaping is different to smoking, participants commented that both inhalation practices carry societal stigma that affects women more than men. They felt this stigma could prevent some women from exploring vaping MC, even if they perceived this route of administration to be potentially the most beneficial to them. Many participants expressed frustration with witnessing societal views that disadvantage women reflected in the healthcare system through the attitudes of their GPs, and by extension hinder women's access to MC prescriptions:

I know that women are generally not taken seriously and more likely to have whatever their symptoms that they're describing attributed to mental health things. Probably with the average GP, I would say women would have a harder time accessing it [MC] simply because of those biases that are inherent in the medical establishment's treatment of men versus women. (P13, Transitional user)

When I moved to the North Island five years ago, I tried to discuss my cannabis use with doctors, but they suggested I seek alcohol and drug counselling instead. It felt like if I brought it up, I'd be immediately judged and labelled. Before my last surgery for endometriosis, I went to A&E in terrible pain. They assumed I was only seeking pain medication and dismissed how I felt until a CT scan showed I had gallstones and needed emergency surgery. When the male nurse first refused to help me, I felt like dismissed and frustrated. It really shows why women don't try to get help for their pain. (P23, Transitional user)

Through online searches, a few participants discussed witnessing countries like the USA and Canada create MC products specifically to address gynaecological conditions, such as CBD infused tampons and vaginal suppositories. This aligned with their personal beliefs that MC is a valuable treatment for gynaecological conditions. Participant 13 (Transitional user) astutely commented that the little attention paid to cannabis as a potentially valuable treatment for many gynaecological conditions broadly reflects a general lack of interest in improving women's health by society, and perhaps a general disapproval of women using drugs. She suggested that healthcare providers generally steer away from women's health topics, which in turn can affect their access to MC prescriptions:

There are a lot of things that women can use medical cannabis for that men can't and we're not necessarily wanting to talk about those topics to do with pain or our reproductive system or hormonal things. It's fine to hear a man talk about his back pain whereas as soon as you start talking about bad cramps or menopause, people [healthcare providers] don't want to hear about. (P2, Transitional user)

Theme 3. Control beliefs

Participants' behavioural beliefs about the benefits and harms of MC for their conditions (Theme 1) coupled with their normative beliefs about the support they would receive for seeking cannabis treatment (Theme 2) influenced their control beliefs i.e. their perceived ability to obtain an MC prescription (Theme 3). Two participants perceived high self-efficacy in obtaining an MC prescription from their regular health provider due to previous positive interactions. Conversely, 21

women felt cannabis clinics would be a more accessible route to procuring MC prescriptions. They commented that other people named cannabis clinicians as willing prescribers in online forums and shared their positive testimonies, which strengthened their interest in this access route. Furthermore, many participants Googled MC and found that cannabis clinics presented as top search results. This meant women's decisions to access cannabis clinics were informed by the online availability of information on patient experiences, indicative price lists, and product information on clinic websites:

Many people don't realise that they don't have to convince their old school GP but can seek out clinics with expertise in medicinal cannabis. These clinics are more progressive and open-minded, unlike some traditional GPs who don't want to embrace medicinal cannabis because of their beliefs about it not being a medicine. Participant 17, Transitional user)

You know it's about the same price to go to a GP as it is a specialist [cannabis] clinic. So, it just felt I guess, more prudent to go to the specialists in the first instance because it appears that that's their area of expertise. (P1, New prescription user)

Conversely, women sourcing information online discovered challenges with cannabis clinics that limited their perceived ability to access an MC prescription through this source. A few participants commented on seeing high consultation fees as a barrier to access, as well as requirements by some clinics to book additional appointments to renew MC prescriptions. Others commented on the high cost of the initial investment for 3-month prescriptions for products before they knew whether they would be effective for them. This was important for women who intended to trial different products until they found what worked for them. Participants may not have been aware that a similar prescription length and cost investment would have occurred if they had accessed an MC prescription from their GPs. Regardless, many felt this was a prominent barrier for other women who may not have the money to invest in an unsubsidised medicine. One transitioning participant discussed how this costly investment in the legal route deterred her from ruling out the illegal market in the future, which she considered cheaper:

If I could get smaller amounts to trial first then I'd be happy through that [legal route] than to continue going through my other [illegal] routes. I'm very grateful that cannabis clinics] services exist but also at the end of the day, it seems very expensive, and I would prefer an option that gave me the ability to try things before I committed to a really significant amount. (P11, Transitional user)

Discussion

This paper has explored women's informational pathways to legal medicinal cannabis prescriptions in New Zealand using the theory of planned behaviour as the framework. Our findings suggest the women participants' intentions to access MC prescriptions and transition to legal medicinal provision were largely informed by self-education online and word-of-mouth rather than GPs' recommendation, as is typically the case for other prescribed medicines. These sources influenced where women planned to access legal MC prescriptions in the first

instance, such as through their regular health providers or specialist cannabis clinics. Overall, the information participants accessed resulted in favourable perceptions towards MC and an intention to seek a legal prescription. This sentiment was most pronounced for women with gynaecological conditions who were seeking more natural, alternative therapies due to side effects from conventional medications. Despite these perceived benefits, some women were hesitant to access the NZMCS due to negative testimonies by online users that focused on the affordability of legal products, reluctant prescribers, adverse experiences with cannabis clinicians, and limited support from their social networks. Few women came across potential harms associated with MC in their online informational journeys, indicating that the risks of cannabis treatment are rarely discussed in online forums.

Behavioural beliefs, normative beliefs, and control beliefs affected women's intentions to seek MC prescriptions differently based on the information they accessed online and through their social circle, depending on whether they had previously consumed cannabis from the illegal market, their perceptions of the price and quality of legal products in NZ, and their motivation for using MC. While both new and experienced cannabis consumers were motivated to seek a prescription due to MC being legally available, the latter group were also positively influenced by no criminal implications and consistent quality-assured supply. Like our study, Sinclair et al. (2022, 2023) found that Australian and New Zealand women with endometriosis ($n=39$) and dysmenorrhea ($n=26$) were interested in cannabis treatment due to inadequate pain relief from conventional treatments. In our study, women perceived MC to have fewer side effects than other medicines based on online testimonies, whereas participants in their studies confirmed this through personal experiences, noting its effectiveness in symptom management and reducing the need for other pain medications. Similarly, quality control of MC products was a key concern in both our study and Sinclair et al.'s research, as participants sought legal MC due to adverse experiences with illegal market cannabis.

Normative beliefs played a significant role in women's intentions to seek an MC prescription. Participants were most affected by the views of their close social circles, followed by their health providers, and finally society in general. An interview-based study in Canada ($N=33$) (McTaggart-Cowan et al., 2021) similarly observed that the level of support and acceptance of MC use received from family and friends affected cancer patients' intention to use MC. Māori and Polynesian participants in our study felt they would be supported by their social circles for using MC due to the already integrated role of cannabis in cultural medicinal practices such as Rongoa Māori. However, Caucasian and Asian women that described their backgrounds as conservative felt they would be judged for seeking an MC prescription. Apart from two participants, most women predicted low support from their regular health providers when seeking an MC prescription. Prior to the implementation of the legal MC scheme in New Zealand, one survey-based study ($N=3,634$) found that those who used cannabis for medicinal reasons and identified as Māori, or were on lower incomes were less likely to transition to legal prescription use, with the perceived difficulty of

obtaining MC prescriptions among the main reasons given (Rychert et al., 2021).

Women exclusively accessing MC prescriptions and those accessing both the illegal and legal markets for MC perceived cannabis clinics as more accessible than their regular health providers. Cannabis clinics appear to be shaping women's informational environments and influencing their decision-making in two distinct ways. First, they are easily discoverable and accessible online, and second, they present as more positive about medicinal cannabis than regular health providers. Most participants initially learned about MC through online forums like Reddit and other social media, where online users shared personal experiences, dosage information, product types, and positive reviews about cannabis clinics. Previous studies show that MC discussions are common online, with consumer-generated data used in real-world studies of patient experiences (Butler et al., 2023; Hallinan et al., 2023; Khademi Habibabadi et al., 2022; Khademi et al., 2023; Kruger et al., 2020). Participants were frequently directed to cannabis clinic websites when learning about MC online, where they accessed unregulated, commercial information. Although NZ prohibits the advertising of MC products (Ministry of Health, 2020), cannabis clinics may circumvent these restrictions by using online marketing to promote their services rather than specific products. None of the participants in our study were directed to or made aware of the Ministry of Health's MC information for consumers, suggesting the implementation of the NZMCS has not been accompanied by a parallel process of supporting patients to access official government MC information. As demonstrated in our study, the implication is that the information influencing women's treatment decisions may be financially motivated rather than evidence based. Prior studies have analysed top results on Google search for MC, finding most websites mention numerous conditions for which MC is useful, few adverse side effects, and provide minimal links to conclusive scientific evidence (Kruger et al., 2020; Macedo et al., 2022). Similar unsubstantiated claims about the potential of MC have been reported on the websites of cannabis clinics and MC retailers, including citing MC as a cure for certain conditions (Ng et al., 2021; O'Neill et al., 2023; Zenone et al., 2021).

Participants' perceptions of MC and perceived ability to access prescriptions were strongly influenced by the information they accessed on cannabis clinic websites. Both participant groups in our study perceived MC to be more natural than mainstream medicines. These views may be explained by MC company reports and websites strategically characterising their supply chains and products as 'plant-based,' 'non-chemical,' 'organic,' and 'natural' (Helius, 2021; MedReleaf Australia, 2023; Zenone et al., 2021). Studies have linked the natural narratives crafted around complementary alternative products with attributes women value like spirituality, holistic well-being, and femininity (Dodds et al., 2014; Keshet & Simchai, 2014). Moreover, by providing information on cannabis treatment for gynaecological conditions on their websites, cannabis clinics may be positioning themselves as more understanding of women's health concerns compared to mainstream providers. This can shape women's beliefs about MC as a suitable treatment for their conditions based on

unreliable claims and increase their intention to seek MC prescriptions from cannabis clinics, which appear to be more knowledgeable about using MC for their specific conditions. While cannabis clinics provide indicative pricing for legal MC products and consultations on their websites, this may be a strategy to appear transparent to consumers, perhaps masking the real costs once they begin the consultation process. In our study, a few participants were apprehensive about accessing a cannabis clinic after reading about the hidden costs discussed by users online. Nevertheless, our participants felt easy access to MC information influenced their decisions to obtain prescriptions from specialist cannabis clinics rather than their regular health providers. This aligns with the Proudfoot et al. (2024) study of 192 Australian women with endometriosis, which found that 63.5% accessed a cannabis clinic for a MC prescription while only 8.3% consulted their regular doctor. Participants paid between \$100–200+ for an initial MC consultation and around \$300 AUD a month for their prescribed products, mainly describing cost as significant access barrier.

Our previous research (Withanarachchie, Rychert, & Wilkins, 2023) found that health professionals who participated in the study viewed cannabis clinics as addressing several of the key barriers to obtaining a cannabis prescription from traditional healthcare providers. They noted that some healthcare providers appeared hesitant to prescribe MC due to limited clinical experience with MC, uncertainty about its therapeutic benefits, or preference for conventional treatment approaches. While these perspectives reflect participants' professional observations, it is also important to acknowledge that MC prescribing decisions were primarily shaped by the current limited state of scientific evidence. However, it also identifies several issues with cannabis clinics. These include concerns about compartmentalising patient care, increased consultation costs for patients accessing cannabis clinics, financially motivated advice by cannabis clinicians on MC treatment and specific MC products, and prescribing cannabis for all medical issues (favouring one therapy for all conditions, including where scientific evidence for prescribing is limited). Kahan et al. (2019) have also commented on the lack of regulation and transparency in the operations of cannabis clinics, suggesting their advice may not always be informed by evidence. Like Dobson et al. (2024), we acknowledge that the emergence of MC clinics is relatively novel, given the typical focus of specialist clinics on treating specific conditions or body parts, rather than offering a singular treatment for all conditions. We too have found that cannabis clinics are shaping the MC landscape in NZ by influencing patient interests, decision-making, and access to MC prescriptions, warranting further research into patients' experiences with these clinics (Withanarachchie, Rychert, & Wilkins, 2023).

In our study, social media forums and the Internet empowered women's health seeking behaviours related to MC and informed their treatment decisions. However, as previously discussed, in combination with stigma, hesitance by physicians to prescribe MC may mean many women interested in cannabis treatment may need to rely heavily on peers and unregulated sources of online information to have their questions answered. Unlike other prescribed medicines, the recent

availability of legal MC products in New Zealand following prohibition may result in inconsistent information online about the pathways to procuring MC prescriptions, complicating women's informational journeys. Furthermore, women with gynaecological conditions seeking alternatives to mainstream medicines may find a lack of online information connecting cannabis treatment with women's health conditions. As witnessed in our study, women may need to rely on the testimonies of other women with similar conditions to guide their MC decision-making. We also found that after exhausting conventional treatments, particularly for gynaecological conditions, and having their pain underestimated by health providers, women were motivated to exercise agency in their health through self-education online and sourcing their own treatments, specifically medicines they perceived to be natural.

Strengths and limitations

While the sample included women from minority and indigenous groups, the majority were European women, as consistent with the wider New Zealand population. We note that Māori (the indigenous people of NZ) are underrepresented in the study sample. Māori experience disproportionate health burdens (Sullivan et al., 2023) are under-represented in cannabis prescription statistics (Rychert & Wilkins, 2024), and are overrepresented in cannabis-related convictions (Rapana et al., 2022). Their views and experiences may differ from non-Māori, which limits the generalisability of our findings to this population. Future studies should therefore investigate the issues we have identified with larger numbers of Māori, Pasifika and other ethnic women involved in medicinal cannabis use. Another limitation is that the TPB model that informed the design and analysis may be limited in its ability to accurately describe behaviour based on self-reports (Armitage & Conner, 2001). We did not ask participants about the demographics of their prescribing physician. Some literature indicates the demographics of physicians such as their gender influence their prescribing behaviours and provision of care (Berger, 2008; Davari et al., 2018). Future research may explore whether the gender of participants' regular health providers and cannabis clinic staff influences women's perceptions of being believed and the level of care they receive. This study did not include the perspectives of women who, after learning about MC, chose not to pursue a legal prescription. Future research could explore these experiences to understand barriers to engaging with legal access pathways. While in the past social media usage was associated with demographic and socio-economic biases (Benedict et al., 2019; De Graaff et al., 2015), participation in social media in 2025 is reaching population saturation. For example, in December 2024, an average of 3.35 billion individuals used at least one Meta social media platform (Facebook, Instagram, Messengers, or WhatsApp) every day (Meta Platforms Inc., 2025). Recent market research estimated 4.13 million active social media user identities in NZ in January 2024 (Data Reportal, 2024). As our study specifically recruited participants recently prescribed MC, this may have reduced any demographic biases.

Though these factors limit the generalisability of the results to specific groups, our study is the first to use a women-only sample to explore information environments related to MC, the factors that influence decisions to seek legal prescriptions, and from which sources. A further strength of our study is exploring how women with and without prior illegal cannabis experience learn about legal MC in New Zealand, including the factors influencing their decisions to access their regular health providers or a cannabis clinic for a MC prescription.

Conclusion

The theory of planned behaviour helped to understand the factors influencing women's intention to seek an MC prescription, including the testimonies of other women online, perceptions of cannabis users by their social circles and community, and their perceived ability to obtain a prescription. A novel finding is that women's perceived ability to access MC prescriptions was influenced by the information they obtained online, which often led to cannabis clinics that actively invested in an online presence and were described by participants as more receptive, knowledgeable, and less judgemental than traditional health providers. However, concerns have been raised about cannabis clinics in New Zealand in relation to the compartmentalising of patient care, provision of financially motivated advice, and prescribing of cannabis for all medical concerns. Another finding is that women's past experiences with having their medical conditions minimised and underdiagnosed by mainstream health professionals made them hesitant to discuss MC with their health professionals. Underlying social stigma, largely related to males' illegal recreational cannabis use, also impacted women's perception of MC and the likelihood of being able to discuss it with their health professional and successfully receiving a prescription. This included negative stigma directly related to women, such as competency to raise children and keep them safe. This was identified as a gendered barrier for women wanting to access the NZMCS. Reliance on the Internet, social media, online forums, and word-of-mouth to discover and learn about legal MC by the women in our study may signal a lack of integration between the new prescription scheme and public awareness of the legal options. This has led to women exploring their treatment options based on unverified information from people with no medical qualifications. This carries obvious risks of receiving inaccurate or misleading advice, but also benefits in terms of supporting women's health advocacy and self-direction. Given women's growing interest in using MC to treat gynaecological conditions, future studies could analyse online discussions on this topic to better understand the information women are seeking and how digital platforms inform their treatment decisions.

These findings have several implications for the newly implemented NZ cannabis scheme. Firstly, the government could invest more in educating patients about MC, ensuring they access credible information from the Ministry of Health website instead of unregulated online sources. For example, Australia provides a free national cannabis helpline for the

public to access information and counselling. Prior to MC legalisation in Australia in 2017, 2.1% (275 out of 15,701) of calls from 2008–2015 were about medicinal cannabis use, primarily for pain relief, with 14.2% of these inquiries focused on its efficacy and legal status (Gates & Albertella, 2017). The NZ government could create a similar free national helpline to help patients obtain evidence-based information about MC and help them navigate the NZMCS website for more information. Women could then more reliably have their information needs on specific topics related to MC met, such as cannabis use during pregnancy and treating gynaecological conditions. Alternatively, NZ could implement MC public health campaigns to support patient treatment decisions, as Canada did after legalising recreational cannabis. The Canadian government invested \$108.5 million over five years in health campaigns to educate the public about the benefits and harms of cannabis use (Government of Canada, 2022). This included partnerships with community groups and targeted online outreach on social media platforms like Facebook, Instagram, Twitter, and Youtube (Government of Canada, 2018). The NZ government could partner with local women's community groups, women's health societies, i.e. in obstetrics and gynaecology, and notable women female MC advocates to disseminate MC health information through their social media channels.

Secondly, NZ physicians have expressed concerns about the limited depth of the information available to guide their clinical decision-making regarding MC (Withanarachchie, Rychert, & Wilkins, 2023), apart from the guidelines from the Best Practice Advocacy Centre New Zealand.⁴⁹ Countries like Australia, Canada, Israel, and the Netherlands have developed comprehensive guidelines covering various MC topics such as dosage, indications, safety considerations, the physician–patient relationship, informed consent, monitoring, and research on conditions and specific symptoms (Graham et al., 2023). NZ's Ministry of Health could adopt a similar approach to enhance physician support and improve patient care. The research provided to physicians could include emerging evidence on cannabis treatment for common gynaecological conditions such as menopause, endometriosis, and menstrual pain. Conversational guides could also be provided on how to discuss more sensitive issues with female women patients in a non-judgemental manner, such as MC use during pregnancy, impacts on fertility, and MC for painful intercourse.

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Ethical approval

This study was approved by Massey University Human Ethics Ohu Matatika 1 on 29 January 2024 (Application OM1 23/50).

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Data availability statement

The larger dataset generated and analysed during the current study are not publicly available due to confidentiality reasons (i.e. contains information that could compromise research participant privacy/consent).

References

- Armitage, C. J., & Conner, M. (2001). Efficacy of the theory of planned behaviour: A meta-analytic review. *The British Journal of Social Psychology*, 40(Pt 4), 471–499. <https://doi.org/10.1348/014466601164939>
- Armour, M., Sinclair, J., Noller, G., Girling, J., Larcombe, M., Al-Dabbas, M. A., Hollow, E., Bush, D., & Johnson, N. (2021). Illicit cannabis usage as a management strategy in New Zealand women with endometriosis: An online survey. *Journal of Women's Health (2002)*, 30(10), 1485–1492. <https://doi.org/10.1089/jwh.2020.8668>
- Benedict, C., Hahn, A. L., Diefenbach, M. A., & Ford, J. S. (2019). Recruitment via social media: Advantages and potential biases. *Digital Health*, 5, 2055207619867223. <https://doi.org/10.1177/2055207619867223>
- Bentley, C., Izadi-Najafabadi, S., Raymakers, A., & McTaggart-Cowan, H. (2022). Qualitative research informing a preference study on selecting cannabis for cancer survivor symptom management: Design of a discrete choice experiment. *The Patient*, 15(4), 497–507. Jul <https://doi.org/10.1007/s40271-021-00567-3>
- Berger, J. T. (2008). The influence of physicians' demographic characteristics and their patients' demographic characteristics on physician practice: Implications for education and research. *Academic Medicine: Journal of the Association of American Medical Colleges*, 83(1), 100–105. <https://doi.org/10.1097/ACM.0b013e31815c6713>
- Bonanni, R., Ratano, P., Cariati, I., Tancredi, V., & Cifelli, P. (2024). Treatment strategies for painful pelvic floor conditions: A focus on the potential benefits of cannabidiol. *Biomolecules*, 14(12), 1627. <https://doi.org/10.3390/biom14121627>
- Bosnjak, M., Ajzen, I., & Schmidt, P. (2020). The theory of planned behavior: Selected recent advances and applications. *Europe's Journal of Psychology*, 16(3), 352–356. Aug <https://doi.org/10.5964/ejop.v16i3.3107>
- Bottorff, J. L., Bissell, L. J. L., Balneaves, L. G., Oliffe, J. L., Kang, H. B. K., Capler, N. R., Buxton, J. A., & O'Brien, R. K. (2011). Health effects of using cannabis for therapeutic purposes: A gender analysis of users' perspectives. *Substance Use & Misuse*, 46(6), 769–780. <https://doi.org/10.3109/10826084.2010.537732>
- Brady, J. P., Bruce, D., Foster, E., & Shattell, M. (2020). Self-efficacy in researching and obtaining medical cannabis by patients with chronic conditions. *Health Education & Behavior: The Official Publication of the Society for Public Health Education*, 47(5), 740–748. Oct <https://doi.org/10.1177/1090198120914249>
- Bruce, D., Grove, T. J., Foster, E., & Shattell, M. (2021). Gender differences in medical cannabis use: Symptoms treated, physician support for use, and prescription medication discontinuation. *Journal of Women's Health (2002)*, 30(6), 857–863. <https://doi.org/10.1089/jwh.2020.8437>
- Butler, J. I., Dahlke, S., Devkota, R., Shrestha, S., Hunter, K. F., Toubiana, M., Kalogirou, M. R., Law, J., & Scheuerman, M. (2023). The information-seeking behavior and unmet knowledge needs of older medicinal cannabis consumers in Canada: A qualitative descriptive study. *Drugs & Aging*, 40(5), 427–438. <https://doi.org/10.1007/s40266-023-01030-8>
- Chin, J. H., & Mansori, S. (2019). Theory of planned behaviour and health belief model: Females' intention on breast cancer screening. *Cogent Psychology*, 6(1), 1647927. <https://doi.org/10.1080/23311908.2019.1647927>
- Cuttler, C., Mischley, L. K., & Sexton, M. (2016). Sex differences in cannabis use and effects: A cross-sectional survey of cannabis users. *Cannabis and Cannabinoid Research*, 1(1), 166–175. <https://doi.org/10.1089/can.2016.0010>
- Dahlgren, M. K., El-Abboud, C., Lambros, A. M., Sagar, K. A., Smith, R. T., & Gruber, S. A. (2022). A survey of medical cannabis use during perimenopause and postmenopause. *Menopause (New York, N.Y.)*, 29(9), 1028–1036. <https://doi.org/10.1097/GME.0000000000002018>
- Data Reportal. (2024). *Digital 2024: New Zealand*. <http://datareportal.com/reports/digital-2024-new-zealand>
- Davari, M., Khorasani, E., & Tigabu, B. M. (2018). Factors influencing prescribing decisions of physicians: A review. *Ethiopian Journal of Health Sciences*, 28(6), 795–804. <https://doi.org/10.4314/ejhs.v28i6.15>
- De Graaff, A. A., Dirksen, C. D., Simoens, S., De Bie, B., Hummelshoj, L., D'Hooghe, T. M., & Dunselman, G. A. J. (2015). Quality of life outcomes in women with endometriosis are highly influenced by recruitment strategies. *Human Reproduction (Oxford, England)*, 30(6), 1331–1341. <https://doi.org/10.1093/humrep/dev084>
- DeMaria, A. L., Sundstrom, B., Faria, A. A., Moxley Saxon, G., & Ramos-Ortiz, J. (2019). Using the theory of planned behavior and self-identity to explore women's decision-making and intention to switch from combined oral contraceptive pill (COC) to long-acting reversible contraceptive (LARC). *BMC Women's Health*, 19(1), 82. <https://doi.org/10.1186/s12905-019-0772-8>
- Dobson, O., Barber, M., Graham, M., Carter, A., & Savic, M. (2024). 'The wild west of medicine': A qualitative investigation of the factors influencing Australian health-care practitioners' delivery of medicinal cannabis. *Drug and Alcohol Review*, 43(5), 1280–1293. [10.1111/dar.13847](https://doi.org/10.1111/dar.13847)
- Dodds, S., Bulmer, S., & Murphy, A. (2014). Consumer value in complementary and alternative medicine (CAM) health care services. *Australasian Marketing Journal*, 22(3), 218–229. <https://doi.org/10.1016/j.ausmj.2014.08.0>
- Gates, P. J., & Albertella, L. (2017). The cannabis information helpline: Assessing interest in the medicinal use of cannabis in Australia. *Substance Use & Misuse*, 52(12), 1634–1638. <https://doi.org/10.1080/10826084.2017.1298616>
- Glazer, S., & CannaWay Clinic. (2022). *Canadian evolution of medicinal cannabis programs* [Paper presentation]. Medcan 2022 Conference, February 11, Auckland (NZ).
- Government of Canada. (2018). *Cannabis public education activities*. <https://www.canada.ca/en/health-canada/news/2018/06/cannabis-public-education-activities.html>
- Government of Canada. (2022). *Taking stock of progress: Cannabis legalization and regulation in Canada*. <https://www.canada.ca/en/health-canada/programs/engaging-cannabis-legalization-regulation-canada-taking-stock-progress/document.html>
- Graham, M., Renaud, E., Lucas, C. J., Schneider, J., & Martin, J. H. (2023). Medicinal Cannabis guidance and resources for health professionals to inform clinical decision making. *Clinical Therapeutics*, 45(6), 527–534. <https://doi.org/10.1016/j.clinthera.2023.03.007>
- Gulbransen, G., Xu, W., & Arroll, B. (2020). Cannabidiol prescription in clinical practice: An audit on the first 400 patients in New Zealand. *BJGP Open*, 4(1), bjgpopen20X101010. <https://doi.org/10.3399/bjgpopen20X101010>
- Hallinan, C. M., & Bonomo, Y. A. (2022). The rise and rise of medicinal cannabis, what now? Medicinal cannabis prescribing in Australia 2017–2022. *International Journal of Environmental Research and Public Health*, 19(16), 9853. <https://doi.org/10.3390/ijerph19169853>
- Hallinan, C. M., Khademi Habibabadi, S., Conway, M., & Bonomo, Y. A. (2023). Social media discourse and internet search queries on cannabis as a medicine: A systematic scoping review. *PLoS One*, 18(1), e0269143. <https://doi.org/10.1371/journal.pone.0269143>
- Helius. (2021). *Auckland (NZ): Our Purpose*. <https://www.helius.co.nz/>
- Hoch, E., Volkow, N. D., Friemel, C. M., Lorenzetti, V., Freeman, T. P., & Hall, W. (2024). Cannabis, cannabinoids and health: A review of evidence on

- risks and medical benefits. *European Archives of Psychiatry and Clinical Neuroscience*, 1–12. <https://doi.org/10.1007/s00406-024-01880-2>
- Jarlenski, M., Tarr, J. A., Holland, C. L., Farrell, D., & Chang, J. C. (2016). Pregnant women's access to information about perinatal marijuana use: A qualitative study. *Women's Health Issues: Official Publication of the Jacobs Institute of Women's Health*, 26(4), 452–459. <https://doi.org/10.1016/j.whi.2016.03.010>
- Jasinski, V., Voltolini Velho, R., Sehoul, J., & Mechsner, S. (2024). Cannabis use in endometriosis: The patients have their say—an online survey for German-speaking countries. *Archives of Gynecology and Obstetrics*, 310(5), 2673–2680. [10.1007/s00404-024-07652-6](https://doi.org/10.1007/s00404-024-07652-6)
- Kahan, M., Srivastava, A., & Clarke, S. (2019). Cannabis industry and medical cannabis clinics need regulation. *Canadian Family Physician Medecin de Famille Canadien*, 65(12), 864–868.
- Karimian, Z., Sadat, Z., Afshar, B., Hasani, M., Araban, M., & Kafaei-Atrian, M. (2021). Predictors of self-medication with herbal remedies during pregnancy based on the theory of planned behavior in Kashan, Iran. *BMC Complementary Medicine and Therapies*, 21(1), 211. <https://doi.org/10.1186/s12906-021-03353-8>
- Karimy, M., Rezaee-Momtaz, M., Tavousi, M., Montazeri, A., & Araban, M. (2019). Risk factors associated with self-medicating. *BMC Public Health*, 19(1), 1033. <https://doi.org/10.1186/s12889-019-7302-3>
- Keshet, Y., & Simchai, D. (2014). The 'gender puzzle' of alternative medicine and holistic spirituality: A literature review. *Social Science & Medicine* (1982), 113, 77–86. <https://doi.org/10.1016/j.socscimed.2014.05.001>
- Khademi Habibabadi, S., Hallinan, C., Bonomo, Y., & Conway, M. (2022). Consumer-generated discourse on cannabis as a medicine: Scoping review of techniques. *Journal of Medical Internet Research*, 24(11), e35974. <https://doi.org/10.2196/35974>
- Khademi, S., Hallinan, C. M., Conway, M., & Bonomo, Y. (2023). Using social media data to investigate public perceptions of cannabis as a medicine: Narrative review. *Journal of Medical Internet Research*, 25, e36667. <https://doi.org/10.2196/36667>
- Kruger, D. J., Moffet, I. M., Seluk, L. C., & Zammit, L. A. (2020). A content analysis of internet information sources on medical cannabis. *Journal of Cannabis Research*, 2(1), 29. <https://doi.org/10.1186/s42238-020-00041-1>
- Lebron, C. N., Morales, V., Saenz, S., & Vidot, D. C. (2022). "Ganja Mamas": Online discussions about cannabis use in pregnancy. *Drug and Alcohol Dependence*, 241, 109689. <https://doi.org/10.1016/j.drugalcdep.2022.109689>
- Leos-Toro, C., Shiplo, S., & Hammond, D. (2018). Perceived support for medical cannabis use among approved medical cannabis users in Canada. *Drug and Alcohol Review*, 37(5), 627–636. Jul <https://doi.org/10.1111/dar.12823>
- Leung, J., Chan, G., Stjepanović, D., Chung, J. Y., Hall, W., & Hammond, D. (2022). Prevalence and self-reported reasons of cannabis use for medical purposes in USA and Canada. *Psychopharmacology*, 239(5), 1509–1519. <https://doi.org/10.1007/s00213-021-06047-8>
- Macedo, A. C., de Faria, A. O., Bizzi, I., Moreira, F. A., Colasanti, A., & Ghezzi, P. (2022). Online information on medical cannabis is not always aligned with scientific evidence and may raise unrealistic expectations. *Journal of Cannabis Research*, 4(1), 37. <https://doi.org/10.1186/s42238-022-00145-w>
- McTaggart-Cowan, H., Bentley, C., Raymakers, A., Metcalfe, R., Hawley, P., & Peacock, S. (2021). Understanding cancer survivors' reasons to medicate with cannabis: A qualitative study based on the theory of planned behavior. *Cancer Medicine*, 10(1), 396–404. [10.1186/s42238-022-00145-w](https://doi.org/10.1186/s42238-022-00145-w)
- MedReleaf Australia (2023). *Queensland (AUS): About us*. <https://www.medreleafaustralia.com.au/>
- Meta Platforms, Inc. (2025). *Meta reports fourth quarter and full year 2024 results* [Press release]. <https://investor.atmeta.com/investor-news/press-release-details/2025/Meta-Reports-Fourth-Quarter-and-Full-Year-2024-Results/default.aspx>
- Micalizzi, L., Aston, E. R., Nesi, J., Price, D., & Gunn, R. L. (2024). A descriptive analysis of a popular pregnancy forum: Comments on the developmental consequences of cannabis use on offspring. *Journal of Studies on Alcohol and Drugs*, 85(2), 210–217. <https://doi.org/10.15288/jsad.23-00019>
- Ministry of Health. (2020). *Medicinal Cannabis Agency - Advertising products*. <https://www.health.govt.nz/our-work/regulation-health-and-disability-system/medicinal-cannabis-agency/medicinal-cannabis-agency-information-industry/medicinal-cannabis-agency-working-medical-cannabis/medicinal-cannabis-agency-advertising-products>
- Ministry of Health. (2022). *Medicinal cannabis products that meet the minimum quality standard*. <https://www.health.govt.nz/our-work/regulation-health-and-disability-system/medicinal-cannabis-agency/medicinal-cannabis-agency-information-health-professionals/medicinal-cannabis-products-meet-minimum-quality-standard#products>
- Ministry of Health. (2023). *Annual update of key results 2022/23: New Zealand health survey*. <https://www.health.govt.nz/publication/annual-update-key-results-2022-23-new-zealand-health-survey>
- Nayak, M. M., Revette, A., Chai, P. R., Lansang, K., Sannes, T., Tung, S., & Braun, I. M. (2023). Medical cannabis-related stigma: Cancer survivors' perspectives. *Journal of Cancer Survivorship: Research and Practice*, 17(4), 951–956. <https://doi.org/10.1007/s11764-022-01297-7>
- New Zealand Herald. (2024). *The regions, age groups, and the ethnicities using the most medicinal cannabis*. https://www.nzherald.co.nz/nz/the-regions-age-groups-and-ethnicities-using-the-most-medicinal-cannabis/LNG7NHEDISGYJMG6SCER7B3HKQ/?gift_token=fshCstclKw
- Ng, J. Y., Dzisiak, D. A., & Saini, J. B. (2021). Cannabis for pain: A cross-sectional survey of the patient information quality on the Internet. *Journal of Cannabis Research*, 3(1), 36. <https://doi.org/10.1186/s42238-021-00093-x>
- O'Neill, B., Ferguson, J., Dalueg, L., Yusuf, A., Kirubarajan, A., Lloyd, T., Mollanji, E., & Persaud, N. (2023). Evaluating the supporting evidence of medical cannabis claims made on clinic websites: Cross-sectional study. *Journal of Medical Internet Research*, 25, e45550. <https://doi.org/10.2196/45550>
- Pearse, N. (2019). *An illustration of deductive analysis in qualitative research* [Paper presentation]. 18th European conference on research methodology for business and management studies (p. 264–284).
- 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>
- Proudfoot, A., Duffy, S., Sinclair, J., Abbott, J., & Armour, M. (2024). A survey of cost, access and outcomes for cannabinoid-based medicinal product use by Australians with endometriosis. *Australian and New Zealand Journal of Obstetrics and Gynaecology*, 64(4), 411–415. <https://doi.org/10.1111/ajo.13804>
- Radio New Zealand. (2024). *The boring business of New Zealand's biggest cannabis clinic*. Retrieved from <https://www.rnz.co.nz/news/business/529711/the-boring-business-of-new-zealand-s-biggest-cannabis-clinic>
- Rapana, W., Winter, T., Fox, R., Riordan, B. C., Kulkarni, R., Waitoki, W., & Scarf, D. (2022). Indigenous people in Aotearoa New Zealand are over-represented in cannabis convictions. *Harm Reduction Journal*, 19(1), 28. <https://doi.org/10.1186/s12954-022-00613-9>
- Rønne, S. T., Rosenbæk, F., Pedersen, L. B., Waldorff, F. B., Nielsen, J. B., Riisgaard, H., & Søndergaard, J. (2021). Physicians' experiences, attitudes, and beliefs towards medical cannabis: A systematic literature review. *BMC Family Practice*, 22(1), 212. <https://doi.org/10.1186/s12875-021-01559-w>
- Rychert, M., & Wilkins, C. (2024). Implementation of the Medicinal Cannabis Scheme in New Zealand: Six emerging trends. *The New Zealand Medical Journal*, 137(1604), 73–86. <https://doi.org/10.26635/6965.6666>
- Rychert, M., Parker, K., Wilkins, C., & Graydon-Guy, T. (2021). Predictors of medicinal cannabis users' willingness to utilise a new prescription Medicinal Cannabis Scheme in New Zealand. *The New Zealand Medical Journal*, 134(1534), 66–75.
- Setyorini, R. H., Nurhaeni, I. D. A., Probandari, A., & Lestari, E. (2022). Using theory of planned behavior to explore factors related to contraceptive

- use among women in reproductive age. *Malaysian Journal of Public Health Medicine*, 22(1), 139–145. <https://doi.org/10.37268/mjphm/vol.22/no.1/art.1534>
- Shamlou, Z., Saberi, M. K., & Amiri, M. R. (2022). Application of theory of planned behavior in identifying factors affecting online health information seeking intention and behavior of women. *Aslib Journal of Information Management*, 74(4), 727–744. <https://doi.org/10.1108/AJIM-07-2021-0209>
- Sinclair, J., & Armour, M. (2023). Endometriosis: Features and potential role of medicinal cannabis. In *Medicinal usage of cannabis and cannabinoids* (pp. 483–494). Academic Press.
- Sinclair, J., Abbott, J., Mikocka-Walus, A., Ng, C. H. M., Sarris, J., Evans, S., & Armour, M. (2023). "A glimmer of hope" - Perceptions, barriers, and drivers for medicinal cannabis use amongst Australian and New Zealand people with endometriosis. *Reproduction & Fertility*, 4(4), e230049. Advance online publication. <https://doi.org/10.1530/RAF-23-0049>
- Sinclair, J., Abbott, J., Proudfoot, A., & Armour, M. (2023). The place of cannabinoids in the treatment of gynecological pain. *Drugs*, 83(17), 1571–1579. <https://doi.org/10.1007/s40265-023-01951-z>
- Sinclair, J., Armour, S., Akowuah, J. A., Proudfoot, A., & Armour, M. (2022). "Should I inhale?"—perceptions, barriers, and drivers for medicinal cannabis use amongst Australian women with primary dysmenorrhoea: A qualitative study. *International Journal of Environmental Research and Public Health*, 19(3), 1536. <https://doi.org/10.3390/ijerph19031536>
- Statistics New Zealand. (2023). *Māori ethnic group summary*. <https://tools.summaries.stats.govt.nz/ethnic-group/maori>
- Sullivan, T., McCarty, G., Wyeth, E., Turner, R. M., & Derrett, S. (2023). Describing the health-related quality of life of Māori adults in Aotearoa me Te Waipounamu (New Zealand). *Quality of Life Research: An International Journal of Quality of Life Aspects of Treatment, Care and Rehabilitation*, 32(7), 2117–2126. <https://doi.org/10.1007/s11136-023-03399-w>
- Tran, N. K., Felsner, M., Pol, B. V. D., Bellamy, S. L., McKnight, J., & Roth, A. M. (2021). Intention to initiate and uptake of PrEP among women who injects drugs in a demonstration project: An application of the theory of planned behavior. *AIDS Care*, 33(6), 746–753. <https://doi.org/10.1080/09540121.2021.1874267>
- Troup, L. J., Erridge, S., Ciesluk, B., & Sodergren, M. H. (2022). Perceived stigma of patients undergoing treatment with cannabis-based medicinal products. *International Journal of Environmental Research and Public Health*, 19(12), 7499. <https://doi.org/10.3390/ijerph19127499>
- Tumati, S., Lanctôt, K. L., Wang, R., Li, A., Davis, A., & Herrmann, N. (2022). Medical cannabis use among older adults in Canada: Self-reported data on types and amount used, and perceived effects. *Drugs & Aging*, 39(2), 153–163. <https://doi.org/10.1007/s40266-021-00913-y>
- Warren, C. A. (2002). Qualitative interviewing. *Handbook of interview research: Context and method*. 839101:103–116.
- Withanarachchie, V., Rychert, M., & Wilkins, C. (2023). Barriers and facilitators to prescribing medicinal cannabis in New Zealand. *Journal of Primary Health Care*, 15(2), 135–146. <https://doi.org/10.1071/HC22122>
- Withanarachchie, V., Rychert, M., & Wilkins, C. (2023). The role of cannabis clinics in the health system: A qualitative study of physicians' views in New Zealand. *BMC Health Services Research*, 23(1), 10. <https://doi.org/10.1186/s12913-022-09021-y>
- Xin, T., Jiang, Y., Li, C., Ding, X., Zhu, Z., & Chen, X. (2023). Using planned behavior theory to understand cervical cancer screening intentions in Chinese women. *Frontiers in Public Health*, 11, 1063694. 27 <https://doi.org/10.3389/fpubh.2023.1063694>
- Zenone, M. A., Snyder, J., & Crooks, V. (2021). Selling cannabidiol products in Canada: A framing analysis of advertising claims by online retailers. *BMC Public Health*, 21(1), 1285. <https://doi.org/10.1186/s12889-021-11282-x>
- Zolotov, Y., Vulfsons, S., & Sznitman, S. (2019). Predicting Physicians' Intentions to Recommend Medical Cannabis. *Journal of Pain and Symptom Management*, 58(3), 400–407. <https://doi.org/10.1016/j.jpain-symman.2019.05.010>