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The insights provided by pharmacists in their responses offer an understanding of their perspectives on this topic. The common themes offer insights into the challenges faced by pharmacists regarding the control and regulation of recreational cannabis. This encompasses aspects such as safety measures, potential side effects, risks of abuse, societal impact, knowledge gaps, education needs, and personal beliefs and values. Utilizing these insights can inform research endeavours, policy development efforts, and public health initiatives aimed at addressing the concerns and complexities associated with recreational cannabis usage.

## **CHAPTER 5**

# **CONCLUSION, RECOMMENDATIONS AND LIMITATIONS**

This chapter presents the conclusions, recommendations, and limitations that have been derived from the study focusing on the knowledge, attitudes, and practices of pharmacists regarding CBD and cannabis products. The study aimed to explore factors that influence pharmacists' likelihood to recommend CBD products, including personal experiences, professional beliefs, and perspectives on recreational cannabis use. By examining the findings of this research, it is important to comprehend the present landscape of CBD and cannabis in the retail pharmacy setting and identify areas where further education, research, and policy development are needed.

### **5.1 Conclusion and Recommendation**

The evident knowledge gap among pharmacists highlights the urgency for robust educational initiatives to equip them with accurate and comprehensive information about these products. An astounding 87% (n=130) of pharmacists scored below 40%, and 69.2% (n=90) scored below 10%. While 69% believed in CBD's therapeutic benefits, 40% expressed discomfort in advising patients about its use, and a significant 63% felt inadequately informed to confidently recommend CBD. Moreover, 60% cited a lack of CBD-related materials in their pharmacies as a major obstacle. However, a positive correlation (p-value <0.01) was noted among different medical conditions, indicating that pharmacists who recommended CBD for one condition were likely to recommend it for others as well.

Significantly, the positive impact of CBD training on recommendation confidence underscores the instrumental role of continuous education in bridging knowledge

gaps. Gender disparities and the influence of personal experiences on recommendations also highlight the intricacy of individual perspectives in shaping professional practices. Interestingly, pharmacists who have personally used CBD were more likely to endorse its use for a wide range of medical issues.

Furthermore, the relationship between age and the inclination to recommend CBD demonstrates that different generations harbour varying attitudes towards accepting treatment options. Additionally, the distinction between acknowledging the potential benefits of CBD and feeling uncomfortable advising patients on the safe use of CBD underscores the importance of addressing communication difficulties and providing pharmacists with CBD-related resources to boost their confidence.

Regarding recreational cannabis, although 44% (n=64) supported its legalization and 74% perceived its social acceptance, just 38% felt at ease discussing it with patients, highlighting a prevailing stigma or potential communication barriers. With 60% of pharmacists advocating for the profession-regulated sale of cannabis products, a willingness to participate responsibly in this evolving field is reflected.

By exploring the attitudes and knowledge of retail pharmacists, this research might aid in fostering collaboration among healthcare professionals like physicians, nurses, and pharmacists. This collaborative effort can help establish a common understanding of the potential benefits, risks, and appropriate applications of CBD and recreational cannabis.

Lastly, this research project may identify new areas that warrant further investigation. For instance, evaluating the effectiveness of educational interventions for pharmacists, improving University pharmacy/medical and nursing curriculum, or by examining how pharmacist-led counselling can impact patient outcomes related to CBD and recreational cannabis usage.

This research underscores the urgent need for tailored educational programs, resource development, and communication strategies aimed at empowering pharmacists. By addressing these knowledge gaps, pharmacists can navigate the rising prominence of CBD and cannabis-related products, ensuring that they are optimally positioned to guide patients toward informed decisions, thereby playing

a pivotal role in the developing landscape of CBD and cannabis use in South Africa.

Based on the study's research outcomes, the following recommendations are proposed:

Developing educational programs on cannabis and cannabis-containing products that can be used to enhance the knowledge base of existing pharmacists on the benefits, risks, and appropriate uses of these products. as well as incorporating these programs into the university curriculum to better equip future pharmacists with the appropriate clinical knowledge. Furthermore, efforts should be made to encourage pharmacists' participation in activities such as continuing education programs, workshops, and conferences. These opportunities would enable them to engage in discussions with patients, colleagues, and fellow healthcare providers regarding CBD products, which can offer informed recommendations and deliver improved patient care, based on good clinical evidence.

Increased public awareness about cannabis and cannabis-containing products by using social media as a platform to inform the general public about potential benefits and risks. These initiatives can include cannabis campaigns consisting of interactive discussions with healthcare professionals who are equipped to address concerns related to the medical use of cannabis.

Encourage collaboration among healthcare professionals, researchers, and policymakers in order to promote evidence-based policies and practices surrounding CBD and cannabis. This collaborative effort will ensure that decisions are made based on up-to-date research and input from stakeholders.

Although there are regulations in place for cannabis and cannabis-containing products in South Africa, these regulations are not enough to ensure the responsible use of the product by the general population. SAHPRA might consider strengthening oversight on complementary CBD products on the market, emphasizing the value of chemical testing to ensure they meet specified concentration limits. In partnership with the South African Pharmacy Council, the

government could contemplate formulating comprehensive guidelines for the operation of cannabis dispensaries. This could pave the way for only well-trained and adept pharmacists to dispense cannabis and related products for recreational purposes.

By implementing these recommendations, we can bridge the knowledge gaps that exist among pharmacists. This will also help in promoting safe usage of CBD and cannabis products while enabling healthcare professionals to provide information and guidance to their customers and, secondly, ensuring that recreational cannabis is sold at legal cannabis dispensaries.

## **5.2 Limitations**

It is important to acknowledge some limitations associated with this study. The reliance on self-reported data from respondents introduces biases such as response bias or inaccurate recall. Participants may provide responses or misjudge their own knowledge, attitudes and behaviours.

Due to the study being of a voluntary nature, there is a possibility of selection bias occurring where individuals with opinions or interests in CBD and cannabis were more likely to participate which could skew the findings and not accurately reflect the population.

Lastly, it's worth noting that there may be other factors at play that were not accounted for in this study. These confounding factors could potentially influence pharmacists' attitudes, knowledge and behaviours related to CBD and cannabis. Unmeasured variables such as ethnic groups, cultural and religious backgrounds might also have an impact on the results.

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UNIVERSITY *of the*  
WESTERN CAPE

## Annexure: 1



UNIVERSITY of the  
WESTERN CAPE



23 September 2022

Ms Y Naik

School of Pharmacy

Faculty of Natural Science

**HSSREC Reference Number:**

HS22/6/47

**Project Title:**

Attitudes and Knowledge of CBD and non-medical Cannabis amongst retail pharmacists in South Africa.

**Approval Period:**

**21 September 2022 – 20 September 2025**

I hereby certify that the Humanities and Social Science Research Ethics Committee of the University of the Western Cape approved the methodology, and amendments to the ethics of the above-mentioned research project.

Any amendments, extension or other modifications to the protocol must be submitted to the Ethics Committee for approval.

*Please remember to submit a progress report by 30 November each year for the duration of the project.*

For permission to conduct research using student and/or staff data or to distribute research surveys/questionnaires please apply via: <https://sites.google.com/uwc.ac.za/permissionresearch/home>

*The permission letter must then be submitted to HSSREC for record keeping purposes.*

The Committee must be informed of any serious adverse events and/or termination of the study.

A handwritten signature in black ink, appearing to read 'Patricia Josias'.

*Ms Patricia Josias*

*Research Ethics Committee Officer*

*University of the Western Cape*

*NHREC Registration Number: HSSREC-130416-049*

FROM HOPE TO ACTION THROUGH KNOWLEDGE.

## Annexure: 2

### Application form for Survey distribution

#### **Request for permission to distribute my research survey link tool**

To Whom It May Concern,

My name is Yugeshnee Naik. I'm a practicing pharmacist and am currently pursuing my MSc in Pharmacy Administration and Policy Regulation at the University of the Western Cape. As part of my studies, I am conducting a mini-research project titled "*Attitudes and Knowledge of CBD and Non-Medical Cannabis Among Retail Pharmacists in South Africa.*"

The aim of this research project is to determine if pharmacists have sufficient knowledge in recommending and counselling patients on the safe use and administration of Cannabidiol (CBD) and cannabis products, as well as to assess their knowledge of the legal aspects of cannabis, CBD products. Whether pharmacists are comfortable talking about CBD and non-medical cannabis to their patients and if pharmacists use CBD and or non-medical cannabis, and how this affects their intent to recommend these products.

I am at this moment seeking your consent to distribute my survey tool link through your organization/social media platform. In order to recruit survey respondents.

I've shared with you the information and consent document, the link to the survey for the research, and an approval letter from the Humanities and Social Science Research Ethics Committee at the University of the Western Cape.

The data collected from this study will solely be used for academic reasons. Should you need more details or have questions, feel free to reach out to me at 0844113383 or via email at [4116223@myuwc.ac.za](mailto:4116223@myuwc.ac.za). I appreciate your attention and understanding regarding this.

Yours Sincerely

Yugeshnee Naik

## **Annexure: 3**

### **Information Sheet**

**Investigator:** Yugeshnee Naik

#### **Introduction**

My name is Yugeshnee Naik. I'm a practicing pharmacist and am currently pursuing my MSc in Pharmacy Administration and Policy Regulation at the University of the Western Cape. As part of my studies, I am conducting a mini-research project titled "*Attitudes and Knowledge of CBD and Non-Medical Cannabis Among Retail Pharmacists in South Africa.*"

The aim of this research project is to determine if pharmacists have sufficient knowledge in recommending and counselling patients on the safe use and administration of Cannabidiol (CBD) and cannabis products, as well as to assess their knowledge of the legal aspects of cannabis, CBD products. Whether pharmacists are comfortable talking about CBD and non-medical cannabis to their patients and if pharmacists use CBD and or non-medical cannabis, and how this affects their intent to recommend these products.

#### **Research Participation Method**

Should you choose to partake, you'll be asked to complete a questionnaire. This process is expected to take approximately 15 minutes of your time.

#### **Inclusion Criteria**

To participate in this Survey, you will have to be registered as a practicing pharmacist with the South African Pharmacy Council (SAPC) and work in a retail pharmacy in South Africa.

#### **Participation is Optional**

You have the choice to participate or decline. Your involvement is wholly voluntary.

### **Cost and Compensation**

Participation is cost-free, and no payments will be provided.

### **Potential Risks and Advantages:**

This survey poses no clear risk to participants. Should you feel any discomfort or stress while responding, remember that you can opt out at any moment without answering all the questions. Your confidentiality is assured, as we won't ask for any private data. Your input could be instrumental in crafting new educational resources on CBD. This research might also influence academic institutions to update their CBD and Cannabis-based curricula

### **Confidentiality**

There will be no personal information recorded or given to researchers, and there will be no link between individuals and the questions they fill out. The gathered survey data will be completely anonymous. The data you share will be exclusively utilized for this research. All data will be securely stored on a protected hard drive and will be retained for a maximum of five years, after which it will be permanently deleted. Only the lead researcher will have access to this data for the purpose of analysis and interpretation.

### **In terms of the Protection of Personal Information Act (Act 4 of 2013) (POPIA)**

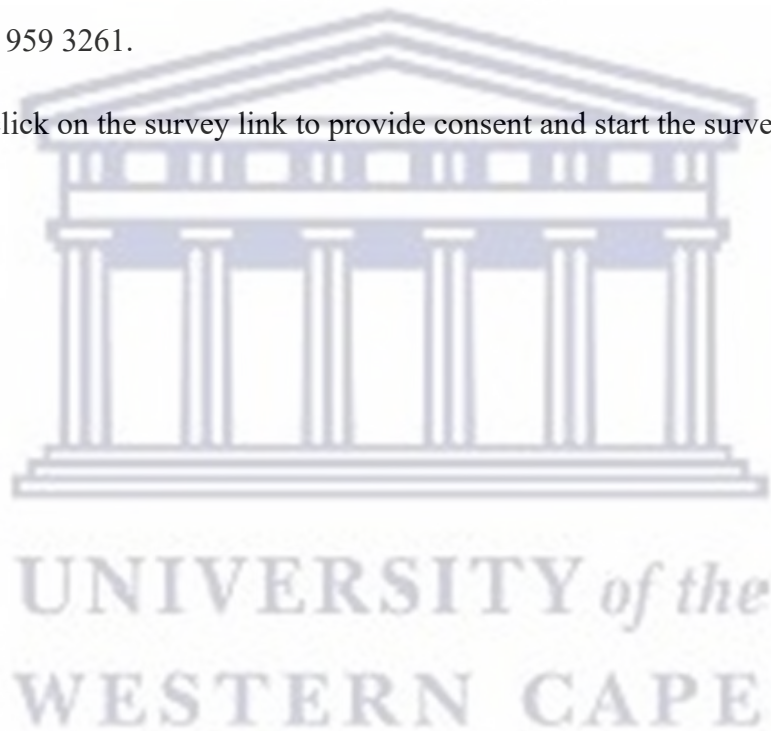
Your survey responses are entirely anonymous; we won't collect any personal identifiers. The research ensures a strict confidentiality protocol where individuals can't be linked to their responses. All collected data is overseen and analysed by the primary investigator (PI), and will not be disclosed to anyone outside of the University of the Western Cape (UWC). The data will be retained on a secured hard drive for a maximum of five years, after which it will be destroyed. The

survey will capture demographics, experiences, and both clinical and legislative knowledge.

**Right to withdraw:**

Your engagement in this research project is entirely at your discretion. You're free to withdraw at any stage without any consequences. If you require clarity or wish to voice any concerns regarding this research, kindly reach out to Yugeshnee Naik at 4116223@myuwc.ac.za or call 0844113383. Alternatively, you can contact the Humanities and Social Science Research Ethics Committee of UWC (HSSREC) at (021) 959 3261.

Please click on the survey link to provide consent and start the survey. [Survey Link](#)



## Annexure: 4

### Consent Form

The following box will be displayed on the first part of the online survey and respondents who have ticked 'NO' on any of the statements will not be allowed to participate in the survey questionnaire

1	I have reviewed and comprehended the details provided in the study information document.	YES		NO	
2	I've had the chance to inquire about the research details	YES		NO	
3	I comprehend that my involvement is entirely optional, and I can exit the study whenever I choose without giving any explanations.	YES		NO	
4	I understand that the research survey consists of a questionnaire that needs to be completed online	YES		NO	
5	I am aware that the survey will not gather any personal details from me and that my responses will remain anonymous	YES		NO	
6	I comprehend that the survey data will remain confidential and won't be disclosed to anyone outside of UWC, and it will be retained for a maximum of five years	YES		NO	
7	I agree to partake in this research overseen by the University of the Western Cape's Department of Pharmacy. I grant permission for my answers to be gathered, preserved, analysed, and disseminated as outlined in the provided information document	YES		NO	

## **Annexure: 5**

### **Survey Instrument**

#### **Pharmacist Cannabidiol (CBD) experience, Attitudes, and Behaviours**

##### **Screening Criteria**

Are you a pharmacist currently registered with the South African Pharmacy Council (SAPC) as a practicing pharmacist?

A. Yes

B. No

Are you currently working in a retail pharmacy in South Africa?

A. Yes

B. No

##### **Section 1: Socio-Demographic Information**

These questions are intended to collect data about the socio-demographic attributes of respondents

1. What is your age?

A.18-24

B.25-32

C.33-44

D.45-54

E.55-64

F.65 and over.

2. What gender do you identify as?

- A. Female
- B. Male
- C. Prefer not to say

3. What is your highest level of qualification?

- A. Diploma in Pharmacy
- B. Bachelor's Degree (BPharm)
- C. Master's Degree (MPharm/MSc or any other applicable degree)
- D. Doctorate (DPharm/Dsc/Ph.D. or another applicable degree)
- E. Other (please specify)

4. Indicate the province where you are practicing as a retail pharmacist.

- A. [drop-down list of provinces, alphabetical]

5. How many years have you been practicing as a retail pharmacist?

- A. [drop-down menu ranging from [1-60]

## **Section 2: Experience with CBD Products**

The subsequent questions focus on understanding your familiarity and interaction with CBD. Kindly answer to the best of your knowledge.

6. What methods have you used to learn about CBD products? Choose all that are relevant.

- A. Accredited organization certification
- B. Conferences, product training, and webinars.
- C. Continuing professional development (CPD)
- D. Research conducted on your own (internet sites, articles, etc.).
- E. No formal training received

F. On-the-job learning

G. University Curriculum

H. Other (Please specify)

7. How often do you come across the below situations in your pharmacy related to CBD products? (Kindly choose the most suitable response)

	Never	Less Than Once a Month	Once A Month and More	Once A Week and More	Once A Day and More
A) Patients enquire about its therapeutic uses.					
B) Patients enquire about the adverse side effects associated with it.					
C) Patients enquire about drug-drug interactions.					
D) You are requested to suggest a particular CBD-item					
E) You prescribe a particular product to a patient.					

8. Which group of people do you commonly discuss CBD products with? (Please select the most appropriate options)

	Never	Rarely	Sometimes	Frequently	Always
Patients					
Pharmacy colleagues					
Doctors					
Other healthcare practitioners					
Family and Friends					

9a) Does your pharmacy offer CBD products for sale?

- A. Yes
- B. No
- C. I don't know

9b) Which of the below listed CBD products are sold at your Pharmacy? If answered 'YES' to the above question

- A. Capsules or tablets
- B. Edible food products or beverages
- C. Oils or tinctures
- D. Topical (creams, lotions)
- E. None
- F. I don't know

10. How likely are you to recommend CBD to patients for the following conditions based on your current knowledge?

	Very Unlikely	Unlikely	Neutral	Likely	Very Likely
Pain					

Anxiety					
Insomnia					
Nausea or vomiting (cancer-related)					
Muscle spasm					

11a). Have you tried a CBD product?

- A. Yes
- B. No
- C. Prefer not to answer

11b) If you responded 'Yes' to the previous question, please select the CBD product(s) you have utilized.

- A. Inhalation (vape pens)
- B. capsules or tablets
- C. Edible food products or beverages
- D. Oils or tinctures
- E. Topical (creams, lotions)
- F. Prefer not to answer

### Section 3: Attitudes & Behaviours towards CBD Products

This section is designed to determine factors that could impact a pharmacist's likelihood to endorse CBD products. Kindly ensure your responses are as truthful and detailed as possible.

12. Please select the most appropriate answer for the listed questions:

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
A) I believe CBD is beneficial to different illnesses.					
B) I feel at ease discussing CBD products with patients					
C) I have no hesitation in recommending CBD products to my patients.					
D) Further studies need to be conducted before I can confidently prescribe CBD to my patients.					
E) My customers would express dissatisfaction if I didn't suggest CBD as an alternative option.					
F) I know of pharmacy peers who consistently suggest CBD products to their patients.					
G) I have sufficient knowledge to recommend CBD products to my patients.					
H) I have CBD-related materials in my pharmacy, including medical uses and adverse effects, etc.					
I) I intend to further my knowledge and					

training regarding CBD					
J) In the future, I intend to inform patients about CBD products.					
K) In the future, I plan to recommend more CBD products to patients.					

### Section 4: CBD Knowledge Quiz

The below questions assess pharmacists' understanding of CBD from both clinical and legal/legislative perspectives. Kindly refrain from searching for information while answering. Provide responses based on your current knowledge.

13. CBD extracted from Cannabis Sativa with less than 0.001% THC ("hemp") is not a regulated ingredient

- A. True
- B. False
- C. I don't know

14. Are food items legally permitted to include CBD sourced from hemp?

- A. True
- B. False
- C. I don't know

15. Are you aware of the current status of cannabis in terms of the Medicines Act?

- A. Yes
- B. No
- C. I don't know

16: Under what conditions is CBD regarded as a complementary medicine? Select all that apply.

- A. Contains more than 600mg CBD per pack
- B. Provides a maximum dose of 20mg per day
- C. Promotes specific health claims
- D. All of the above
- E. I don't know

17. CBD causes' euphoric effects.

- A. True
- B. False
- C. I don't know

18. Which are the most important Cytochrome P450 enzymes that interact with CBD? Choose all relevant options.

- A. Cytochrome 2C9
- B. Cytochrome 2C19
- C. Cytochrome 2D6
- D. Cytochrome 3A4
- E. I don't know

### **Section 5: Attitudes towards Recreational Cannabis**

Following South Africa's recent decision to decriminalize cannabis for recreational consumption, please share your insights.

19. In light of the recent legalization, how have your perceptions and attitudes towards recreational cannabis evolved? Please answer the questions below

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
A) I favour the current legalization of recreational cannabis					
B) Recreational cannabis has become more acceptable to use now.					
C) I feel comfortable talking to my patients about their recreational cannabis use.					
D) I have sufficient knowledge to answer patient questions on recreational cannabis.					
E) I believe there are pharmacological benefits to using recreational cannabis					
F) I believe that current legislation should be changed so that only pharmacists					

can dispense recreational cannabis and cannabis-containing products to patients.					
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20. What are your current concerns/reservations about the use of recreational cannabis?

21. What additional resources/training would benefit retail pharmacists regarding CBD and non-medical Cannabis?

22. What are your current concerns/reservations about the use of CBD as a complementary medicine?

