Exploring Medical Cannabis Knowledge and Attitudes among Health Care Providers in Northern Thailand After Legalization

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Abstract:

Background: In June 2022, the Ministry of Public Health of Thailand announced the legalization of cannabis for medical and recreational purposes under controlled conditions. However, despite this regulatory shift, there exists a paucity of evidence-based research regarding the therapeutic efficacy of cannabis. Moreover, within the Thai context, there persists a notable gap in understanding the comprehensive spectrum of health benefits and concerns associated with cannabis usage.

Objective: To investigate the knowledge and attitudes of healthcare providers regarding medical cannabis.

Materials and method: This cross-sectional study was conducted among healthcare providers at Mae Fah Luang University Medical Center Hospital (MFU-MCH) and the Thai-Chinese Medicine Institute (TCMI) in November 2022. The survey instrument comprised two components. Firstly, it evaluated the participants' foundational knowledge concerning medical cannabis. Secondly, it measured their attitudes toward medical cannabis utilizing a Likert Four-Point scaling system. Data were collected through online surveys administered via Google Form.

Results: 74 healthcare providers were recruited. The prevalence of low knowledge scores was found to be 13.51%. Attitudes toward medical cannabis use were evenly split, with 50% expressing agreement and 50% expressing disagreement.

Conclusion: Basic knowledge about cannabis appears to be limited among healthcare providers, while attitudes towards its medical use are evenly split. Given that healthcare providers play a crucial role in advising patients and the public on medical cannabis, there is a pressing need to enhance their knowledge in this area.

Keywords: Cannabis, Knowledge, Attitudes, Health, Provider

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Introduction

Presently, a global trend of relaxing regulations surrounding cannabis usage is evident. Countries such as Canada, France, Mexico, South Africa, and select states within the United States have embraced legalization, encompassing both medical and recreational applications. Similarly, Argentina, Australia, Brazil, Finland, Denmark, Germany, Greece, and Italy have legalized cannabis strictly for medicinal purposes.[1, 2]

In Thailand, the legalization journey commenced in 2019 with the implementation of The Narcotic Act (Version 7), sanctioning the therapeutic utilization of medical cannabis. Subsequently, three years later, the Ministry of Public Health of Thailand extended this authorization to encompass both medical and recreational domains, including provisions for home cultivation.[3] This legislative shift has triggered extensive discourse within societal realms, probing the merits and drawbacks of such legalization endeavors.

Several studies in Thailand have scrutinized the health literacy levels pertaining to cannabis among the general population. Findings indicate a notable deficiency, with approximately one-third of the population exhibiting low health literacy, particularly in aspects concerning communication, decision-making, and self-management.[4] Furthermore, prevailing sentiments endorse the restricted application of cannabis solely for medical purposes, underscored by a collective desire for research conducted with stringent safety protocols.[5]

Within the healthcare landscape, providers wield significant influence as conduits of accurate cannabis-related information to the public. Nonetheless, past investigations reveal a spectrum of beliefs among healthcare professionals, encompassing both skepticism and endorsement regarding the efficacy of medical cannabis in augmenting patient quality of life.[6] Notably, none of these studies have examined the knowledge and attitudes regarding cannabis use among healthcare providers in Thailand.

Objective

This study aims to investigate the knowledge and attitudes of healthcare providers regarding medical cannabis.

Materials and Method

Study design and participants

A cross-sectional analytic study was conducted in November 2022 at Mae Fah Luang University Medical Center Hospital (MFU-MCH) and the Thai-Chinese Medicine Institute (TCMI). The study received approval from the Mae Fah Luang University Ethics Committee on Human Research, Thailand (EC 22104-21). The sample size was determined using infinite population proportions based on the proportions of high knowledge of medical cannabis observed in public hospital pharmacists ($p = 0.53$).[7] The margin of error and alpha value were set at 0.1 and 0.05, respectively. A total of 74 healthcare providers were recruited and provided electronic consent to participate in the study. Subsequently, participants completed electronic questionnaires via Google Forms. The general information questionnaire included inquiries regarding gender, age, working organization, occupation, and education level. Additionally, 10 dichotomous questions assessing fundamental knowledge of medical cannabis (table 2) and 12 questions evaluating attitudes toward medical cannabis (table 3), each rated on a Likert scale ranging from 1 to 4 points (strongly agree, agree, disagree, and strongly disagree), were administered based on a previous study.[7]

Criteria assessment of knowledge and attitudes regarding cannabis use

The level of knowledge was categorized into binary endpoints using Bloom's criteria[8]: individuals achieving a correct answer rate of more than 80% were classified as having high knowledge, while those with a correct answer rate of less than 80% were classified as belonging to the low knowledge group. Similarly, the level of attitudes was categorized into binary endpoints as previous study[9]: participants with an attitude level higher than the mean were classified as favoring, while those with an attitude level lower than the mean were classified as not favoring.

Statistical analysis

Data analysis was performed using Stata Statistical Software, version 16.0 (StataCorp LLC, College Station, TX, USA). A p-value of less than 0.05 was considered statistically significant. No missing data were found, allowing for a complete case analysis. Categorical variables were described by frequency and percentage. Continuous variables were presented with mean and standard deviation or median and interquartile range (IQR), based on data distribution.

Results

Participant's profiles

Seventy-four participants were included in this study. Most participants were female, constituting 72.97%, with a mean age of 33.58 ± 10.85 years. Additionally, most participants were employed at MFU-MCH (85.14%), and the most common occupation among participants was registered nurse (51.35%). The predominant education level attained by participants was a bachelor's degree (70.27%). (Table 1)

Table 1 Participant's Profiles (N = 74)

	n (%)
Female	54 (72.97)
Age (years)*	33.58 ± 10.85
Working Organization	
MFU-MCH	63 (85.14)
TCMI	11 (14.86)
Occupation	
Physicians	26 (35.14)
Registered Nurses	38 (51.35)
Pharmacists	3 (4.05)
Thai Traditional Medicine Practitioners	4 (5.41)
Chinese Traditional Medicine Practitioners	3 (4.05)
Education Level	
Bachelor's Degree	52 (70.27)
Master's Degree or Equivalent	14 (18.92)
Doctorate Degree or Equivalent	8 (10.81)

Mean ± SD., MFU-MCH = Mae Fah Luang University Medical Center Hospital, TCMI = Thai-Chinese Medicine Institute

Question for evaluation of fundamental knowledge of medical cannabis

The proportion of low knowledge among healthcare providers was 13.51% (n = 10). The question with the highest proportion of correct answers was question number 3 (Marijuana contains a psychoactive compound known as delta-9-tetrahydrocannabinol (THC), which induces the sensation of "euphoria."). Similarly, question number 10 (Practitioners such as physicians, dentists, pharmacists, traditional Thai medicine practitioners, and local doctors must undergo training to obtain permission to use marijuana) received a high correct answer rate of approximately 94.59%. Conversely, the question with the lowest proportion of correct answers was question number 8 (Extracts from marijuana do not typically cause drug interactions when used concomitantly with other medications) with only approximately 22.97% of respondents answering correctly. (table 2)

Table 2 Question for evaluation of fundamental knowledge of medical cannabis

Question for evaluation of attitudes toward medical cannabis

Question (N = 74)	Correct answer n (%)
1. The flower buds of female marijuana plants have a stronger effect on the nervous system compared to other parts	69 (93.24)
2. Marijuana plants are capable of synthesizing and producing naturally occurring substances called cannabinoids	67 (90.75)
3. Marijuana contains a psychoactive compound known as delta-9-tetrahydrocannabinol (THC), which induces the sensation of "euphoria"	70 (94.59)
4. Medical authorities allow the use of marijuana for medical purposes in individuals aged 18 and above to mitigate potential health risks	52 (70.27)
5. It is not recommended to use marijuana products as first-line therapy for treating or managing symptoms in all cases	63 (85.14)
6. The use of marijuana with THC extracts in AIDS patients can increase appetite, potentially aiding in weight gain	51 (68.92)
7. Administering marijuana oil extracts orally can result in faster onset of effects compared to sublingual administration	22 (29.73)
8. Extracts from marijuana do not typically cause drug interactions when used concomitantly with other medications	17 (22.97)
9. The permitted amount of marijuana extract (THC) allowed for use is typically not exceeding 0.2% by weight	56 (75.68)
10. Practitioners such as physicians, dentists, pharmacists, traditional Thai medicine practitioners, and local doctors must undergo training to obtain permission to use marijuana	70 (94.59)

The proportion of favoring cannabis use was 50.00% (n = 37). The majority of participants expressed agreement with the statements advocating for "there should be a systematic monitoring and reporting system for undesirable outcomes from medical marijuana usage", as well as "there should be stringent controls on advertising or promoting the sale of marijuana extracts". However, a significant portion of participants disagreed with "marijuana should be used for recreational purposes or other benefits beyond medical treatment." (table 3)

Table 3 Question for evaluation of attitudes toward medical cannabis

N = 74	Strongly Agree N (%)	Agree N (%)	Disagree N (%)	Strongly disagree N (%)	Median (IQR)
1. There is permission granted to cultivate marijuana for medical purposes	10 (13.51)	35 (47.30)	20 (27.03)	9 (12.16)	3 (2-3)
2. Marijuana should be used for recreational purposes or other benefits beyond medical treatment	2 (2.70)	7 (9.46)	21 (28.38)	44 (59.46)	1 (1-2)
3. The indications for marijuana in certain diseases should undergo more research and gather more observational evidence before being applied for actual treatment	38 (51.35)	32 (43.24)	3 (4.05)	1 (1.35)	4 (3-4)
4. Marijuana can treat certain diseases	6 (8.11)	42 (56.76)	21 (28.38)	5 (6.76)	3 (2-3)
5. Advertisements about medical marijuana provide the public with accurate, comprehensive, and sufficiently effective information	8 (10.81)	13 (7.57)	31 (41.89)	22 (29.73)	2 (1-3)
6. There should be more promotion of knowledge regarding the benefits and drawbacks of marijuana to the public, such as offering courses on medical marijuana to increase public awareness	42 (56.76)	26 (35.14)	4 (5.41)	2 (2.70)	4 (3-4)
7. Administering inappropriate amounts of marijuana for treatment can lead to subsequent problems, such as excessive use or recreational use without consultation with a physician	45 (60.81)	27 (36.49)	0 (0.00)	2 (2.70)	4 (3-4)
8. People without expertise in cultivating marijuana may struggle to control the proportions of CBD and THC, leading to patients being at risk of dangerous side effects	39 (52.70)	30 (40.54)	4 (5.41)	1 (1.35)	4 (3-4)
9. Treatment with marijuana according to indications should be clearly supported by robust observational evidence and limited to individuals who have undergone training in medical marijuana usage	39 (52.70)	31 (41.89)	1 (1.35)	3 (4.05)	4 (3-4)
10. Common neurological side effects such as confusion, neuropathy, or sedation may create confusion for treating physicians	26 (35.14)	42 (56.76)	5 (6.76)	1 (1.35)	3 (3-4)

Table 3 Question for evaluation of attitudes toward medical cannabis (con.)

N = 74	Strongly Agree N (%)	Agree N (%)	Disagree N (%)	Strongly disagree N (%)	Median (IQR)
11. There should be a systematic monitoring and reporting system for undesirable outcomes from medical marijuana usage	45 (60.81)	29 (39.19)	0 (0.00)	0 (0.00)	4 (3-4)
12. There should be stringent controls on advertising or promoting the sale of marijuana extracts	50 (67.57)	21 (28.38)	1 (1.35)	2 (2.70)	4 (3-4)

Discussion

This study serves as a pioneer in investigating the knowledge and attitudes surrounding medical cannabis use following its recent legalization in Thailand. Amidst this period, there is heightened concern regarding cannabis abuse and the escalating social side effects associated with its use. Notably, within the initial first week post-legalization, the Ramathibodi Poison Centre in Bangkok reported a significant surge in cannabis-related cases, with 64% comprising first-time recreational users.[10]

This study specifically targets healthcare providers, encompassing all occupations related to cannabis use. Healthcare providers play a pivotal role as frontline therapists and counselors within the general population and community.[11] Their instrumental contribution lies in significantly enhancing health literacy concerning cannabis use by providing evidence-based education, conducting screenings, and advocating harm reduction strategies. Through effective communication, they disseminate accurate information pertaining to cannabis pharmacology, associated risks, and potential benefits, while also integrating systematic screening protocols for identifying problematic use. Furthermore, healthcare providers actively promote responsible consumption practices and facilitate referrals to support services as necessary. Continual professional development ensures that healthcare providers remain abreast of the latest developments in this field, while fostering cultural competence enables effective communication with diverse populations. Collaboration with stakeholders and advocacy efforts are integral components of comprehensive strategies aimed at addressing public health issues associated with cannabis use.[12] It is imperative that healthcare providers exhibit a strong foundation of knowledge and possess favorable attitudes towards this subject matter.

The proportion of individuals demonstrating high knowledge in medical cannabis use is 86.49%, surpassing that reported in a previous study.[7] Moreover, the distribution of individuals favoring cannabis use is evenly split, with a ratio of 50 : 50 in this study. Variations in prevalence observed between this study and previous study can be attributed to methodological differences, variations in study populations, and shifts in societal attitudes and behaviors over time.[13]

This study has several limitations. It is conducted within a single institution in northern Thailand. Therefore, while our findings may be applicable to healthcare settings with similar clinical contexts and patient or healthcare characteristics, caution should be exercised when generalizing them to other settings. External validation of our results in diverse countries or settings is

warranted. Future research should consider conducting multicenter or national surveys involving a more diverse range of healthcare professions to ensure a representative sample and enhance the robustness of the findings.

Conclusion

This study highlights the limited basic knowledge about cannabis among healthcare providers, alongside an even split in attitudes towards its medical use. Given the pivotal role of healthcare providers in advising patients and the public on medical cannabis, promoting training initiatives to ensure their proper understanding and utilization of medical cannabis is imperative. Enhancing the knowledge and competence of healthcare providers in this area is crucial for facilitating informed decision-making and promoting responsible use of medical cannabis within healthcare settings.

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Conflict of Interest

The authors have no conflicts of interests.

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