

PUBLIC ATTITUDES AND LEGAL AMBIGUITY: RESULTS FROM A SURVEY ON MEDICAL CANNABIS IN SLOVENIA

MARKO ŠETINC^{1,2}, JASNA KOVAČ,³ TANJA BAGAR^{1,2}

Accepted
24. 11. 2025

Revised
19. 2. 2026

Published
1. 10. 2026

¹ Alma Mater Europaea University, Maribor, Slovenia
marko.setinc@guest.arnes.si, tanja.bagar@almamater.si

² ICANNA - International Institute for Cannabinoids, Petrovci, Slovenia
marko.setinc@guest.arnes.si, tanja.bagar@institut-icanna.com

³ MEDCA - Association of Slovenian Nurses and Other Health Workers in the Field
of Medical Cannabis Treatment, Domžale, Slovenia
medca.anketa@gmail.com

CORRESPONDING AUTHOR
tanja.bagar@institut-icanna.com

Keywords
medical cannabis,
Slovenia,
public attitudes,
health communication,
policy reform,
patient access,
survey

Abstract Public attitudes toward medical cannabis play an important role in shaping regulatory practice and integrating new therapies into health systems. This online survey of Slovenian adults (n = 226) examined perceptions of medical cannabis within a context of legal ambiguity and limited institutional guidance. Support for legalization was high, but respondents commonly reported unclear understanding of what current law permits and limited trust in the accuracy of information received from healthcare professionals. Participants relied heavily on informal and online sources, highlighting gaps in regulatory clarity and professional readiness. These findings underscore the need for clear legal frameworks, improved clinical guidance, and more transparent communication to align public expectations with medical and legal practice in Slovenia.

1 Introduction

Public attitudes toward medical cannabis have become a central focus for health policymakers worldwide. As legal reforms accelerate, many jurisdictions face challenges integrating cannabis into clinical practice, where regulatory permissiveness is not always matched by public understanding or institutional readiness (Hossain & Chae, 2024, pp. 2-6; Webb & Mansfield, 2020, pp. 124-128). In both liberal and conservative systems, social perception has emerged as a key determinant of whether legalization translates into safe, equitable access (Sznitman & Bretteville-Jensen, 2015, pp. 2-7). At the same time, regulating medical cannabis increasingly raises socio-legal questions about how law is understood, interpreted, and enacted in everyday life. In this field, “legal ambiguity” does not simply mean the absence of rules; it can describe a condition in which legal change occurs without sufficiently clear procedures, institutional responsibilities, or public communication, leaving patients, professionals, and regulators uncertain about what is permitted in practice. Such ambiguity is well documented in early medical cannabis regimes, where statutory frameworks were sometimes broadly permissive yet vague regarding practical access pathways, production models, and enforcement boundaries -creating confusion among patients, caregivers, and authorities (Pacula, 2017, pp. 8-16).

Slovenia offers a particularly illustrative case within this evolving policy landscape. In 2016, the country formally reclassified cannabis from Group I to Group II of controlled substances, allowing for restricted medical use under specific conditions. Despite this regulatory shift, cannabis remains marginal within Slovenian healthcare. Physicians frequently report inadequate training and inconsistent prescribing guidance (Hossain & Chae, 2024, pp. 3-6), pharmacists encounter supply barriers, and patients face confusion over eligibility, products, and legal procedures. Media coverage is often superficial or sensationalized, and public health campaigns are largely absent. Taken together, these features position Slovenia as a case of partial legalization with incomplete implementation: formal legal permissibility exists, but the institutional infrastructure needed for consistent clinical integration and public comprehension remains underdeveloped. Comparative research on medical cannabis regulation shows that “medical cannabis law” is not a single intervention but a variable set of statutory and regulatory components (e.g., patient eligibility, product safety, supply channels, and prescriber roles), and differences in these

components can strongly shape real-world access and governance outcomes (Klieger et al., 2017, pp. 4-6).

These limitations are not unique to Slovenia. A recent survey of Polish physicians published in *Cannabis and Cannabinoid Research* found that over 70% felt unprepared to advise patients on cannabis use, and 93% supported developing structured clinical guidelines and professional education (Hordowicz et al., 2021, p. 2). This underscores a broader regional pattern of legal reform outpacing institutional support and physician readiness. At the EU level, reports by the European Monitoring Centre for Drugs and Drug Addiction (EMCDDA, 2018) similarly highlight a fragmented policy landscape, where public awareness and access to medical cannabis vary dramatically across countries, further complicating harmonized implementation. More generally, analysis of national medical cannabis programs emphasizes that effective governance depends not only on formal legalization but on coordinated regulation, clinical guidance, and community-facing implementation strategies (Ruheel et al., 2021, pp. 13-16).

These challenges echo findings from other jurisdictions. In the United Kingdom, despite formally introducing medical cannabis in 2018, clinical uptake remains slow due to physician hesitancy and ambiguous guidelines (Waldron et al., 2023, pp. 1-5). In Germany, public enthusiasm for cannabis often surpasses clinical conservatism, reflecting a broader disjuncture between consumer optimism and institutional caution (Meyerding & Groninga, 2025, pp. 2-12). In Mexico and Ukraine, public education and institutional reform have played critical roles in bridging perception and policy (Camberos-Barraza et al., 2023; Aliekperova et al., 2020, pp. 2-10). International surveys also reveal that legalization alone does not resolve uncertainty. In New Zealand, longitudinal studies show consistently high public support for medical cannabis, yet persistent concerns over dependency and misuse, especially among older adults (Boden et al., 2020, pp. 80-85). In Canada, enthusiasm initially surged following recreational legalization, but perceptions of medical efficacy became more cautious over time as the public was exposed to regulatory inconsistencies and evolving media narratives (Doggett et al., 2025). In the United States, public knowledge remains fragmented despite broad legalization, with attitudes shaped by political affiliation, race, age, and access to trustworthy information (Pew Research Center, 2024; Montgomery et al., 2024, pp. 2-14).

Importantly, public perception matters legally, not only politically, in settings characterized by regulatory ambiguity. When formal rules are unclear or poorly translated into clinical routines, individuals must interpret legality as a practical guide for health behavior: whether to disclose cannabis use, whether to seek medical authorization, and which information sources to trust. These perceptions can influence the “law-in-action” by shaping compliance, disclosure, and patterns of access—especially where the clinical encounter becomes a key site of governance. Yet empirical work shows that patient–provider communication about medical cannabis can remain limited even where medical cannabis is legally available, reinforcing reliance on non-institutional information channels (Turner et al., 2024, pp. 298-301).

From a systems perspective, successfully integrating medical cannabis requires more than legal change. It depends on training healthcare professionals, engaging patients in policy design, and developing accurate public information systems (Webb & Mansfield, 2020, pp. 124-128; Aliekperova et al., 2020, pp. 2-8). In contexts with limited institutional clarity, such as the situation in Slovenia, public opinion can serve as both a barometer and a catalyst for reform. Despite strong anecdotal support, empirical data on Slovenian public attitudes remains scarce. Prior surveys conducted by public health institutions and oncology centers have suggested high support among both the general public and patients with chronic illness. However, these datasets have not been comprehensively analyzed in peer-reviewed literature, nor compared to international findings.

To address this gap, this study analyzes original data from an online survey conducted by the Medca Association. The survey sampled respondents across Slovenia using a snowball distribution method and included questions on attitudes toward medical cannabis, perceived risks and benefits, trust in information sources, and personal experience. While the sample of 226 respondents is not probabilistic, it provides broad geographic and demographic diversity and offers valuable insight into general population attitudes. This paper situates Slovenia’s cannabis perception in an international comparative framework and contributes new empirical evidence from a Central European country with formal legalization but incomplete implementation. In doing so, it aims to inform policy, medical training, and public communication efforts that align with both the legal framework and public expectation.

2 Methods

This cross-sectional descriptive study investigated public attitudes toward medical cannabis among adult residents of Slovenia. The survey was conducted online between June 11 and September 21, 2024, by the Medca Association in collaboration with the Institute ICANNA. Eligible participants were Slovenian residents aged 18 years or older. Recruitment followed a snowball sampling approach using digital channels including social media, email invitations, and institutional mailing lists. Participation was voluntary, anonymous, and self-selected. A total of 226 respondents completed the questionnaire in full. Because the study aimed to capture a broad range of perspectives, no exclusion criteria were applied.

2.1 Survey Instrument

The online questionnaire was developed by adapting items from four internationally recognized and validated instruments, as presented in table 1. The final questionnaire consisted of 33 items grouped into three thematic sections.

Table 1: Validated instruments used to develop the MEDCA Survey

Instrument	Institution	Purpose / Key Measures
Cannabis Supplement Core Measures Questionnaire	U.S. National Cancer Institute (NCI), USA	Provides standardized epidemiological items for assessing cannabis use, frequency, and context to enable international comparability.
Cannabis Community Attitudes Survey (CCAS)	National Drug Research Institute, Curtin University, Australia	Measures public attitudes, beliefs, and stigma related to cannabis use and policy.
Cannabis Abuse Screening Test (CAST)	French Monitoring Centre for Drugs and Drug Addiction (OFDT), Europe	Brief six-item screening tool identifying potentially problematic or high-risk cannabis use among adolescents and adults.
National Cannabis Survey (NCS)	Statistics Canada	Collects national data on cannabis consumption frequency, product types, and access channels.

Items were translated into Slovene and culturally adapted for national context. The survey captured sociodemographic data, cannabis-related behaviors, perceived benefits and risks, and trust in information sources. Data were collected via the 1KA online survey platform. Participation was anonymous, and no personal identifiers were collected. In accordance with Slovenian regulations, ethical approval was not

required for this non-interventional public survey. All data collection complied with the General Data Protection Regulation (GDPR) and national privacy standards.

2.2 Data Collection and Analysis

In this study, we focused on describing how participants perceive and use cannabis. Data were collected through an online questionnaire (www.1ka.si) and analyzed using Microsoft Excel software (Microsoft Corporation, Redmond, WA, USA). Only valid responses were included in the final dataset. For questions using Likert-type scales such as “Strongly disagree” to “Strongly agree” or “Never” to “Very often”, the full distribution of responses was presented. To illustrate broader trends, categories were occasionally grouped (e.g., reporting the percentage of participants who selected “agree” or “strongly agree”, or those who reported a behavior “sometimes or more often”). Demographic variables (e.g., gender, age, education level, employment status) were summarized using frequencies, percentages, means, and interquartile ranges. Descriptive summaries were used for all outcome variables, including perceived benefits and risks, information sources, and policy attitudes. Given the exploratory nature of this cross-sectional study, the analysis was purely descriptive, and no inferential or hypothesis-testing statistics were conducted. Where appropriate, 95% confidence intervals (CIs) for key proportions (e.g., support for legalization, perceived benefits) were estimated to provide an indication of variability and precision. To minimize potential reporting bias, only complete cases were included, and data consistency checks were performed prior to analysis. The purpose of this study was primarily descriptive and exploratory, aimed at improving understanding of how medical cannabis is perceived and used within the Slovenian adult population.

3 Results

3.1 Demographic of Study Participants

The sample consisted of adult citizens of the Republic of Slovenia, ranging in age from 18 to 89 years ($n = 226$). Of the respondents, 44% ($n = 100$) identified as male and 56% ($n = 126$) as female. The mean age was 48.73 years ($SD = 14.83$). The majority of participants reported having completed secondary or higher education.

In terms of employment status, 57% of respondents were employed, 9% unemployed, 24% retired, and 5% were students.

Table 2: Demographics of study participants

Demographic	% (n)
Sex	
Female	56 (126/226)
Male	44 (100/226)
Age (years)	
Mean (range)	48.7 (18–89)
Highest level of education	
Primary school or lower	3,54% (8/226)
Secondary school 2 or 3 years	19,50% (43/226)
High school or other secondary 4 years schools	26,55 % (60/226)
Bachelor's degree Level VI/I	12,83% (29/226)
Bachelor's degree Level VI/II	15,49% (34/226)
Master's degree Level VII	13,27% (30/226)
Post graduate University	6,19% (14/226)
Doctorate (PhD)	3,54% (8/226)
Employment Status	
Employed	56,64 % (128/226)
Unemployed	9,29 % (21/226)
Retired	23,89% (54/226)
Student	4,87% (11/226)
Prefer not to answer	5,31% (12/226)

3.2 Perceived Benefits of Medical Cannabis

From the participants of this survey 81% have previously used cannabis and of those 53% use it for medical purposes and 47% for personal/recreational purposes. When asked if they perceive that there are benefits to using cannabis 94% answered yes. Participants reported a wide range of perceived benefits associated with medical cannabis use (Figure 1). The most frequently endorsed effects included pain management (89%), improved sleep (87%), and relief of stress and anxiety (85%). A majority also noted its usefulness to manage cancer treatment side effects (64%), to reduce the use of other medications (62%), and to treat or help relieve other medical conditions such as epilepsy or chronic pain (61%). Roughly half of respondents identified medical cannabis as beneficial for increasing appetite (49%), enhancing relaxation and pleasure (48%), and reducing fatigue (47%). Fewer participants

selected effects such as relief of neuropathy (39%), reducing nausea and vomiting (38%), and decreased use of substances like alcohol and tobacco (36%). The least commonly reported benefits were increased libido and sexual function (31%) and relief of sweating symptoms (30%). In our survey 90% of participants know one or more people who are using cannabis for medical purposes.

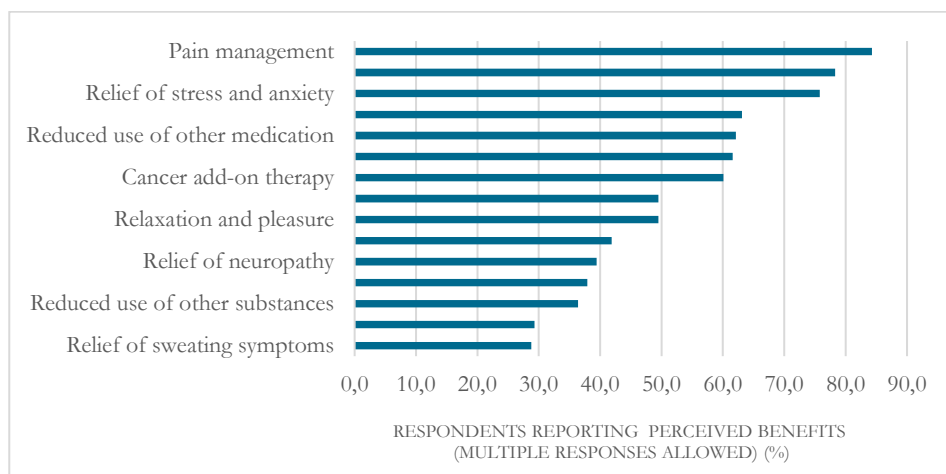


Figure 1: Perceived Benefits of Medical Cannabis

3.3 Perceived Risks and Concerns

When participants were asked if they perceive that there are risks and concerns for using cannabis 49% answered yes. Participants identified a variety of concerns associated with medical cannabis use (Figure 2). The most frequently reported were legal problems (46%), inability to operate vehicles or machinery (44%), and cannabis dependence (43%). Other common concerns included difficulty concentrating (38%), negative reactions from family or friends (36%), and job loss or negative career impact (35%). Issues such as daytime drowsiness (34%), memory problems (33%), and dizziness or increased risk of falls (26%) were also noted.

Less frequently reported concerns involved increased appetite or weight gain (25%), stress or anxiety (22%), and lung damage (20%). Only a small minority of participants expressed concern about sleep disturbances, headaches, or the increased

use of other substances or medications. Fewer than 10% noted concerns about an increased risk of cancer or other illnesses.

The most frequently reported concern is legal problems, that is further corroborated by the fact that 62% of participants know at least one person to have legal problems due to cannabis use. These findings suggest that perceived risks are primarily related to cognitive or functional impairment, social stigma, and legal or occupational consequences, rather than severe health effects.

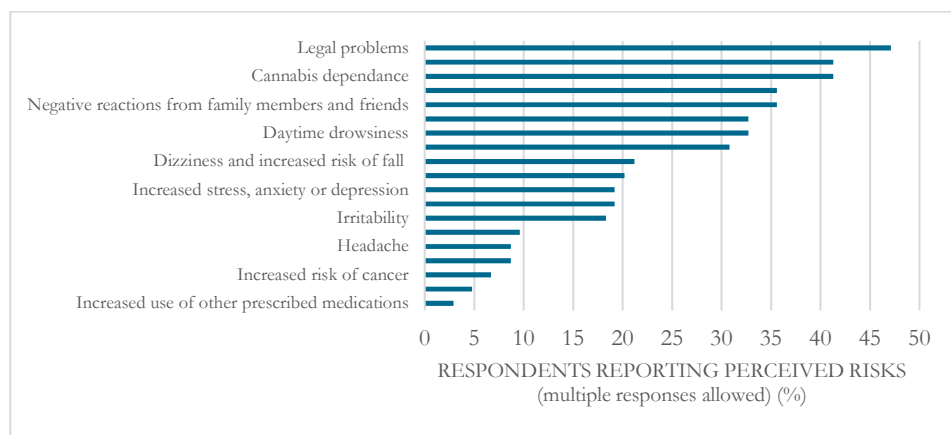


Figure 2: Perceived Risks and Concerns of cannabis

A substantial majority (97%) of participants supported legal reforms permitting the cultivation and possession of cannabis for medical purposes, while 87% endorsed similar changes for limited personal use. Additionally, 66% indicated a willingness to cultivate cannabis at home if legally permitted. Notably, 67% of respondents stated that legalizing cannabis in Slovenia would not lead to increased use among young people. Among participants who used cannabis for recreational or personal reasons, most reported minimal adverse effects (Figure 3). They largely did not engage in problematic behaviors, experienced little difficulty reducing their cannabis use when desired, and noted that family or friends had not expressed concern about their consumption.

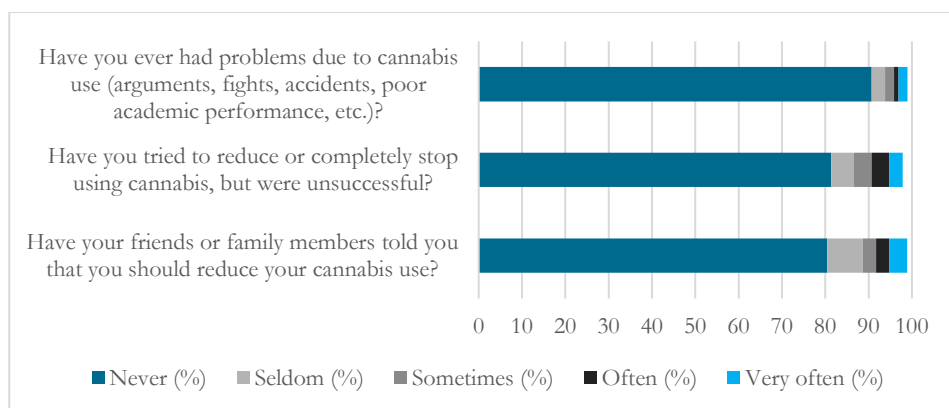


Figure 3: Self-reported problems using cannabis.

3.4 Sources of Information and Trust Regarding Medical Use of Cannabis

Only 44% of participants reported initiating a conversation with a medical doctor regarding the potential use of cannabis for medical purposes. Among those who did engage in such discussions, the majority described the experience as either pleasant or neutral, while 25% found the interaction unpleasant (Figure 4). Half of the respondents (50%) perceived the healthcare professional as being well-informed about medical cannabis. In terms of informational outcomes, 27% stated that they received all the necessary information, 25% felt the conversation was satisfactory but incomplete, and 48% reported receiving either no information or information they believed to be inaccurate.

Participants reported relying on a variety of sources for information related to the medical use of cannabis (Figure 4). The most frequently cited source was expert literature, such as books and research papers (19%), followed by consultations with medical specialists (e.g., oncologists, neurologists) and web pages of non-governmental organizations (NGOs) involved in cannabis-related activities (both 13%). Other commonly referenced sources included patients being treated for similar conditions (10%), cannabis shops including online vendors (10%), search engines (10%), and miscellaneous sources (10%). Fewer respondents indicated receiving information from primary care physicians (6%), friends or family members (5%), or social platforms such as forums and blogs (4%). Reliance on nurses or other

healthcare practitioners, black market sellers, and official government or public health institution websites was notably low (2% or less).

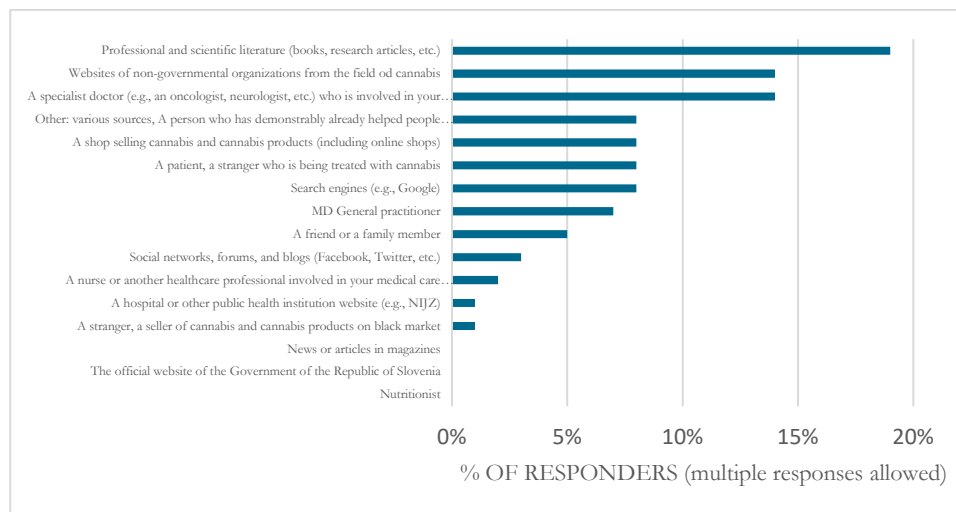


Figure 4: Reported sources of information about medical cannabis among survey participants.

3.5 Medical Versus Non-medical Cannabis Users

Further descriptive analysis revealed meaningful differences between respondents who reported using cannabis primarily for medical purposes and those who reported non-medical or recreational use. Medical users were more likely to endorse therapeutic benefits across multiple domains, particularly pain management, sleep improvement, and anxiety relief. They also reported stronger agreement with normative statements supporting the legitimacy of cannabis as a medical therapy for chronic and treatment-resistant conditions. In contrast, non-medical users were somewhat more likely to frame cannabis use in terms of general well-being and relaxation, though support for medical access remained high across both groups. Medical users were also more likely to perceive legal ambiguity as a significant concern. Despite using cannabis for health-related reasons, many reported uncertainties regarding legal protections, eligibility criteria, and acceptable modes of access. This suggests that medical motivation alone does not mitigate legal anxiety in the absence of clear institutional guidance. At the same time, medical users were

more inclined to seek information from expert literature, NGOs, and medical specialists, reflecting greater engagement with formal knowledge sources even when clinical support was perceived as limited. In terms of disclosure, respondents using cannabis for medical purposes were more likely than non-medical users to initiate conversations with healthcare professionals. However, they also reported higher dissatisfaction with the outcomes of these interactions, frequently describing the information received as incomplete or unreliable (Table 3). This pattern underscores a paradox in which those most motivated to engage with formal healthcare structures encounter the greatest informational barriers.

Table 3: Interaction with healthcare professionals regarding medical cannabis.

	Category	n	%
Communication experience (n = 173)	Extremely unpleasant	17	10
	Somewhat unpleasant	26	15
	Neutral	65	38
	Somewhat pleasant	27	16
	Extremely pleasant	38	22
Discussed with healthcare professional (n = 214)	Yes	94	44
	No	120	56
Satisfaction with information (n = 93)	Received all necessary information	25	27
	Received partial information	23	25
	Received some information but dissatisfied	16	17
	Received no useful information	29	31
Perceived healthcare professional knowledge (n = 92)	Yes (well-informed)	46	50
	No (not well-informed)	46	50

3.6 Legal Uncertainty, Disclosure, and Information-Seeking Behavior

Across the sample, legal uncertainty emerged as a central organizing factor shaping disclosure behavior and information-seeking practices. Nearly half of respondents identified legal problems as a major concern related to cannabis use, and a substantial majority reported knowing at least one person who had experienced legal consequences due to cannabis. This indirect exposure to legal enforcement appears to contribute to heightened risk perception, even among individuals who support legalization and perceive medical benefits. Only 44% of respondents reported

discussing medical cannabis with a physician. Among those who did not initiate such discussions, common implicit barriers included fear of negative judgment, uncertainty about legality, and doubts regarding physicians' knowledge. Respondents who described previous clinical interactions as unpleasant or uninformative were markedly more likely to rely on non-institutional information sources, including search engines, peer networks, NGOs, and cannabis retailers. Official government or public health websites were among the least frequently cited sources of information. These patterns indicate that legal ambiguity and limited professional guidance may indirectly redirect patients toward informal knowledge systems. Rather than functioning as a gateway to regulated medical access, the healthcare encounter appears, for some respondents, to reinforce reliance on alternative sources perceived as more practical or responsive. Taken together, these findings illustrate how uncertainty in legal and clinical frameworks can shape not only attitudes toward cannabis, but also concrete behavioral strategies for managing health, risk, and information.

4 Discussion

This study presents findings from the MEDCA survey, a public-focused sample of Slovenian adults with interest in or experience with medical cannabis. The results provide new insights into how medical cannabis is perceived in Slovenia, including perceived benefits and risks, trust in information sources, and public readiness for policy reform. Where relevant, the MEDCA findings were contextualized by comparison with prior national surveys and oncology-focused studies conducted in Slovenia. Support for medical cannabis was exceptionally strong among MEDCA respondents, with 97% endorsing legal reform to allow cultivation and possession for medical use and 87% supporting limited personal use. These levels of support exceed those reported in earlier Slovenian studies, including an oncology patient sample (84%) (Červek & Červek, 2023) and a national public opinion survey conducted in 2020, in which approximately 80% of respondents supported medical cannabis either conditionally or in general terms (Centre for Public Opinion and Mass Communications, 2021). Results from the 2024 national referendum, in which 66.7% of voters supported legalization of cultivation for medical purposes (State Election Commission, 2024), further suggest a broader societal shift toward acceptance. The higher support observed in the MEDCA sample may reflect continued evolution of public attitudes, but also likely indicates greater cannabis-

related familiarity and engagement among respondents. This interpretation is reinforced by the finding that 66% of participants would cultivate cannabis at home if legally permitted and that 81% reported prior or current cannabis use, suggesting a more empowered and self-directed stance than that observed in general population samples.

Across the survey, symptom relief emerged as the dominant narrative shaping perceptions of medical cannabis. Respondents primarily framed cannabis as a means of managing chronic pain, sleep disturbances, and anxiety or stress, rather than as a curative therapy. This pragmatic orientation aligns closely with international evidence indicating that patients most commonly seek cannabis to improve quality of life during chronic or serious illness (Waldron et al., 2023, pp. 1-5; Camberos-Barraza et al., 2023). This symptom-focused framing may also help explain why most respondents reported few adverse consequences of use, minimal difficulty regulating consumption, and little concern expressed by family or peers. Similar associations between therapeutic motivation, perceived legitimacy, and reduced stigma have been documented in studies from Mexico, New Zealand, and the United States (Camberos-Barraza et al., 2023; Boden et al., 2020, pp. 80-84; Spilka et al., 2013; Dowd et al., 2023, pp. 3-12).

At the same time, the MEDCA findings highlight how legal ambiguity surrounding medical cannabis in Slovenia is experienced as a social and clinical condition rather than merely a regulatory technicality. Although cannabis is formally permitted for restricted medical use, respondents continued to report uncertainty regarding legality, access pathways, and professional endorsement. Nearly half identified legal concerns as a primary risk, a proportion exceeding those who expressed concern about serious health effects. This suggests that perceived risk is shaped less by biomedical harm than by uncertainty about enforcement, stigma, and professional or occupational consequences. In this sense, legalization appears to function symbolically rather than operationally, signaling permissibility without providing sufficient clarity for consistent practice.

The study also reveals a pronounced trust-knowledge gap between patients and healthcare professionals. Although physicians and pharmacists were identified as the most trusted sources of information, only one-third of respondents felt that their doctors were well informed about medical cannabis. Among those who initiated

clinical conversations, nearly half reported receiving no useful or reliable information, and one-quarter described the interaction as unpleasant. These findings mirror patterns reported in other countries where legalization has outpaced professional education and institutional guidance (Hordowicz et al., 2021, pp. 2-8; Ziemianski et al., 2020, pp. 1-10; Hossain & Chae, 2024, pp. 2-6). Importantly, the gap does not necessarily indicate professional opposition, but rather reflects structural constraints, including limited training, unclear liability frameworks, and the absence of authoritative national guidelines.

As a consequence, informational authority appears to shift away from formal institutions toward informal networks and digital sources. Respondents reported greater reliance on search engines, peer networks, NGOs, and even informal market actors than on official government or public health websites. This misalignment between institutional authority and perceived informational relevance signals a broader credibility challenge for public health institutions. Similar erosion of trust in official sources has been observed in jurisdictions where regulatory ambiguity leaves patients and caregivers searching for accessible, experience-based guidance (Waldron et al., 2023, pp. 2-4; Camberos-Barraza et al., 2023; Boden et al., 2020, pp. 79-24). Over time, such dynamics risk normalizing medical cannabis use outside formal healthcare systems, potentially undermining both patient safety and regulatory oversight.

The examined differences between medical and non-medical cannabis users further illuminate how legal ambiguity and institutional readiness shape lived experience. Respondents who used cannabis for medical purposes demonstrated higher engagement with formal knowledge sources and were more likely to seek interaction with healthcare professionals. Paradoxically, they also reported greater dissatisfaction with clinical encounters and heightened concern regarding legal uncertainty. This suggests that medical motivation does not translate into greater regulatory security; instead, it may increase exposure to institutional gaps, as medically motivated users actively seek guidance that the healthcare system is not yet equipped to provide. In this sense, the group most aligned with formal medicalization appears to bear the greatest burden of ambiguity.

Patterns of disclosure and information-seeking behavior further underscore the socio-legal consequences of incomplete implementation. Fear of legal repercussions, combined with uncertainty about professional competence, appears to discourage open communication with healthcare providers and redirects patients toward informal or semi-formal sources of information. Rather than functioning as a gateway to regulated medical access, the clinical encounter may operate as a filtering point where patients reassess the practical value of institutional authority and adapt their strategies accordingly.

Importantly, the prominence of legal anxiety, even among respondents who support legalization and perceive substantial medical benefit, highlights the distinction between symbolic legality and operational security. Legal reform without clear procedural translation may normalize cannabis use socially while simultaneously maintaining a climate of uncertainty and self-regulation. The MEDCA findings thus suggest that public support and personal experience alone are insufficient to stabilize medical cannabis governance.

Overall, Slovenia's medical cannabis framework appears characterized by high public readiness but limited institutional integration. Strong support for legalization should therefore not be interpreted solely as social approval, but also as an expression of unmet demand for coherent governance, professional engagement, and trustworthy communication. Addressing these gaps will require aligning legal frameworks with clinical education, clear prescribing and dispensing guidance, and credible public information strategies. Without such alignment, legalization risks remaining aspirational rather than translating into equitable and well-regulated medical practice.

5 Policy Implications

Although Slovenia reclassified cannabis from Schedule I to Schedule II controlled substances in 2016, the findings of this study suggest that policy reform remains poorly integrated into clinical systems and public understanding. Despite widespread societal support for medical cannabis and growing familiarity among citizens, participants continued to encounter barriers in accessing accurate, evidence-based information and navigating legally sanctioned medical pathways. Even within the MEDCA sample, which likely represents a relatively motivated and health-literate subset of the population, respondents reported fragmented guidance, limited

physician engagement, and persistent uncertainty regarding legal responsibilities and clinical eligibility. These patterns point to a structural trust–knowledge gap that extends beyond individual attitudes and reflects broader systemic challenges within Slovenia’s healthcare and regulatory frameworks.

From a policy perspective, addressing this gap requires a shift from symbolic legalization toward active institutional implementation. Professional education in cannabinoid science should be systematically incorporated into medical, nursing, and pharmacy training, enabling healthcare providers to engage confidently with patients and to interpret legal provisions consistently within clinical practice. In parallel, developing clear national guidance on prescribing, dispensing, and patient counseling would reduce professional hesitation and variability in care. Public-facing communication strategies should also be strengthened, prioritizing accessible, digital, and evidence-based platforms that reflect contemporary health information-seeking behavior and reinforce the credibility of official institutions. Finally, patient perspectives - particularly those of individuals living with chronic or treatment-resistant conditions - should be formally embedded in policy design, implementation, and evaluation processes. Such participatory approaches can enhance transparency, rebuild institutional trust, and ensure that evolving medical cannabis frameworks align legal intent with clinical practice and societal expectation. Aligning these measures with broader European policy initiatives would further support Slovenia’s transition toward an evidence-based, patient-centered model of medical cannabis governance.

6 Limitations

This study is based on a non-probabilistic, self-selected sample obtained via online snowball distribution. The MEDCA cohort may overrepresent individuals with favorable attitudes toward cannabis. Online recruitment may underrepresent older adults or individuals with limited digital access, which should be considered when interpreting population-level implications. All data are self-reported and may be influenced by recall or social desirability bias. Importantly, comparisons with oncology and national survey data are used for contextual reference only, as those data were obtained from independent studies and not collected within the scope of this research. Despite these limitations, the MEDCA results meaningfully contribute

to understanding cannabis perception in Slovenia and reveal substantial public readiness for more transparent, inclusive cannabis policy and education.

7 Conclusion

This study offers the first comprehensive insight into Slovenian public attitudes toward medical cannabis, based on original data from the MEDCA survey. Participants demonstrated exceptionally high support for legalization (97%), a strong belief in the therapeutic value of cannabis (94%), and primarily symptom-driven motivations for its use, particularly for chronic pain (89%), sleep disturbances (87%), and mental health concerns such as stress and anxiety (85%). Despite this overwhelming support, participants frequently encountered informational and institutional barriers, including unclear legal pathways, limited physician engagement, and a reliance on informal or non-institutional sources of information. Compared with prior Slovenian oncology and national surveys, individuals with higher familiarity with cannabis, whether through personal experience or clinical exposure, were significantly more likely to view it as effective, safe, and deserving of policy reform. However, the persistence of a trust, knowledge gap between patients and healthcare providers, coupled with low public confidence in government information sources, underscores the urgent need for coordinated efforts in professional education, clear public health communication, and patient inclusion in policymaking. As Slovenia enters a pivotal phase of revising its cannabis legislation, aligning legal frameworks with institutional readiness and public expectations will be critical. These findings can inform targeted educational campaigns, clinical training programs, and regulatory reforms, not only in Slovenia, but also in other transitional jurisdictions navigating the complex shift from prohibition toward therapeutic integration.

References

- Aliakperova, N., Kosyachenko, K. & Kaniura, O. (2020). Perspectives on formation of medical cannabis market in Ukraine based on holistic approach. *Journal of Cannabis Research*, 2(1), 44. doi:10.1186/s42238-020-00044-y.
- Boden, J. M., Cleland, L., Dhakal, B. & Horwood, L. J. (2020). Attitudes towards cannabis and cannabis law change in a New Zealand birth cohort. *New Zealand Medical Journal*, 133(1515), 79–88.
- Camberos-Barraza, J., Osuna-Ramos, J. F., Rábago-Monzón, Á. R., Quiñonez-Angulo, L. F., González-Peña, H. R., Pérez-Ramos, A. A. et al. (2023). Scientific facts improve cannabis

- perception and public opinion: results from Sinaloa, México. *Scientific Reports*, 13(1), 44185. doi:10.1038/s41598-023-44185-5.
- Centre for Public Opinion and Mass Communications. (2021). Slovensko javno mnenje 2020/3: ogledalo javnega mnenja, modul o pripravi iz industrijske konoplje. Ljubljana: University of Ljubljana, Faculty of Social Sciences.
- Červek, M. & Červek, J. (2023). Pomen konoplje pri zdravljenju raka in njena uporaba v Sloveniji [The role of cannabis in cancer treatment and its use in Slovenia]. Paper presented at the Seminar of the Slovenian Association of Oncology Patients, February 2023, Ljubljana, Slovenia.
- Doggett, A., Belisario, K. L., McDonald, A. J., De Jesus, J., Vandehei, E., Gillard, J. et al. (2025). Changes in cannabis attitudes and perceptions in the five years following recreational legalization in Canada: findings from an observational cohort study of community adults. *International Journal of Drug Policy*, 140, 104782. doi:10.1016/j.drugpo.2025.104782.
- Dowd, A. N., Zamarripa, C. A., Sholler, D. J., Strickland, J. C., Goffi, E., Borodovsky, J. T. et al. (2023). A cross-sectional survey on cannabis: characterizing motives, opinions, and subjective experiences associated with the use of various oral cannabis products. *Drug and Alcohol Dependence*, 245, 109826. doi:10.1016/j.drugalcdep.2023.109826.
- European Monitoring Centre for Drugs and Drug Addiction (EMCDDA). (2018). Medical use of cannabis and cannabinoids: questions and answers for policymaking. Luxembourg: Publications Office of the European Union.
- Hossain, M. K. & Chae, H. J. (2024). Medical cannabis: from research breakthroughs to shifting public perceptions. *Integrative Medicine Research*, 13(4), 101094.
- Klieger, S. B., Gutman, A., Allen, L., Pacula, R. L., Ibrahim, J. K. & Burris, S. (2017). Mapping medical marijuana: state laws regulating patients, product safety, supply chains and dispensaries. *Addiction*, 112(12), 2206–2216. doi:10.1111/add.13910.
- Hordowicz, M., Jarosz, J., Czaplińska, M., Leonhard, A. & Klimkiewicz, A. (2021). Polish Physicians' Perspectives on Medical Cannabis Policy and Educational Needs: Results of An Online Survey. *Journal of clinical medicine*, 10(19), 4545. <https://doi.org/10.3390/jcm10194545>
- Meyerding, S. G. & Groninga, Z. L. (2025). Consumer preferences for cannabis products with THC content in Germany – the case of flowers. *Applied Food Research*, 100912. doi:10.1016/j.afres.2025.100912.
- Montgomery, B. W., Tong, X., Vsevolozhskaya, O. & Anthony, J. C. (2024). Using publicly available data to predict recreational cannabis legalization at the county level: a machine learning approach. *International Journal of Drug Policy*, 125, 104340. doi:10.1016/j.drugpo.2024.104340.
- Pew Research Center. (2024). Most Americans favor legalizing marijuana for medical, recreational use. Washington (DC): Pew Research Center. Retrieved from: <https://www.pewresearch.org/politics/2024/03/26/most-americans-favor-legalizing-marijuana-for-medical-recreational-use/> (accessed: July 7, 2025).
- Pacula, R. L. & Smart, R. (2017). Medical marijuana and marijuana legalization. *Annual Review of Clinical Psychology*, 13, 397–419. doi:10.1146/annurev-clinpsy-032816-045128.
- Ruheel, M. A., Gomes, Z., Usman, S. et al. (2021). Facilitators and barriers to the regulation of medical cannabis: a scoping review of the peer-reviewed literature. *Harm Reduction Journal*, 18, 106. doi:10.1186/s12954-021-00547-8.
- Spilka, S., Janssen, E. & Legleye, S. (2013). *Cannabis Abuse Screening Test (CAST): European adaptation*. Paris: French Monitoring Centre for Drugs and Drug Addiction (OFDT).
- State Election Commission. (2024). *Referendum konoplja medicina 2024: rezultati*. Ljubljana: State Election Commission. Retrieved from: <https://www.dvk-rs.si/arhivi/referendum-konoplja-medicina-2024/#/rezultati> (accessed: August 24, 2025).
- Statistics Canada. (2023). *National Cannabis Survey (NCS)*. Ottawa: Statistics Canada.
- Sznitman, S. R. & Bretteville-Jensen, A. L. (2015). Public opinion and medical cannabis policies: examining the role of underlying beliefs and national medical cannabis policies. *Harm Reduction Journal*, 12(1), 46. doi:10.1186/s12954-015-0082-x.

- Turner, K., Nguyen, O. T., Islam, J. Y., Rajasekhara, S., Martinez, Y. C., Tabriz, A. A. et al. (2024). Patient-provider communication about the use of medical cannabis for cancer symptoms: a cross-sectional study. *Journal of the National Cancer Institute Monographs*, (66), 298–304.
- U.S. National Cancer Institute. (2024). *Cannabis supplement core measures questionnaire*. Bethesda (MD): National Cancer Institute.
- Waldron, J., Grabski, M., Freeman, T. P., van Laar, M. & Curran, H. V. (2023). Impact of the introduction of medical cannabis in the UK on risk perception and recreational use of cannabis: a longitudinal and cross-sectional analysis. *Drug Science, Policy and Law*, 9, 20503245231168392. doi:10.1177/20503245231168392.
- Webb, M. & Mansfield, K. (2020). Public perception of medicinal and recreational cannabis: a regional Australian survey. *Australasian Psychiatry*, 29(2), 124–128.
- Ziemianski, D., Kruger, D. J., Kruger, J. S. et al. (2020). Cannabis in medicine: a national educational needs assessment among Canadian physicians. *Cannabis and Cannabinoid Research*, 5(1), 1–10.

Povzetek v slovenskem jeziku

Odnos javnosti do medicinske konoplje igra pomembno vlogo pri oblikovanju regulativne prakse in vključevanju novih terapij v zdravstvene sisteme. Spletna raziskava med slovenskimi odraslimi (n = 226) je preučevala dojemanje medicinske konoplje v okviru pravne nejasnosti in omejenih institucionalnih smernic. Podpora legalizaciji je bila visoka, vendar so anketiranci pogosto poročali o nejasnem razumevanju, kaj trenutna zakonodaja dovoljuje, ter o omejenem zaupanju v točnost informacij, ki so jih prejeli od zdravstvenih delavcev. Udeleženci so se v veliki meri zanašali na neuradne in spletne vire, kar poudarja vrzeli v jasnosti predpisov in strokovni pripravljenosti. Izsledki poudarjajo potrebo po jasnih pravnih okvirih, izboljšani klinični usmeritvi in preglednejši komunikaciji, kar bi prispevalo k usklajenosti pričakovanj javnosti z medicinsko in pravno prakso v Sloveniji.