

**PERCEPTION OF PHARMACY GRADUATES AND PHARMACY EMPLOYERS
ON INTERNSHIP PROGRAMME IN PUBLIC HOSPITALS IN LIMPOPO
PROVINCE, SOUTH AFRICA**

By

MMAKO KARABO



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Supervisor:

MR. TL MANYAMA

Co-supervisor:

MR. RM TSHITAKE

MS. RC MOKOU

MS. NB MOLOTO

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DECLARATION

I, **Karabo Mmako**, hereby declare that the work on which this study is based is original, except where acknowledgments indicate otherwise.

This thesis is submitted for the degree **Master in Pharmacy** at the University of Limpopo. Neither the whole work nor any part of it has been submitted before for any degree or examination at this or any other university.

Signed.....on...the.....day of.....

DEDICATION

To my late Father William Nana Maphoso and my Late Mother Lucy Raisibe Mmako.

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DEFINITION OF CONCEPTS

EMPLOYER - An employer is an individual or a business that control where an employee work in that particular workspace and ultimately remunerate those persons for services offered(Kenneth, Dau-Schmidt & Michael, 2002). In this study, employer refers to a pharmacy manager directly managing an Intern.

COMMUNITY SERVICE PHARMACIST- is a pharmacist who has just completed 12-months pharmacy internship programme and currently serving 12 months compulsory programme as placed by the National department of Health (Golozana, 2021). In this study, it refers to a pharmacy graduate that has undergone 12 months pharmacy internship programme and is currently placed at a public hospital in Limpopo Province by the national department of Health.

INTERN PHARMACIST– Is a pharmacy graduate from school of pharmacy that is employed or volunteering in a registered pharmacy to gain a practical experience (Peterson, 2022). In this study, it refers pharmacy graduate who is registered with the South African Pharmacy Council (SAPC) and is undergoing a 12-month internship programme to gain pharmaceutical experience to be able to practice as a pharmacist.

INTERN MANUAL- Is a yearly documented manual that is published by the South African Pharmacy Council (SAPC) to guide pharmacy graduates throughout their internship programme to ensure that they complete their internship programme successfully (SAPC, 2021) This definition will be used as is.

PHARMACY GRADUATE - Also known as a graduate of pharmacy, is an individual that has obtained a complete academic pharmacy degree known as a bachelor of Pharmacy in a given year/s. (Organization for Economic Cooperation and Development, 2022)'This definition will be used as is.

INTERNSHIP PROGRAMME -An internship programme refers to a learning exposure that is usually provided after tertiary/university qualifications which provides practice-based opportunities to students in their respective field or career of study in preparation for the cooperate world. (University of Maryland, Baltimore County., No date) This definition will be used as is.

ABBREVIATIONS AND ACRONYMS

DDG	- Deputy Director General
DOH	- Department of Health
CPD	- Continuous Professional development
HPCSA	- Health Professions Council of South Africa
HREC	- Human Research Ethics Committee
SAPC	- South African Pharmacy Council
SREC	- School Ethics Research Committee
TREC	- Turf-loop Research Ethics Committee

ABSTRACT

Introduction: The South African Pharmacy Council(SAPC)stipulates that upon completion of the pharmacy qualification, newly qualified pharmacists should complete a compulsory one-year internship programme for a minimum of 12 months under the direct supervision of a registered tutor in a registered training premise as approved by the SAPC. Although there are guidelines and manuals in place for the Pharmacy internship programme, there is no sufficient evidence that the programme serves its original purpose. **Aim:** The study aimed to evaluate and explore the pharmacy graduates' and employers' perceptions of pharmacy internship programme in public hospitals around Limpopo Province. **Method:** The study was conducted at public hospitals in Limpopo Province. The study used a mixed method design; in particular explanatory sequential design. Phase 1 was conducted using a self-administered questionnaire and phase-2 was conducted using semi-structured interviews. The study population for phase 1 was 182.The participants for phase 1 were sampled using total sampling method. For phase-2 data saturation was reached at participant 13, the participants were selected using purposive sampling. **Results:** The findings in phase 1 revealed that majority of the participants perceive the pharmacy internship to be effective. They also indicated that the pre-registration examination and continuous Professional development play a role in preparing pharmacy graduate's competency, however majority of participants disagreed that the costs of the pharmacy internship registration are reasonable. Phase 2 results showed that participants perceive the internship as being effective because of how it boosts participant's confidence and how it is a transition tool into real work setting. They also mentioned that cpds and pre-registration exam are important because they keep health personnel updated on policies. **Conclusion:** The internship programme is effective through its system of CPDs and pre-registration, the CPDs and pre-registration examination are vital components in preparing interns towards their career paths as pharmacist, but there is a need to increase tutors and pharmacists' participation into the programme. **Recommendations:** It is recommended that the SAPC to hold venue based internship workshops for both interns and tutors frequently. The Limpopo Department of Health and SAPC to find fixed hospital rotational system and to allow training only at tertiary and academic

hospitals. The department to develop a swift process of allowing interns to pay the registration costs in instalments gradually.

Keywords: pharmacy Internship programme, pharmacists, perception, graduates.

CHAPTER 1

INTRODUCTION

1.1 INTRODUCTION

The South African Pharmacy Council (SAPC) stipulate that upon completion of Bachelor of Pharmacy qualification, newly qualified pharmacists should augment their academic training with a compulsory one-year internship programme in one of the following sectors: Manufacturing Pharmacy, Community Pharmacy, and Institutional Pharmacy. This should be done for a minimum of 12 months or 365 days under direct supervision of a registered tutor in a registered training premise as approved by the SAPC. The internship programme aims at providing pharmacy graduates with an opportunity to integrate theoretical knowledge obtained in their 4 years of study into practice (South African Pharmacy Council, 2022).

According to the SAPC(2022), for a pharmacist intern to be considered a fully qualified Pharmacist, he/she must have passed the pre-registration examination (consisting of two papers namely, pharmaceutical calculations and pharmacy practice). In addition to the examinations, the intern must also be competent in a minimum of six continuous professional development (CPDs) which are evenly distributed in areas of: “Public health, Safe and rational Use of medicines and medicinal devices, supply of medicines and medicinal devices, professional and personal practice, organisation and management skills and education and research.” (SAPC, 2022). Although there are guidelines and manual in place for the Pharmacy internship programme, there is no sufficient evidence that the programme serves its original purpose.

Theories learned in the classroom alone do not give graduates complete experience and skills to cope into the practice world (Jannah-Mohaidin, Supar, Ibrahim, & Sidik, (2017). A study conducted in Malaysia state that the internship programme was introduced to furnish new graduates with work skills and give them an opportunity to get practical experience to provide them with smooth transition from the academic setting to the real world. Internship serve as bridge between theory and practice and

is designed not only to improve the professional skills but also the personal skills of the newly graduates (Anjum, 2020).

While internship is for a good academic and professional cause, mistreatment and exploitation of interns by employers and supervisors can affect interns negatively, leading to them having unsatisfactory perception of the programme (Swaid, Elhilu & Mahfouz 2017). It is also crucial to note that employers' critique and comments are vital and can be used in the development of more desirable internship programme (Jannah-Mohaidin *et al.*, 2017).

Several studies have been conducted on internship programmes, however only few focussed on health internship programme wherein none focussed on Pharmacy internship programme specifically. Subsequently, the researcher used other sources outside health and pharmacy as points of references.

1.2 PROBLEM STATEMENT

When looking at the state of South African internships there have been concerns made about the quality of supervision offered to interns as well as the uniformity of education and training at some of the institutions where interns work (Bola, Trollip & Parkinson, 2015).

The SAPC demands that upon completion of a 4-years qualification, newly pharmacy graduates should enrol for a compulsory one-year internship programme to gain further knowledge in the field. While its theoretical purpose is well known and documented, it is not known whether graduates doing pharmacy internship fully experience and meet the objectives of the internship programme as envisaged in the founding documents. It is unfortunate that according to the current literature, there are no studies to assess the pharmacy graduates and employers' perception on the internship programme in South Africa. However, to ensure that the internship serves its actual purpose, researchers must continuously assess the programme. In this study the researcher looked into the pharmacy graduates and employers' perception towards the internship programme

1.3 RESEARCH QUESTIONS

- What is the perceived effectiveness of the pharmacy internship programme by Pharmacy graduates and Pharmacy employers?
- What is the role played by pre-registration examination in preparing pharmacy graduates from pharmacy employers and pharmacy graduates' perspective?
- What is the role played by CPDs in preparing pharmacy graduates from pharmacy employers and pharmacy graduates' perspective?

1.4 AIM OF THE STUDY

The study aimed to evaluate and explore the pharmacy graduates and employers' perception on pharmacy internship programme in public hospitals around Limpopo province.

1.5 OBJECTIVES OF THE STUDY

The objectives of the study were as follows:

- To assess the perceived effectiveness of the Pharmacy internship programme by Pharmacy graduates and the employer.
- To assess the role played by the pre-registration examination in preparing Pharmacy graduates from employers and Pharmacy graduates' perspective.
- To assess the role played by continuous professional developments (CPD) in preparing Pharmacy graduates from employers and Pharmacy graduates' perspective.
- To explore the perception of pharmacy graduates and employers on pharmacy internship programme.

1.6 IMPORTANCE OR SIGNIFICANCE OF THE STUDY

By conducting this study, the SAPC may use the results obtained from this study to modify or align the Internship programme in-line with pharmacy graduates and employers' perspectives, as they are the major stakeholders in the whole internship programme. This study will also point out to pharmacy graduates how employers

think of them during the training programme and ultimately show employers how the pharmacy graduates perceived them during the internship programme. Finally, this study might be used by universities across the country offering Pharmacy degree to align their classroom lessons in line with what graduates experience during their internship programme.

1.7 SUMMARY

This chapter served as the study's broad introduction with the main emphasis on the introduction to the study, background and rationale for study, problem statement, research question, aim and objectives of the study and the significance of the study. The following chapter reviews research from international and local studies pertaining to employers' and graduate's perceptions on the pharmacy internship and internship programme.

CHAPTER 2

LITERATURE REVIEW

2.1 INTRODUCTION

This chapter provides a review of prior studies done by other researchers on the perception of employers and graduate on the internship programme internationally and locally. It first focuses on the internship programme overview in general, locally and internationally. It then comprehensibly narrates the pharmacy internship in South Africa in order to have a clear base of how a pharmacy internship is structured in South Africa. It then later put into context the existing perception of internship programme by employers and graduates.

2.2 INTERNSHIP PROGRAMME OVERVIEW

Internships are valued learning opportunities for graduates, academics, and potential employers. Graduates can obtain experience in a real-world setting and apply what they have learned in the classroom (Jannah-Mohaidin et al., 2017). Brazil, China, and Romania have all implemented legislation governing some or all sorts of internships (Stewart et al., 2018).

According to Jannah-Mohaidin et al., (2017), undergraduates who have completed an internship are thought to be more equipped and marketable by employers. The Department of Public Service Administration in South Africa, (2006) views internships as a practical programme that assists in the continual development of young graduates for future employment in the labour market. Its primary aim is on young graduates who have finished their education and are mostly jobless. Accordingly, interns improve greatly in both hard and soft skills throughout their internship training (Pernsteiner, 2015).

Most countries have some form of internship programme for pharmacy and other health professionals. In Nepal, and South Asia, students performed a mandatory 2-week community pharmacy internship as part of their community pharmacy education (Timsina et al., 2017). Before applying for registration as a full-fledged pharmacist or fully registered pharmacist in Nigeria, all recently graduated

pharmacists must complete a paid internship for at least a year in any listed government hospital or any other approved establishment. This requirement was established by the Ministry of Health Nigeria (MOH) and the Pharmacist Council of Nigeria (PCN). (Ubaka, Noka & Usifoh, 2020).

In South Africa, internships were first introduced to medical training in the 1950s. The main objective of an internship programme was to allow recent graduates supervised practical experience at recognized hospitals. (Luke, 2020). The internship programme in South Africa is built on the apprenticeship model, where interns gain experience by working under supervision.

There is a need to continuously assess and review internship programmes so that they can remain relevant. A study by Koyana (2014) recommended that more efforts should be made to expose interns to senior management roles and organizational policies to maximize the effectiveness of the internship. The study also suggested that mentors should be trained to effectively supervise interns.

2.3 PHARMACY INTERNSHIP IN SOUTH AFRICA.

The internship programme for pharmacy graduates is undertaken for a minimum of 12 months as determined by the Pharmacy Act 53,1974 (SAPC, 2021). To ensure that at the end of the internship time, the intern receives full exposure to pharmacy practice and can practice as an independent competent professional, the SAPC must first approve the tutor and the training facility before the intern may register with the council. (SAPC, 2021).

Pharmacy interns may provide or carry out any activities related to the pharmacist's scope of practice while under the direct personal supervision of a pharmacist at a pharmacy for training and educational purposes. (SAPC, 2000). The scope of a pharmacist includes "The formulation of any medicine for registration as a medicine; the distribution of any medicine or scheduled substance; the re-packaging of medicines; the initiation and conducting of pharmaceutical research and development and the promotion of public health." (SAPC, 2000).

The tutor determines the quality of internship/in-service training. To ensure consistency in the internship/in-service training experience, tutors must be

appropriately qualified, experienced, and prepared to serve as mentors, role models, and educators of interns and/or Pharmacist's Assistants. As per the SAPC gazette published on the 19th of August 2022 on the standard for tutor training programme, the tutor should be supported and equipped with the essential information and abilities to carry out their complex duty as a tutor successfully (SAPC, 2022).

2.4 PERCEPTION OF INTERNSHIPS BY GRADUATES.

A study in the United States of America found that graduates see value in internship programme and graduates recognize the benefits of internships.(Hergert, 2009). A marketing study from two Universities, Eastern Michigan University and the University of Montana agreeably found that marketing graduates value the internship programme, the graduates mention that the reason for this perception is that the internship programme helps them in choosing their career path(Fullerton et al., 2014).

According to Tandyonomanu & Miftakhul Huda (2021) graduates defined internship experience as an opportunity to obtain practical skills and help them get jobs earlier. However, according to (Windawaty, 2023) graduates highly value obtaining internships in internationally recognized facilities.

In Saudi Arabia, a medical study found that the majority of interns had a proper understanding and information of what to expect from an internship and that most information came largely from their seniors and as a result, had a fair immeasurable knowledge shared with them during their internship (Swaid, Elhilu & Mahfouz, 2017). A study at University of Rwanda found that interns deem the internship as beneficial in their respective career paths, however, the interns mentioned that the supervisor's level of supervision needs improvement(Otara, 2014).

According to a study conducted in Nigeria the pharmacist interns indicated that after the programme they were confident enough in providing pharmaceutical services although they have roughly 10 months following graduation to find employment. They were also unsatisfied with their salary and working conditions. Students also raised concerns that stakeholders should open more sources of employment and enforce internship supervision by senior pharmacists(Ubaka, Noka & Usifoh, 2020).

2.5 PERCEPTION OF INTERNSHIPS BY EMPLOYERS

A study in Oman on employers' perception of graduate skills found that companies believe that educational institutions are not adequately preparing students to meet employer's needs or the economy's needs and there is always a conflict between the demands of the economy and organizations and the emphasis placed on graduates by universities during their level and years of study (Soundararajan, Ravikumar & Aro-Gordon, 2020).

According to a document by O'Higgins & Pinedo (2018), there is enough evidence that paid internships are associated with better post-internship better outcomes as compared to the non-paid internship. Most Companies and managers recently prefer internship achievement and focus less on academic achievement (Tandyonomanu & Miftakhul Huda, 2021).

According to managers Interns can be hired as full-time employees when they qualify which saves money on the recruitment process, and reduces risk for employers because they are already familiar with the graduate's performance during the internship time former interns and once retained, do not require the same level of training and require less time to adjust to their new working environment than most new workers (Jannah-Mohaidin *et al.*,2017). If the interns perform well throughout their internship, they may be qualified to contribute to the organization after they are retained. Interns are more likely to remain loyal to the organization and remain longer than non-interns(Jannah-Mohaidin *et al.*, 2017).

2.6 SUMMARY

This chapter discussed current literature on the perception of internship programme by employers and graduates. The primary focus was on the internship programme overview using international countries as benchmarks and narrowing it to local countries. It also focussed on the pharmacy internship programme in South Africa including laws and regulations surrounding South African pharmacy internships, the

perception of internships by graduates and employers locally and internationally. The next chapter discusses method procedures and ethical considerations in this study

CHAPTER 3

METHOD

3.1 INTRODUCTION

This chapter presents the research methodology that was used in this study. The researcher first give the background of the methods that were used in the study, the study design, the study site where the study was conducted, the study population, the study period, and the pilot study. Consequently, sample selection, data collection instruments, data entry and analysis will be discussed. Lastly, the researcher will outline the reliability and validity of the study as well as the ethical considerations behind the study.

In this study, a mixed method was used to achieve the aim of the study, in particular explanatory sequential design. The explanatory sequential design method is a two-phase design where quantitative data is collected and analysed first followed by qualitative data which is analysed using the quantitative phase(Toyon, 2021). The study was divided into two phases: phase 1- the quantitative phase and phase 2- qualitative phase in sequential design. Quantitative data was gathered and analysed in the first phase, and qualitative data was gathered and analysed in the second phase to provide an in-depth understanding of the outcomes of the quantitative study.

3.2 STUDY SITE

The study was conducted in public hospitals located in Limpopo Province, South Africa. The study was conducted in the hospitals across 5 districts in the province, namely, Capricorn District, Sekhukhune District, Mopani District, Vhembe District and Waterberg District, this is because the National Department of Health is generally the biggest employer of pharmacist interns in the whole country hence the need to use the department of health hospitals for accurate results and fair perception. Out of South Africa's nine provinces, Limpopo Province is the fifth largest. It covers about 125 755 square kilometres (KMs) which equates to about 10.3% of the country's total land area (Limpopo Department of Health, 2016).

There are 40 public hospitals in the province, 30 of which are district hospitals, 05 are regional hospitals, 02 are tertiary hospitals and 03 are specialized hospitals (Limpopo Department of Health, 2016) All 40 hospitals are accredited by the SAPC for the purpose of training interns.

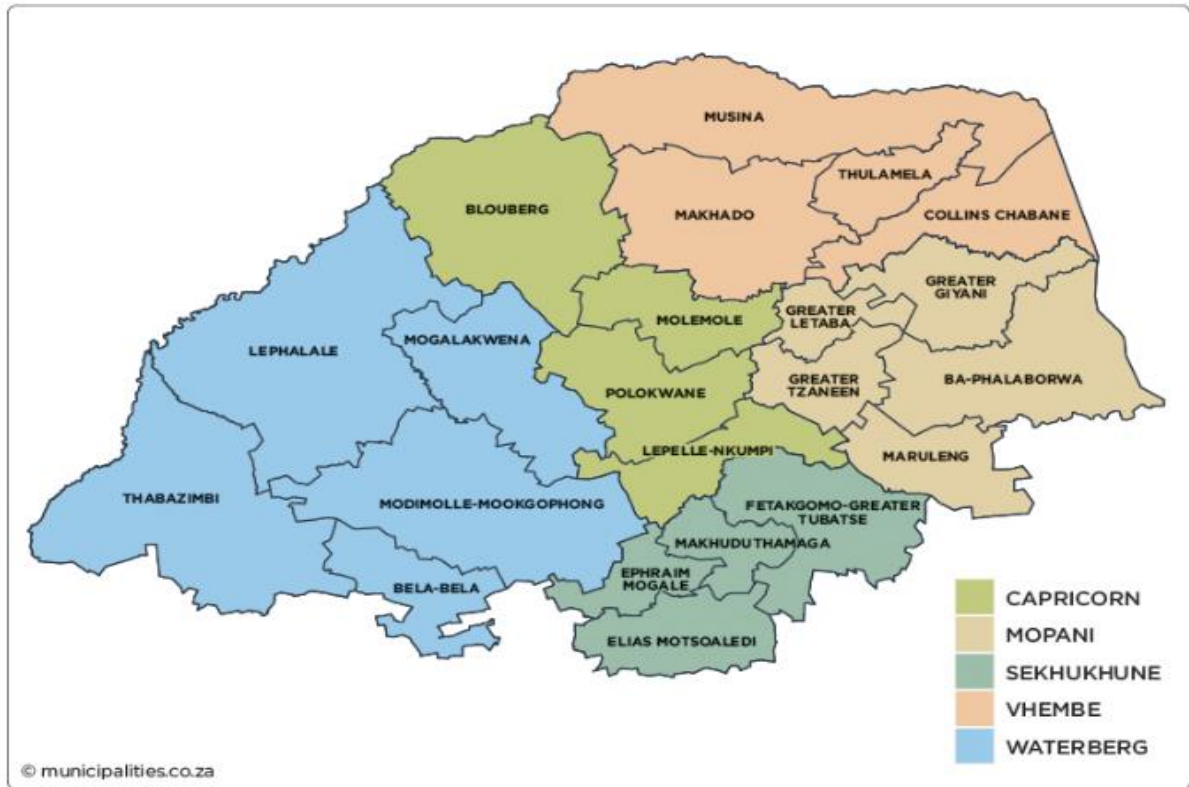


Figure 1: (2023)Site map of Limpopo province

3.3 STUDY POPULATION

3.3.1 POPULATION OF GRADUATES

The population included intern pharmacists who have been doing internships for a minimum of 9 months and community service pharmacists who were currently registered as such with the SAPC in the year 2022. The reason for the addition of community service pharmacists is that they have just recently finished their internship programme. The reason for the addition of 9-month interns is that they have completed 75% of their internship progress and have completed most of their annual CPDs as well as the pre-registration examination, which are the exit points of

the internship programme. Therefore, the researcher believes that for the credibility of the study, it is important to use both of them as our population. Although the SAPC provides statistics on the number of intern pharmacists and community service pharmacists in each province, it does not provide the exact number of intern and community service pharmacists working in hospital pharmacies. However, in Limpopo province as of 2022 according to the community service final placement circular and internship final placement circular approved by the Deputy Director General (DDG) in 2021 December, there were currently 65 Community service Pharmacists and 77 Intern Pharmacists. Our total population of graduates was then 142 in Limpopo province.

3.3.2 POPULATION OF EMPLOYERS

According to the Limpopo Department of Health (2016), Limpopo province has 40 public hospitals each with its own registered pharmacy and at least one registered pharmacist as a pharmacy manager and/or responsible pharmacist as recognized by the council. The researcher used Pharmacy managers of each pharmacy as an employer to maximize population, thus equating our population of employers to 40 in Limpopo province.

3.4 PHASE 1: THE QUANTITATIVE STRAND OF THE STUDY

3.4.1 BACKGROUND TO THE METHOD

This phase of the study used the quantitative method, which deals with the quantification and analysing of variables to obtain results. The quantitative method includes the usage and analysis of numerical data using statistical approaches to answer questions like how, when, what, where, and who (Apuke, 2017). The quantitative method includes the gathering of data through approved statistical techniques so that the information collected can be quantified and exposed to statistical processes in order to support or dispute a research question or hypothesis (Williams, 2007). In this study, quantitative method was used to obtain numerical data that was in turn used to determine the employer and graduates' perceptions on

the internship programme. The researcher used the Likert scale to quantify the perception of employers and graduates into numerical data.

3.4.2 STUDY DESIGN

Mixed-method was used for this study. This phase of research used a cross-sectional and descriptive study designs. Cross sectional study is a study design that is carried at one-time point or over a short period of time, the data in this study was collected between December 2022 and August 2023. (Cherry, 2019). This study design allowed the researcher collect data on the role played by cpds and pre-registration examination over a short period of time.

“A descriptive study's purpose is to characterize a phenomenon and its characteristics; this study is more interested in what happened rather than how or why it happened (Nassaji, 2015).” This design allowed the researcher to fully understand and determine graduates and employers' perception towards the internship programme.

3.4.3 PILOT STUDY

The study was pilot tested using 10% (18 participants) of the main study population and the participants of the pilot study were not part of the main study. The pilot study was done using the same data collection tool as the main study and it was used to detect and correct errors in the data collection tool in preparation for the main study. Errors noticed during pilot study were corrected including grammatical errors. It was further used for reliability and validity of the data collection tool. The questionnaire Cronbach's alpha results were 0.790, which shows an acceptable reliability level.

3.4.4 SAMPLE SELECTION

The study used stratified random sampling and total sampling method to sample pharmacy graduates and employers respectively.

According to Taherdoost (2016), stratified random sampling involves the classification and grouping of participants into sub-groups according to their demographics, age, and abilities, then later a random sample is taken from each sub-group. In this study, the researcher grouped participants according to occupation

levels i.e., pharmacy graduates and pharmacy managers, the graduates were further sub-divided into two groups: Interns and community service pharmacists

To sample pharmacy graduates the researcher grouped the graduates according to their occupation levels. This then means the researcher had two sub-groups, one of intern pharmacists and the second one of community service pharmacists. The questionnaire was sent to all 77 interns and all 65 community service pharmacists.

Due to the number of employers, the employers were sampled using total sampling method that means all the employers were sampled, giving the total sample of employers to 40.

3.4.5 INCLUSION AND EXCLUSION CRITERIA

3.4.5.1. Inclusion criteria

The inclusion criteria were only interns and community service pharmacists in public hospitals currently registered with the council as such in the year 2022. Only Intern pharmacists who have been doing internship for a minimum of 9 months were included, reason being that they have completed 75% of their internship progress and have completed most of their annual CPDs as well as the pre-registration examination which are the exits points of the internship programme. The inclusion criteria included only public hospitals pharmacy managers that are also registered as tutors for interns with the SAPC.

3.4.5.2. Exclusion criteria

The exclusion criteria exclude pharmacy managers that do not receive interns for training purposes. The researcher believes that managers who do not receive interns would not provide sufficient information. The exclusion criteria excluded interns that have not written or qualified to write pre-registration examination as the researcher believes that they would not offer adequate information in assessing the role played by the pre-registration examination. The researcher also excludes interns who have not passed their internship exam.

3.4.6 DATA COLLECTION INSTRUMENTS

A self-administered questionnaire was designed to collect data and named as appendix A. The self-administered questionnaire was developed by the researcher in relation to the literature of the study and the study objectives. The questionnaire is composed of four sections; Section A includes demographics of participants. Section B includes perceived effectiveness of the pharmacy internship programme. Section C includes the role played by pre-registration examination in preparing pharmacy graduates. Finally, section D entails the role played by cpds (CPDs) in preparing pharmacy graduates.

This questionnaire was made available online and was sent to all community service pharmacists and to all interns who have been doing the internship programme for 9-months, this is to minimize the non-response rate associated with online questionnaires. This is the easiest, cheapest and convenient way to collect data and ultimately the easiest way to collect, gather and analyse data. Questionnaires are more objective because responses are collected in a standardized manner (Debois, 2019).

3.4.7 DATA ENTRY AND ANALYSIS

The entire datum obtained from the questionnaire was analysed using Statistics Package for Social Sciences version 29. The results were interpreted using descriptive and inferential statistics. Inferential statistics refers to individual correlation. Chi square was used to achieve inferential statistics. The relationship between variables was considered as significant when $p < 0.05$. Descriptive statistics refers to percentages of data, table, and graphical representation of data, this means that the information collected was reduced into simple summaries to allow data to be presented in an easy and understandable way.

3.4.8 RELIABILITY AND VALIDITY

3.4.8.1. Reliability

According to Taherdoost (2018) reliability measures the way in which assessment tool provides stable consistent results in such a way that if the same test was to be

repeated it will yield the same results under the same constant conditions. In this study, the researcher used the Cronbach coefficient which in a questionnaire measure internal consistency. (Fan, Zhang, Li, Li, Zhang, Liu & Jiang, 2018). The questionnaire Cronbach's alpha results were 0.790, which shows an acceptable reliability level.

3.4.8.2. Validity

Taherdoost (2018) States that validity means to measure what is originally intended to be measured. Validity also articulates how well the actual investigation area is covered by the collected data (Ayodele, 2012). Content and face validity were used to prove validity in this study.

“Face validity, in other words, refers to researchers' subjective judgements of the measuring instrument's presentation and relevance, such as whether the items in the instrument appear to be relevant, rational, unambiguous, and clear (Taherdoost, 2018).” This was confirmed using a pilot study, which is a small study to test instruments used for data collection, research protocols, sample recruitment strategies and other research techniques in preparation for a large study. (Hassan, Schattner & Mazza, 2006).

The degree to which items in an instrument reflect the content universe to which the instrument will be generalized is known as content validity (Taherdoost, 2018). This was achieved by having pharmacy managers who are experts in the internship programme evaluating the data collection instrument. The pharmacy managers in this pilot study were happy with the contents of the questionnaire as they resonated with the internship programme.

3.5 PHASE 2: THE QUALITATIVE STRAND OF THE STUDY

3.5.1 BACKGROUND TO THE METHOD

This phase of the study used qualitative method which deals with seeking answers to a question, it uses sets of procedures and evidence to collect and produces findings. Qualitative research involves collecting and analysing non-numerical data such as

interviews.(Nassaji, 2015).in this study, qualitative method used one on one interviews to understand the phase 1 results.

3.5.2 STUDY DESIGN

This qualitative phase used exploratory study design. As part of its exploratory nature, It permits analysis of the in-depth understanding of the subject being researched as well as multidisciplinary area that includes a broader range of epistemological postures, methodological approaches, and analytic techniques to comprehending individual experiences, the sample size is usually small and its primary objective is to identify ideas and hypothesis rather than confirming one (Rahman, 2016). After undertaking phase 1 the researcher wanted to understand in depth the responses from the questionnaire.

3.5.3 SAMPLE SELECTION

This study used purposeful and convenience sampling. According to Gentles, Charles, Ploeg & Ann McKibbon (2015) purposeful sampling is frequently used in qualitative research, to find and pick examples with plenty of relevant information about topic of interest. Convenience sampling involves selecting individuals from targeted population because of their availability and ease to access.(Golzar and Noor, 2022)

The advantage of purposeful sampling was that interviewees and participants were chosen based on their extensive depth of knowledge and experience in terms of the internship programme.

Because of how the qualitative phase is designed, the sample size was determined by data saturation. Data saturation simply occurs when there is no more data available for the researcher to use as the researcher collects and obtains the same information from individuals. There are fewer surprises and no longer any emerging patterns in the data at this time (Saunders, Sim, Kingstone, Baker, Waterfield, Bartlam, Burroughs, et al., 2017). In order to achieve data saturation, it has previously been suggested that qualitative investigations employ a minimum sample size of 12. (Fugard & Potts, 2015) As a result, a sample size of 13 was chosen enough for the qualitative analysis phase of this study.

3.5.4 INCLUSION AND EXCLUSION CRITERIA

3.5.4.1. Inclusion criteria

Only interns, community service pharmacists and pharmacy managers in public hospitals who participated in the first phase of the study were included in this phase.

3.5.4.2. Exclusion criteria

Interns, community service pharmacists and pharmacy managers who did not participate in the first phase.

3.5.5 DATA COLLECTION INSTRUMENTS

To collect the data, one-on-one audio-recorded interviews were scheduled with a total of 13 pharmacists, of which 4 were pharmacy managers, 5 were community service pharmacists and 4 were intern pharmacists. Integrated interview with open-ended questions were created using the quantitative phase's results and the objectives of the study. The Interview guide in its structure consisted of 5 questions which were centred on the objectives of the study and the results of the first phase. The participant's demographic information was not included and the participants were made to indicate just before the first question if they wish to remain anonymous or not. The information data was audio-recorded compiled and gathered by keeping audio and written notes during the interview. The interview on average was 10 minutes long.

3.5.6 DATA ENTRY AND ANALYSIS

The data gathered was captured and interpreted using the thematic analysis, which is the act of finding themes or patterns in a qualitative data (Creswell & Poth, 2018). The steps which were manually used for thematic analysis according to Creswell & Poth, (2018) are outlined as follows.

3.5.6.1. Managing and organizing the data.

This includes data storage, in which the information is placed in digital file forms and organized into categories based on the participants and the date of collection. This

research population was divided into two groups/categories: pharmacy managers and graduates.

3.5.6.2. Reading and memorising emergent ideas

This step aims primarily to acquaint and educate the researcher with the entire content of the data set, writing down notes or comments as the researcher listens to records of interviews and going through the interview notes helped with this step of data analysis.

3.5.6.3. Describing and classifying codes into themes

The data was described, coded, and interpreted here. After the data has been interpreted by the codes, the codes were then combined into themes. Codes were used in this study in the form of statements that depict common traits. The statements were then compiled and summarized.

3.5.6.4. Code classification (making themes)

The researcher in this step outlined the significance of the relevant codes, highlighted them, and developed diagrams to show how they relate to one another and to consolidate them into themes. The researcher in this study chose useful codes, refined them, and then arranged them into schematic diagrams based on their relative significance and degree of importance.

3.5.6.5. Developing and assessing theme interpretations

In this step, the themes are defined in terms that are easily understood, and the researcher's discoveries are compared with literature review, available data, and the original hypothesis. In order to link up the themes and possible subthemes in the data, the researcher clarified and defined themes and possible subthemes into a clear language. This was achieved by assigning each theme a name that briefly and effectively communicates its essence and instantly makes sense to the reader.

3.5.6.6. Representing and visualizing data

In this step, the researcher presented the results by arranging the findings into formats that ensured the reader's understanding, such as tables, diagrams, or any figure form that serves as a reader-friendly reader

3.5.6.7. Writing a report

In this final step, based on the final information generated, a report was compiled with concluding statements. In addition to the primary technique, depending on the data requirements, Microsoft Excel was also used, with diagrams and graphs used in accordance with the standards of each question, as well as the thematic analysis used in accordance with the questions asked and questions and answers mentioned under each theme.

3.5.7 MEASURES TO ENSURE TRUSTWORTHINESS

A study's degree of trust in its data, interpretation, and techniques used to maintain its quality is referred to as its trustworthiness (Polit & Beck 2014). According to Hadi & Closs (2016) “credibility, transferability, dependability and confirmability are evidences used to measure trustworthiness”.

3.5.7.1. Credibility.

Credibility is the degree to which one can have confidence that the research findings are authentic. In order to guarantee the credibility of the research findings in this study, the researcher used individual interviews with people with varied expertise in the internship programme, this included recent graduates and pharmacy managers with a broad range of experiences in internship programme resulting in a variety of people with various viewpoints (Connelly, 2016)

To enhance authenticity, open-ended questions were used, with certain quotes being retrieved directly from participant responses. This also entailed the use of probing questions and a review of some of the responses to earlier questions that the researcher considered crucial in light of other responses. In addition to conducting the research itself, the methodology will be reviewed with individuals who are unaffiliated with the study but knowledgeable about the subject under investigation in

order to further strengthen the credibility; this included but is not limited to the supervisor.

Here, the researcher made it abundantly clear what the study was about and that participation was entirely optional. Additionally, an independent coder experienced in qualitative data analysis received a copy of the transcript after it had been transcribed to do a different data analysis for the researchers, to review and compare.

3.5.7.2. Transferability

The primary ideal goal of transferability is to show how well the findings of research may be applied to a larger population, a new setting, or other settings (Korstjens & Moser, 2018). In this case, it's possible to demonstrate that the findings and conclusions, in this case, apply to different situations and populations, such as the hospital where the study will be conducted with participants from different hospitals with different cultures, even though a qualitative project's results are exclusive to a few particular places and individuals.

3.5.7.3. Dependability

Dependability is the capacity of a study to yield comparable, if not identical, results when other researchers replicate the same techniques in the same contexts (Shenton, 2004). To guarantee that one can reproduce the processes of this study as directly as they are described in the research, they will be described in detail. These techniques also fall under the categories of credibility and transferability. An independent coder and the researcher split the study responses received from the interview schedule into two equal halves. Each half was then assessed separately to check for correlation. Data was gathered until it reached saturation.

3.5.7.4. Conformability

Conformability is the extent to which the research study's findings could be validated by other researchers, with the data connected to the conclusions in a form that can be followed and, as a process, duplicated (Moon, Brewer, anuchowski-Hartley, Adams, & Blackman , 2016). Its foundation is built on demonstrating that the facts and interpretations of the findings are not figments of the researcher's mind, but are

clearly drawn from the data obtained (Korstjens & Moser, 2018) The study's detailed methodologies were presented, including all operations that took place from the beginning to the end. This was also reinforced by the utilization of audiotaped interviews from each research session.

3.6 ETHICAL CONSIDERATIONS

3.6.1 Approval

The proposal was submitted to the Department of Pharmacy, University of Limpopo for evaluation. The proposal was then presented at the School Research Ethics Committee (SREC) for clearance certificate recommendations. The proposal subsequently submitted to the Turf loop Research Ethics Committee (TREC) for an ethics clearance certificate. The TREC ethics clearance certificate(TREC/557/2022: PG) was then used to obtain the Limpopo Department of Health (DOH) ethical clearance. After that, permission to conduct the study was requested and granted from different hospitals.

3.6.2 Harm

The study did not cause mental or physical harm to humans and participants. The study did not in any way cause distress, discomfort, or humiliation to the participants. No participant was coerced to participate in the study and participants were allowed to recuse themselves from the study when they felt unsafe and no longer willing. The researcher arranged an electronic counselling appointment with the Centre for Student Counselling and development for participants who required counselling.

3.6.3 Participants Informed Consent and voluntary participation

Participants were taken through the whole study and made familiar with the study. Once they understood the full context of the study, they were requested to sign a voluntary consent form (Appendix B) to indicate their voluntary willingness to the completion of this study. The form indicated what the study entails and created an agreement between the researcher and participants, however, participants were free

to withdraw at any time. The consent form is the first page of the online survey and participants had to accept and agree to continue to the data collection tool.

3.6.4 Confidentiality, Anonymity, and privacy

Participant's details were protected and remained confidential. All personal information obtained for this research was used solely for this study. Names, contact details, and address details of participants will never be published or shared with anyone outside this study. Access to this study information is encrypted with a Password and is only accessed by those involved in this study.

3.7 SUMMARY

This chapter discussed in detail the method procedures used in this study, this includes the study design, study population, study period, sampling method, inclusion and exclusion criteria, data entry and analysis, data collection instruments, measures to ensure trustworthiness, and ethical considerations. Chapter 4 will discuss the results and findings that have been collected over the study period.

CHAPTER 4

RESULTS AND DISCUSSION

4.1 INTRODUCTION

This chapter's primary objective is to convey the findings by presenting, analysing, and interpreting the data obtained to understand the perception of pharmacy graduates and pharmacy employers on an internship programme in public hospitals in Limpopo province. The findings from the two study phases (qualitative and quantitative study design) are presented below.

4.2 PHASE 1

4.2.1 RESULTS

4.2.1.1. SECTION A: PARTICIPANTS DEMOGRAPHICS

The study was composed of 149 participants working within public hospital pharmacies in Limpopo province, of which 79 were males and 70 were females. The sample size population was 164 participants therefore indicating a response rate of 91%. From 149 participants 58 were Intern pharmacists, 56 were community service pharmacists, and 35 were either pharmacy managers or tutors.

From the findings, it can be seen that the majority of the participants (59.1% n=88) are graduates from the University of Limpopo, then followed by Sefako Makgatho University Formerly known as MEDUNSA (14.8% n=22), See table 4.1.

Table 4.1: Institution where qualification was achieved.

Institution where qualification was achieved	Number of Participants (%)
Rhodes University	2.0%
University of Western Cape	2.7%
northwest University	1.3%

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Witwatersrand University	4.7%
University Of Limpopo	59.1%
Tshwane University of Technology	10.7%
University Of Kwa-Zulu-Natal	2.0%
Sefako Makgatho Health Sciences University	14.8%
Nelson Mandela University	2.7%

The participants were categorized according to four age groups, most of the participants (45% n=67) were aged between 21-24 years, 28.9% (n=43) participants were between 25-29 years of age, while 14.9% (n=22) participants were between 30-35 years of age and 11.4% (n=17) participants were over 35 years of age.

Table 4.1 illustrates that 50 (33.6%) of the participants were employed in Capricorn district, 3 (2.4%) participants were employed in Mopani district, 22 (14.8%) participants were employed in Sekhukhune district, 22 (14.8%) and 18(12.1%) participants were employed in Vhembe district and Waterberg respectively.

Table 4.2: Phase 1 Demographics of Participants

AGE		
	Frequency	Percent
21-24	67	45.0
25-29	43	28.9
30-35	22	14.9
>35	17	11.4

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TOTAL	149	100.0
GENDER		
	Frequency	Percent
Male	79	53.0
Female	70	47.0
Total	149	100.0
RACE		
	Frequency	Percent
Black	149	100.0
TOTAL	149	100.0
HIGHEST QUALIFICATION ACHIEVED		
	Frequency	Percent
Pharm Degree	147	98.7
Master's Degree	2	1.3
Total	149	100.0
DISTRICT OF OCCUPATION		
	Frequency	Percent
Capricorn	50	33.6

Mopani	37	24.8
Sekhukhune	22	14.8
Vhembe	22	14.8
Waterberg	18	12.1
TOTAL	149	100.0
CURRENT OCCUPATION		
	Frequency	Percent
Intern pharmacist	58	38.9
Community service pharmacist	56	37.6
Pharmacy Manager	20	13.4
Tutor	15	10.1
Total	149	100.0

4.2.1.2. SECTION B: PERCEIVED EFFECTIVENESS OF THE PHARMACY INTERNSHIP PROGRAMME.

This section focuses on the perceived effectiveness of the pharmacy internship programme according to pharmacy graduates and employers. This section looked at the cost of the pharmacy internship reasonability, the state of training facilities the support from the pharmacy staff personnel, and the registration process for the internship among many others to determine the perceived effectiveness of the programme. The results for section B are summarized in Table 4.3.

The study shows that the majority of the participants perceived the registration process for the internship programme as easy and user-friendly. From the findings, it

can be seen that the majority (54.2% n=81) agree or strongly agree that the registration process for a pharmacy internship is easy and user-friendly. The study revealed that participants perceive that the cost of the pharmacy internship is not reasonable. The overwhelming majority of the participants (79.2% n=118) disagree or strongly disagree that the cost is reasonable. Chi-square analysis reveal that both graduates and employers unanimously agree that the cost of pharmacy internship registration is not reasonable with a $p > 0.05$.

The overwhelming majority of participants agreed or strongly agreed (85.9% n=128) that the internship programme adequately prepares interns for their pharmacy career paths as pharmacists. Additionally, the overwhelming majority (77.8% n=31) strongly agreed or agreed that the training period of 12 months is sufficient in preparing interns for practice in all pharmacy domains and competencies.

The study revealed that the internship programme effectively prepares the intern to be competent in safe and rationale use of medicines and medicinal devices because a huge majority of the participants (88.6% n=132) strongly agreed or agreed while only 3 participants disagreed or strongly disagreed.

Over 80% of the participants agreed or strongly agreed that the internship programme effectively prepares the intern to be competent in the promotion of public health and the supply of medicines and medicinal devices. Additionally, 65.1% (n=107) of the participants agree or strongly agree that the internship programme effectively prepares the interns to be competent in organizing and management of pharmaceutical services. However, it was noted that a number of employers (25.7%) strongly disagree or disagree that the internship programme effectively prepares the interns to be competent in organizing and management of pharmaceutical services as compared to 5.4% of the graduates. This difference was significant with chi-square p-value of 0.011.

The study results indicated that the internship programme effectively prepares the interns to be competent in providing education, research, and critical analysis of pharmaceutical policies with a slight majority (51.7% n=77) of participants agreeing or strongly agreeing. However, a recognizable number (27.5% n=41) of participants remained neutral which indicates that those participants might not be confident that the internship programme effectively prepares the interns to be competent in

providing education, research and critical analysis of pharmaceutical policies, while (20.8% n=15) strongly disagreed or disagreed with the statement. Chi-square revealed no significant relationship between graduate and employers with p-value of 0.087.

Based on the results the training facilities provide adequate resources for the training of pharmacy interns, this is because most participants (n=83 55.8%) indicated that they agree or strongly agree, which is in contrast to the (18.8% n=28) participants that strongly disagreed or disagreed. However, there is a concern that a considerable number of participants(n=38 25.5%) remained neutral as this may be considered a sign of dissatisfaction with the facility. The study showed that the majority of participants(61.1% n=91) perceive the rotation activities well structured and well organized.

The findings revealed that participants perceive that the pharmacy staff gives sufficient support to the intern as agreed or strongly agreed by a majority of participants (77.2% n=115). The findings of the also study reveal that there is effective support between the SAPC and the intern after most participants (53.6% n=80) agreed or strongly agreed that there is effective communication between the SAPC and the interns. An overwhelming majority of participants perceive that there is effective communication between the intern and tutors (79.9% n=119).

Table 4.3: Perceived effectiveness of the internship programme.

Perceived effectiveness of the internship programme.					
The registration process for a pharmacy internship is easy and user-friendly	Strongly Disagree	disagree	Neutral	Agree	Strongly agree
Frequency (N)	12	22	34	67	14
Percentage (%)	8.1	14.8	22.8	45.0	9.4
The cost of pharmacy internship registration is reasonable.	Strongly Disagree	disagree	Neutral	Agree	Strongly agree
Frequency	65	53	12	15	4

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Percentage	43.6	35.6	8.1	10.1	2.7
The Internship programme adequately prepares interns for their pharmacy career paths as pharmacists.	Strongly Disagree	disagree	Neutral	Agree	Strongly agree
Frequency (N)	2	5	14	78	50
Percentage (%)	1.3	3.4	9.4	52.3	33.6
The training period of 12 months is sufficient in preparing pharmacy interns in all pharmacy domains and competencies.	Strongly Disagree	disagree	Neutral	Agree	Strongly agree
Frequency (N)	4	15	14	85	31
Percentage (%)	2.7	10.1	9.4	57.0	20.8
The internship programme effectively prepares the intern to be competent in safe and rationale use of medicines and medicinal devices.	Strongly Disagree	disagree	Neutral	Agree	Strongly agree
Frequency (N)	1	2	14	101	31
Percentage (%)	0.7	1.3	9.4	67.8	20.8
The internship programme effectively prepares the intern to be competent in promotion of public health.	Strongly Disagree	disagree	Neutral	Agree	Strongly agree
Frequency (N)	2	3	18	89	37
Percentage (%)	1.4	2.0	12.1	59.7	24.8

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The internship programme effectively prepares the intern to be competent in the supply of medicines and medical devices. Frequency (N)	Strongly Disagree	disagree	Neutral	Agree	Strongly agree
	1	3	12	103	30
Percentage (%)	7	2.0	8.1	69.1	20.1
The internship programme effectively prepares the intern to be competent in organizing and management of pharmaceutical services Frequency (N)	Strongly Disagree	disagree	Neutral	Agree	Strongly agree
	4	11	37	81	16
Percentage (%)	2.7	7.4	24.8	54.4	10.7
The internship programme effectively prepares the intern to be competent in providing education, research and critical analysis of pharmaceutical policies. Frequency (N)	Strongly Disagree	disagree	Neutral	Agree	Strongly agree
	5	26	41	59	18
Percentage (%)	3.4	17.4	27.5	39.6	12.1
The training facility provides adequate resources for the training of pharmacy interns Frequency (N)	Strongly Disagree	disagree	Neutral	Agree	Strongly agree
	5	23	38	64	19
Percentage (%)	3.4	15.4	25.5	43.0	12.8
The rotation activities are structured and well-organised Frequency (N)	Strongly Disagree	disagree	Neutral	Agree	Strongly agree
	8	14	36	63	28

Percentage (%)	5.4	9.4	24.2	42.3	18.8
The pharmacy staff gives sufficient support to the interns.	Strongly Disagree	disagree	Neutral	Agree	Strongly agree
Frequency (N)	6	10	18	86	29
Percentage (%)	4.0	6.7	12.1	57.7	19.5
The tutors demonstrate ability and interest in training interns	Strongly Disagree	disagree	Neutral	Agree	Strongly agree
Frequency (N)	4	16	26	73	30
Percentage (%)	2.7	10.7	17.4	49.0	20.1
There is effective communication between the SAPC and the intern	Strongly Disagree	disagree	Neutral	Agree	Strongly agree
Frequency (N)	15	25	29	54	26
Percentage (%)	10.1	16.8	19.5	36.2	17.4
There is effective communication between the intern and the tutor.	Strongly Disagree	disagree	Neutral	Agree	Strongly agree
Frequency (N)	2	8	20	77	42
Percentage (%)	1.3	5.4	13.4	51.7	28.2

4.2.1.3. SECTION C: THE ROLE PLAYED BY PRE-REGISTRATION EXAMINATION IN PREPARING PHARMACY GRADUATES.

This section focuses on the role played by pre-registration examination in preparing pharmacy graduates. The results for this section are presented in Table 4.4.

The results show that (72.4%; n=108) participants agreed or strongly agreed that the pre-registration examination is vital in adequate preparation of interns towards their

pharmacy career paths as pharmacist. When participants were asked if the pre-registration examination is set in line with the activities within the internship programme, 61.1% (n=91) agreed to this statement while only 8.7% (n=13) disagreed. The results also showed that 71.8% (n=107) of the total participants strongly agreed or agreed that the pre-registration workshops are important and sufficient in preparing interns for their pre-registration exam. When coming to the question of the internship pre-registration examination being essential in determining the competency of an intern, a high number (63.1% n=94) of participants indicated that they agreed or strongly agreed with this statement.

When participants were asked to rate the pre-registration examination level of difficulty, the Majority (68.5% n=102) of the participants indicated that the pre-registration exam is moderate, while a concerning number 26.8% (n=40) indicated that the pre-registration is complicated. Although not majority, most participants 46.3% (n=69) indicated that the time given to go through the examination pre-registration exam is adequate or slightly adequate while 38.3% (n=57) indicated that the time is slightly not adequate or not adequate.

On the pre-registration examination being based on the activities learned during the internship programme only 42.3% (n=63) participants agreed while a significant number (34.9% n=52) remained neutral and just 9.4% (n=14) disagreed. The findings from the study show that on pre-registration examination being theoretical rather than work based only (22.8% n=34) participants disagreed and (30.2% n=45) agreed, on the other hand, 30.2% (n=45) of participants remained neutral to this proclamation.

Table 4.4: The role played by pre-registration examination in preparing pharmacy graduates.

The Pre-registration examination adequately prepares interns towards their pharmacy career paths as pharmacist.	Strongly Disagree	Disagree	Neutral	Agree	Strongly agree
Frequency (N)	6	11	24	82	26
Percentage (%)	4.0	7.4	16.1	55.0	17.4

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2. The pre-registration exam is set in line with the activities within the internship programme. Frequency	Strongly Disagree	Disagree	Neutral	Agree	Strongly agree
	2	13	18	91	25
Percentage	1.3	8.7	12.1	61.1	16.8
Pre-reg examination workshops are sufficient in preparing interns for pre-registration examination. Frequency (N)	Strongly Disagree	Disagree	Neutral	Agree	Strongly agree
	7	6	29	73	34
Percentage (%)	4.7	4.0	19.5	49.0	22.8
The internship pre-registration examination is essential in determining the competency of an intern. Frequency (N)	Strongly Disagree	Disagree	Neutral	Agree	Strongly agree
	13	19	23	67	27
Percentage (%)	8.7	12.8	15.4	45.0	18.1
The pre-registration examination written during internship programme is: Frequency (N)	Too Simple	Simple	Moderate	Complicated	Too Complicated
	3	4	102	30	10
Percentage (%)	2.0	2.7	68.5	20.1	6.7
The time given during the pre-registration examination is: Frequency	Adequate	Slightly Adequate	Neither Adequate nor Inadequate	slightly inadequate	Inadequate
	42	27	23	38	19
Percentage	28.2	18.1	15.4	25.5	12.8

The pre-registration examination is based on the activities learned during the internship programme. Frequency (N)	Strongly Disagree	Disagree	Neutral	Agree	Strongly agree
	11	14	52	63	9
Percentage (%)	7.4	9.4	34.9	42.3	6.0
The pre-registration examination is theoretical rather than work-based. Frequency (N)	Strongly Disagree	Disagree	Neutral	Agree	Strongly agree
	6	34	45	45	19
Percentage (%)	4.0	22.8	30.2	30.2	12.8

4.2.1.4. SECTION D: THE ROLE PLAYED BY CONTINUOUS PROFESSIONAL DEVELOPMENTS (CPDs) IN PREPARING PHARMACY GRADUATES.

This section focuses on the role played by CPDs in preparing pharmacy graduates. The results are presented in Table 4.5

The majority (57.0%) of the participants agreed that the CPDs prepares interns towards their career paths as pharmacists while only (6.0% n= 9%) disagreed with this statement. The table further shows that a whopping majority (77.9% n=116) strongly agreed or agreed that the CPDs activities during their respective times are set in line with the activities within the internship programme. When asked if the CPDs are essential in determining intern's competency (65.1% n=97) agreed or strongly agreed while only (21.5% n=32) disagreed or strongly disagreed that the CPDs are essential in determining intern's competency. Table 4.5 also shows us that (51.7% n=77) participants agreed that the CPD workshops are enough in preparing interns for CPD submissions while only (8.7% n=13) disagreed with the statement.

Majority of the Participants (74.5% n=111) indicated that the competency standards set in the CPDs are adequate or slightly adequate.

Table 4.5: The role played by CPDs in preparing pharmacy graduates.

1. The CPDs adequately prepares interns towards their pharmacy career paths as pharmacist Frequency (N)	Strongly Disagree	disagree	Neutral	Agree	Strongly agree
	10	9	25	85	20
Percentage (%)	6.7	6.0	16.8	57.0	13.4
The CPDs are set in line with the activities within the internship programme. Frequency	Strongly Disagree	disagree	Neutral	Agree	Strongly agree
	3	8	22	95	21
Percentage	2.0	5.4	14.8	63.8	14.1
The CPDs are essential in determining the competency of an intern. Frequency (N)	Strongly Disagree	disagree	Neutral	Agree	Strongly agree
	10	22	20	75	22
Percentage (%)	6.7	14.8	13.4	50.3	14.8
The CPD workshops are sufficient in preparing interns for submissions of CPDs Frequency (N)	Strongly Disagree	disagree	Neutral	Agree	Strongly agree
	8	13	20	77	31
Percentage (%)	5.4	8.7	13.4	51.7	20.8
The competency standards set in the CPDs are Frequency (N)	Adequate	Slightly adequate	Neither adequate nor inadequate	Slightly inadequate	Inadequate

	74	37	24	8	6
Percentage (%)	49.7	24.8	16.1	5.4	4.0

4.2.2 DISCUSSION OF RESULTS

4.2.2.1. Perceived effectiveness of the pharmacy internship programme by Pharmacy graduates and Pharmacy employers.

The study found that majority of the participants perceived the registration process for the internship programme as easy and user friendly. This could be because of the after covid effect which pushed SAPC to do most of its processes online and made it easy for participants to follow step by step guides in registering. A study by Maluleke, (2020) indicated that during lockdown the country had to find alternative remote learning ways to ensure education continuity.

The results of the study also showed that the cost for pharmacy registration process is not reasonable, this could be due to the reason that most newly graduated students may not have enough money for internship registration. Generally, most fields do not require graduates to pay for internships registration. Registration for internship with SAPC is R 2 902,00 as of 2024 (SAPC, 2023). Comparably, this is four times higher than internship registration fees in other health fields such as medicine and medical science of which the cost is at R551.00 as of 2024 (HPCSA, 2024).

The results of the study indicated that the internship programme prepares interns in their career paths as pharmacist. This is backed up by a study conducted by Ismial, (2018) which revealed that the internships are useful in preparing interns personal and professional skills to help them adjust to the corporate work. In terms of the training period, the study has found that the training period is sufficient for the complete training of interns. The 12 months intern period is common in number of countries such as Tanzania (Pharmacy Council Tanzania, 2018), Ireland

(Strawbridge et al., 2019) and Nigeria (Nwizu, Sariem & Malhotra, 2022) and where an internship programme must be done for 12 months uninterrupted period.

From the study it can be seen that the internship programme prepares the interns to adequately promote public health which is in line with a handbook by the California State University which indicated that the purpose of an internship is to increase students practical experience on public health promotion and ultimately preparing interns for professional career in health (Bandong, 2022). In terms of providing education, research and critical analysis of pharmaceutical policies the study had a slight majority of just 51.7% (n=77) participants saying that the internship programme prepares them to be competent in the above-mentioned sections.

The study found that the training facilities provide adequate resources for training of pharmacy interns, this is because the SAPC grades and inspect pharmacies prior to intake of training. The training inspection that is carried out by the council as per responsible pharmacist determines how long and when the pharmacy can train support personnel. Should the council find any shortcomings, the council gives time to the pharmacy and pharmacy manager to prepare and ensure that adequate resources are available for the pharmacy to be approved for the training of interns. As a result, this minimizes the possibility of a pharmacy having inadequate resources to train interns.

In this study, it was found that the pharmacy internship rotation activities are well structured and organised. However, there was a significant number of participants who did not agree with this notion. This could be because of the different locations and different setups in terms of rosters in different hospitals. For some hospitals, interns are expected or are in dispensary for 6 months then the remaining 6 months in pharmacy stores, most of which never get time to engage in public health promotion and primary health care services. A study by Nisly, Brennan and Verbosky, (2018) indicates that new interns start by primary operations such as dispensing, non-sterile compounding, stocking and answering of calls in pharmacy, then advanced interns get more roles like sterile compounding, clinical dose adjustments, recommendations to prescribers and assisting in care transitions.

It was also revealed in the study that there is effective communication between the SAPC and interns.

4.2.2.2. The role played by pre-registration examination in preparing pharmacy graduates from pharmacy employers and pharmacy graduates' perspective.

From the study, the participants indicated that the pre-registration examination is vital in adequate preparation of interns towards their career paths as pharmacist. This is because it is well understood by participants that the internship serves as a bridge between theoretical knowledge and practical knowledge. An article reviewing Pharmacy Council written examination by Jane, (2018) indicated that a number of countries have written pre-registration examinations while in Australia there is instead an oral exam. It also indicates that other countries like United Kingdom have a pre-registration examination that lasts a day while Ireland has integrated its intern programme to a 5-year master programme and the final registration assessment is written after.

The study in New Zealand by Jane, (2018) also indicates that they have a 3-hour exam consisting of about 125 computer based questions. The Written examination is important in assessing intern's clinical knowledge and the application of the clinical knowledge. The study also mentions that the exam tests intern's knowledge of legislature, management of health systems and the supply of medications. The study found that the pre-registration workshops are sufficient and important in preparing the interns for the exams, this is because the workshops expose students and informs students of what to expect in the real examination. This is believed to be important because it is actually different from the normal University exams therefore it is important that students get inducted to such.

The study revealed that the time allocated for the pre-registration which is about 2 hours for the calculation and 2 and half hours for the general section is not sufficient. The 4 and half hours examination by the SAPC is contrary to the time given in the United kingdom wherein the exam lasts the whole day(Jane, 2018).However a significant note must be given to the fact that the learning is now done remotely wherein most of the interns experience load-shedding and network cuts which may negatively affects the total time needed to complete the examination. and the study also showed that the pre-registration exam is not set based on the work done during internship programme.

4.2.2.3. The role played by CPDs in preparing pharmacy graduates from pharmacy employers and pharmacy graduates' perspective.

The study indicates that the CPDs prepares interns towards their career paths as pharmacist, this is in line with a study by Azhar et al.(2009) which showed that the role of pharmacists in the health sector is under transformation in the whole world. The findings of the study indicated that the CPD model motivates pharmacists in developed countries to become lifelong learners as this is important to enhance patient care. Darwish et al. (2023) mentioned that their findings indicate that pharmacists show a positive attitude towards the CPDs. The findings in the study showed that the CPDs domains and competency standards are adequate and set in line with the activities learned during the programme this is concurrent to a study by van Huyssteen et al. (2020) which indicated that in 2017 South African pharmacists competency standards were revised so that they align with Global pharmacists framework and also relate to South African resources and policies of the health system. The study showed that the CPDs are essential in determining intern's competency.

4.3 PHASE 2

4.3.1 RESULTS

4.3.1.1. SECTION A: PARTICIPANTS DEMOGRAPHICS

Semi-structured interviews were conducted with a total of 13 participants, including 4 employers (Pharmacy managers and tutors), 5 community service pharmacists, and 4 pharmacy interns.

Table 4.6: Phase 2 participant demographics.

Participant	Occupation	Gender
Respondent 1	Community service Pharmacist	Female

Respondent 2	Pharmacy tutor	Female
Respondent 3	Community service Pharmacist	Female
Respondent 4	Pharmacy tutor	Male
Respondent 5	Intern pharmacist	Male
Respondent 6	Pharmacy manager	Female
Respondent 7	Pharmacy manager	Male
Respondent 8	Intern Pharmacist	Male
Respondent 9	Community service pharmacist	female
Respondent 10	Intern pharmacist	Female
Respondent 11	Community service pharmacist	Female
Respondent 12	Community service pharmacist	Male
Respondent 13	Intern pharmacist	Male

4.3.1.2. SECTION B: ANALYSIS OF THEMES.

The data collected from the interviews was transcribed for the purpose of data analysis, following an understanding of the responses from the interviews the researcher developed the following themes and subthemes.

Theme 1: Internship as a transition tool from theory into the practice.

Theme 2: Importance of pre-registration examination.

Theme 3: The Importance of CPDs during Internship.

Theme 4: The pharmacist intern registration fees.

Theme 5: Role of stakeholders in CPDs workshop.

Subtheme 1: Council Role in CPD Workshop.

Subtheme 2: Pharmacy Managers and Tutors role in CPDs workshop.

Subtheme 3: Interns role in CPDs workshop.

4.3.1.3. Theme 1: internship as a transition tool from theory into the practice.

According to all respondents the internship programme is effective as it prepares the students into the real work practice. Correspondingly, respondent 1 said “...*I think it’s essential because it gives you a chance to translate from uhm the academic world into the real world, because, okay my experience I would like to say that uhm being a student doesn’t really teach you how things are done uhm in professional workspace so, the internship programme, as much as you are still a student, it gives you time to translate under somebody which is a supervisor slowly and gradually at your own pace....*”.

It can be seen that the respondent 1 emphasized the value of the internship programme in allowing students to make the transition from academia to practice. Respondent 2 then said “...*it could be true that they show that the pharmacy internship programme is effective because, I mean, the kind of training that we get as interns in the hospital is something completely different to what we have been studying for the past four years. So, in the past four years, most of the things that we were doing were more theoretical, so when we now get into the work environment, we are now introduced to a whole new world compared to what we have been exposed to for the past four years*”.

The response from Respondent 3 indicates that what we learn at school is not really the same as what we go through at our respective workspace and mentions that the internship programme exposes us to the real pharmacy sphere, therefore rendering the programme effective. “... *the pharmacy internship programme is highly effective*

because you get to put into practice what you've learned theoretically in school. You get to practice the theoretical aspects of pharmacy. Not only that, but you also get to learn about the workspace pharmacy, which I think we can all agree that it's not the same. What you learned in school and what you practice at work is not the same. And you can experience as well, like general work experience....". Respondent 3.

According to respondent 4 "The pharmacy internship programme is effective in the sense that it equips the newly graduated pharmacist with knowledge and also practical skills in as far as the fieldwork is concerned. because when people are coming from school, most of the time they have the book knowledge, but the practical part of application of that particular knowledge, it's another concept altogether". Respondent 4 also mentioned that "the internship programme is actually necessary to make sure that when people are registered as pharmacists, they actually have the requisite skills, like the knowledge and also the practical part, especially in the programme of writing the exams and doing the CPDs".

Respondent 5 indicated that the other factor which might determine the effectiveness of the council is the communication between the council and the Interns. *"I think the consistent communication from the council between the council and the interns the workshops that are arranged by the council you know council should or should I say invest time in ensuring that there is consistent communication between interns and them the organized workshops you know the administration thereof I think is a driving force why we or most of the participants feel the programme is effective".* Respondent 5

Respondent 6 indicates that the effectiveness of the internship relies on both tutors and interns and without buy-in from both sides the internship programme won't be as effective. *".... I think it's a commitment from both the pharmacist and also the interns because without their buy-in for the programme it won't be, it won't be effective. In a way that the pharmacist, use their time to make sure that the internship programme, gets to be noticeable not only for the professional as a pharmacist but also even for the other professionals to be able to see the impact of from a pharmaceutical, from the pharmacy as a whole...."* Respondent 6.

According to Respondent 8 he found it to be effective as well, mainly because it teaches you the working environment, the practice itself, in a way that you can be

able to work with people instead of theory, and then you get to understand how the systems in the health organization work. That's how he found it to be very effective. Also, he believed that the involvement of the SAPC made it easier and made it quite an effective programme.

The response from respondent 9 indicates that the internship programme gives you some insight and some confidence in learning and practicing your daily duties knowing that you are guided in the right direction. Respondent 9 also mentions that it gives you an opportunity to do practical work and everything that you have learned including school activities, allowing you to either grow or learn outside of what you already know but again, all of this under the supervision.

Respondent 12 believes that professional it helps them (Interns) to learn a lot and to apply their knowledge, their skills, education that they have learned at the university in becoming a better professional so he believes that the internship programme is effective.

“Well, I do believe the internship programme is effective. I feel like it is actually the time to get to learn exactly what is happening in the pharmacy because now we are actually integrating the knowledge you have with the pharmacy. We are integrating it with the actual practical and I feel like with those 12 months we get to meet almost all those challenges that pharmacists get to meet. Meaning that in a way we are preparing ourselves to actually get to know how to solve problems as pharmacists. So honestly, I feel like with those 12 months, after finishing those 12 months I can confidently say that I finally understand what is going on in the profession. Said respondent 13

“So, I think the pharmacy internship is effective because it is an integration from Varsity to the workplace. So, you are implementing the knowledge that you learned in Varsity. You are now doing the practical work. You are working with real patients and real colleagues. It is a whole different environment from Varsity. Because Varsity was planned with cases, but now with internships, it allows you to work with real patients under the supervision of someone. Because you are communicating with them, that is why you need to be supervised at all times”. Said respondent 10.

“So, I think the internship programme is effective because when we practically learn the theory that was taught in the class, we then create a gap. The gap, because I don't know if you've noticed, when you were learning in class, you didn't really picture what was going on. You were taught a specific function of the body and then the treatment for it, but you didn't know how it related to all the other systems. So, I think the internship is very important because it helps merge a gap or close a gap between what you learned theoretically in class, you can now do practically in the workplace or in the training programme of the internship”. said respondent 11

However, there was a deviating response from respondent 7 who in his response argued that the internship programme is effective but not fully effective. He further mentioned that the programme is effective if we are able to measure its progress by helping interns pass their CPDs and pass pre-registrations in time. He then mentioned that the reason for saying it's not fully effective is due to the fact that most interns are not fully ready to be independent pharmacists by the time they get to community service pharmacist, he said *“....it could be effective in terms of an opinion. Not entirely true, but it is somewhat effective. If we were to put it like somehow it is effective, I would agree. But it's not fully effective. It is effective because we are able to progress all our interns and help them through their pre-registration processes including CPD submissions. And they get to fulfill their internship period, the majority of them in record time. Maybe more than 80 or more than 90 percent are able to progress in record time. But my opinion of saying it is not fully effective is because by the time they reach community service, some of them are not ready for their independent responsibility as stand-alone pharmacists....”*.

4.3.1.4. Theme 2: importance of pre-registraion examination.

All respondents indicated that the pre-registration examination is a test of competence. This was supported by respondent 4 who said *“...any knowledge, every knowledge that is acquired needs to be tested so that you know if that person has that knowledge, skill and that ability..... for one to be deemed competent, that person should have in one way or the other been tested”*. Respondent 4 further mentioned that “the methods and the systems that have been put by the council in place, number one is the CPD and then number two is the pre-reg exams that

council has put together to test whether our interns are competent or they are not yet competent”.

Respondent 3 explained that the pre-registration examination is where you put all the theory you have learned in the last school years together. *“... You go to school, you study the theory aspects of pharmacy, and then you do your internship, which is the practical aspects of pharmacy. Then you're tested. We're putting together the theoretical knowledge and the practical aspects of it. So, it's good that you take that test, ...”* said respondent 3

“It's because the pre-reg is a summary of literally what we learned in school. Because when you look at our pharmacy programme at school, it's designed in a way that you cannot absorb everything all at once. So, the pre-reg exam is just a way of uhm monitoring or what can I say? I don't know how to put it, but in way modifying whatever you learned in this one last paper to ensure that you really understand what is happening. You really understand what situations you might come through and actually solve it right there and well at that moment”. respondent 1. In respondent 1's view, the pre-registration examination is a way of monitoring and modifying all that you have learnt in the past years in one last paper to ensure that you understand the pharmacy concept.

“ okay number one the pre-registration examination covers should I say almost every area where pharmacy is concerned so in other words regardless of where you are practicing as an intern whether it be to manufacturing you know your private or public institutions so you get to have an exposure even though we are in one you know area that should I say when you are in public you get to write about the pharmacy in general so you know what pharmacy entails or status and number two because of the nature of the programme we are forced to have something to do to develop ourselves personally and professionally because we at the end of the day we need to produce evidence through the CPD programme so I think it's effective it plays a significant role in preparing us graduates to be competent because it gives us or encourages us to find new ways to find new studies to develop ourselves so that we can produce that as evidence through the CPD programme”. said respondent 5

“It's because, remember, when the interns come, they only know the theory part and

the manner in which the structure of the pharmacy or how do we do our daily task is totally different from the theory part that they did in university. So when they come into, into a working environment the questions that are being asked in the pre-reg is not, is not theory, but again, it's what is actually happening in the pharmacy? So when they prepare they get out of their comfort zone of theory part and prepare in a manner that they must be able to, to know the core function of, of what is happening in the pharmacy, From dispensing, ordering of stock, and the mechanism of action.” said respondent 6

“Yes. I think it continues from my first point that they get exposed to the legal aspect in practice, the practical aspect of the legal pharmacy practice. They get exposed to the practical aspects of some to a certain level of clinical practice like pharmaceutical care. So in some institutions, you find that they are able to go through the process of dispensing for the bulk of their time. And I think in small hospitals, you would find a pharmacist that only works in the dispensary. So if it's a pharmacist who only works in the dispensary, they are likely going to say that the interim is fully prepared. But if it's a pharmacist like me who is involved in training, then you see it differently. We are able to make sure that they understand how the clinics operate, they understand how the storeroom somewhat functions, and they also understand some of the stakeholders within hospital surroundings. So yes, in that level, one is able to say somewhat they are well prepared for the pharmacy profession”. said respondent 7

“pre-reg exam encapsulates all the education that was received from level one up until fourth level. So, it sorts of makes you grab an idea of what's most important in the practice as to regard to what was learned in theory. So pre-reg exam sharpens your pharmacist, what you call it, practice skills in terms of calculating patient doses and other stuff related to that. So, it is a good tool that helps us to prepare in the pharmacy practice. Also prepare for other settings as well, not only in the work but also outside”. Respondent 8

“Okay, so the pre-reg examination plays more on the practical side of pharmacy. Like I said to you in the pre-reg question is that at school it's more theoretical. So, in the pre-reg examination, it plays and it's telling you as well to open up so that you apply what you have taken from the practice and that's you into paper and be able to convey. So, it does put you in challenge in that thing. And it prepares you for real life solving solutions.

It prepares you to be able to deal with real life and not just now questions that people have, the physical questions” Respondent 9

Respondent 10 said *“The pre-reg situation examination plays a significant role because it allows you to reach the level of competence. It increases your skills of working under pressure. So, you are working under pressure, under a specific time. At the same time, making sure that whatever you are doing is correct and you become competent at the end of the day. So, it challenges you. It challenges your knowledge on pharmacology and pharmacy as a whole at a given time”*. Here respondent 10 indicates how the pressure that we go through during the internship actually prepares our skills and competency.

According to respondent 11 the pre-registration examination serves as a minimum pharmaceutical benchmark that tests if an intern is competent or not as the interns are all tested the same way, *“...the pre-registration exam is more like a minimum benchmark, it evaluates or test if someone is competent, test if they know the basics such as calculations or certain drugs or medications, for example the ones that we are primarily concerned about...”*. “I think it plays a significant role because it creates a minimum benchmark so, everyone is graded the same way and everyone is tested the same way, to show that they are competent, but he also said that it's a minimum benchmark to just see that we all know the same information” (Respondent 12).

Respondent 13 felt that the examination is the one thing that they look forward to in their whole internship period and this anticipation usually pushes them to be more prepared when it's finally written towards year end.

“.... throughout the internship year we look forward to this examination. So, in a way it pushes us to be even more prepared because it is usually written towards the end of the year or after six months of your internship, meaning that within that six month,

you make sure that you absorb as much as you can so that we can tackle the questions during the pre-registration...". Respondent 13.

Contrary to the above statement respondent 2 differed with the above respondents and argued that "the pre-registration exam is nothing compared to what they have been exposed to in the four-year study" Respondent 2.

4.3.1.5. Theme 3: importance of CPDs during internship.

respondents unanimously agreed that the CPDs play an important role in encouraging pharmacist's continuous learning. This was sustained by respondent 1 who said "*...CPDs as it explains itself is a continuous professional development programme. So, i thinks it's very essential, it make sure that a person continues to learn, in our profession we are lifelong learners, but if we don't have anything compulsory for us to complete and to make sure that we continuously learn, some of us would just be relaxed and do nothing So, CPDs are essential to just make sure and ensure that as a professional we are continuously learning...*"

in respondent 2's view if it wasn't because of the CPDs most pharmacists were going to be stuck in area and not develop professionally, "*...Okay, first of all, as pharmacists, we are lifelong learners. Without those CPDs, we are going to be stuck in one area. As a pharmacist, you need to train your mind, you need to train your brain, and you need to always learn something new. And the CPDs are a way of actually helping us do that...*" (Respondent 2). The response by respondent 2 here emphasize that CPDs provides a necessary push for pharmacists to continue being lifelong learners as most would not willingly train their minds.

Respondent 7 said: "*.... If you look at the CPD structure, it asks, what do I need to learn? And then it asks, how will I learn it? And then it asks, how will I apply it? And then it asks, what did I learn from that? How did I apply it? What impact did it make? So, the CPD programme enables the student, the pharmacist interns, to know that every activity has a structure of being documented, a structure of being evaluated, and potentially to learn from it individually or to impact the system....*". the respondent here outlines how the structuring of the CPD document assists the interns in terms of learning during the CPDs writing.

In the opinion of respondent 8 the CPDs is one tool that keeps health professionals on their toes and keeps them updated in terms of emerging guidelines, new diseases, and new health policies. "I think it does so because professionals don't relax and say because they've learned all that they could learn in varsity, they don't need to learn anymore. CPDs are an important tool, and the CPDs help us to always gain the recent content update about all the pharmacy and health related news, such as new formulations, new products on the market, new guidelines, and new diseases that are coming in and how to treat them. it helps us update the information that we already received from the undergraduate programme" Respondent 8

Respondent 9 said, "I think the CPDs do play an important role because it helps people to develop themselves, it helps you to go out there and like to learn, and that way you can learn a lot of information, and as you say, it's a continuous development, professional development, So, it allows you to grow, it helps to show you to want to grow in your profession so that you become the best version of the pharmacist that you came to be".

Respondent 10 indicated that "...CPDs are a way of learning. So, even if you are not interested in learning something, it helps you look for loopholes. It helps you realize the amount of knowledge that you have on a specific topic and see if you need to learn further because, at the end of the day, we are compelled to learn something even if we are not interested. So, it helps us in increasing the level of knowledge and overall, our competence in the workplace.

"The CPDs have a role to continue professional development so as a professional you have to keep on like they say pharmacists is a lifelong learner. You have to keep on updating yourself with new ideas, new regulations, policies, or any outbreaks that you encounter in your profession so to prove that indeed you are educating in your profession you have to be competent in CPD so they do play a role". Respondent 12

".....I feel like the CPDs are structured in a way that they cover almost everything that we are supposed to know as pharmacists. This means that after doing the six CPDs that are expected from you and passing them, to the right platforms of getting assessed by our assessors and whole staff, I feel like when you pass the seven CPDs, I can confidently say that you are fully good.". said Respondent 13

“... Remember like I'm saying, when your internship, the internship phase is a practical learning. So putting that practical, you're summing it up, putting that practical aspect of putting the theoretical aspect of what you're learning into practice and then even jotting it down, you know. It just, it makes sense. You're putting everything together. So yeah, CPDs are very important....” respondent 3

“Like I've indicated, it's part of the learning process, because in terms of the CPDs, it's a continuous professional development. And then those standards that council has decided on them and they actually seek to diversify our thinking and our knowledge, and also to cover different areas of pharmacy. So that the interns may not be focused on one area. Like for an example, you will find a standard that deals with governance, you will find a standard that deals with information sharing, you'll find a standard that deals with ethics, you'll find a standard, those different standards, they actually broaden the knowledge of the interns in terms of when they submit their CPDs, for them not to be focused only on, for an example, dispensing as a part. So, there is part that probably one will have to explore the stock control, stock management issues there. So, I think it is important in the sense that it predispose the interns to all areas, especially in a hospital setting, all areas that are required for pharmacies to be fully functional, and be ready to take responsibility for everything” respondent 4

Respondent 5 said : “...I mean pre-registration of course it covers everything every aspect so as a graduate you will get to know what pharmacy entails overall and then the CPD programme encourages and motivates all the graduates to find always find something to do you know professionally and personally because we are expected to submit this as evidence you know every year we need to submit the CPD so we confidently say that this CPD is playing an important role in preparing us to be competent because every time we just want to develop ourselves so that even though you are not self-motivated to do it the reason the driving force may be because you need to produce evidence of you doing it so that's one thing that plays or should I say makes the participants to be confident about the CPD programme....”

” It's because now they have to explain on how tasks are done in the pharmacy. They have to give objective. Then they have to, to have the goal. Okay. Let's say for example, then now they get a prescription from a doctor and then that prescription, for

some reason doesn't meet the requirement of it being a legal prescription or a valid prescription. So, when they find that problem, they are able to go deep into checking all the requirements of the prescription. And that's where they are able to go deep into it and investigate and find out. And even to have a relationship with the prescriber"
Respondent 6.

"I think because pharmacy is primarily a patient care role, right? Okay. I do know CPDs with We are trying to establish if the graduate is ready for direct patient care, right? Okay. So, and having people who moderate that, your kind of have a benchmark to see, the information that you learned in class, is it correct? And are you also following the law? Because at the end of the day, pharmacy council is for the patient rather than for the profession. It regulates the pharmacy and the pharmacy profession, right? So, by allowing us to do CPDs I feel like it ensures is that, it ensures that one of our roles of a 12- or 11-star pharmacist is that you are a lifelong learner, right? So CPDs facilitates that." Respondent 11.

4.3.1.6. Theme 4: The pharmacists intern registration fees.

When responding to the cost of the internship registration respondent 1 said "considering that in internship you are still a student, I feel like the costs are a bit too high. As much as everybody, as in a governing body like a SAPC, they need funds for certain things, but I feel like for internship, we are still students and the costs are a bit too high".

Respondent 2 responded as follows: "... it's unnecessarily expensive because as an intern, you are coming from a background of being a student who probably received R500 rand or R1, 000. And then before you get employment, you need to make a payment to get employed. It doesn't make sense. So, for the internship registration, I believe that the South African Pharmacy Council should look into it and make some changes..." (said Respondent 2). Respondent 3 mentioned that the costs are expensive bearing in mind that the interns are just newly graduates. "...My view and my opinion is that the costs are quite expensive bearing in mind that people are just graduates, you know. And in South Africa, the majority of the people are from disadvantaged families, you know..." (Respondent 3).

According to Respondent 4 the cost that pharmacists pay for registration is expensive as compared to what other professionals in the health sector pay. Respondent 4 said *“the cost is the cost is very expensive, if one has to be honest, if you are to compare what we pay the pharmacy council and what the other professions pay their statutory bodies like your HPCSA. I think ours is a big taxing. It means that now it's only the privileged who will be able to do that. If you are not privileged, it means that you will have to be indebted for you to get into the programme itself. So, it's the cost is a bit high. Even the one for registration community service pharmacists, I think those costs must probably be revised because they are very high as compared to others. Even during our annual registration, you talk to a fellow colleague and they get scared on why do we have to pay that much. So, my answer in brief is that it's costly”*.

Respondent 7 in his response emphasized how exploitive the costs are and how the costs should be free. *“It's unacceptable. It should not be there. An intern should get a transition for free. They are learning. Yes, there should be a minimal cost of transitions, but not the R4, 000 that they pay. It's exorbitant. It sounds exploitive to me. It's really unnecessary to charge a pharmacist intern who is trying to find their fit that kind of amount”*. (Respondent 7)

“I could say unreasonable because they don't show, SAPC doesn't really show the breakdown of how they came about to that cost. It's like a cost that is imposed because we have no other choice but to take because if we don't, you don't really get to do an internship and not complete the programme. So, it's like a cost that is imposed on us but they don't show or explain how that cost came about and for me, it's a bit overestimated.” Respondent 8.

“They are very expensive. Remember, when you're an intern, you're coming fresh from school. So, the chances of you having money to even register to be an intern are very low. Chances are very low for you to have that kind of money. But I mean, they're reasonable. I think over the years, we've tried. Yeah, it's expensive. Considering that all of the time you don't recognize what it's for. But I mean, we now know that it's a good course. But yeah, I think it's not reasonable for people who are fresh from school. So, we're not giving them a chance to raise that money or pay that

for the internship.” Said respondent 9

“Registration costs are ridiculously expensive. I mean, I've seen it from different backgrounds. So, the integration from one institution into another province is an expense on its own. So, it's very difficult to pay 3000 that you might not even be getting. So, registration as an intern sounds ridiculous to me. Like the amount is just too much. So, yeah, hence a lot of us resort to applying for the plaintiff's counsel kit instead of doing the money upfront.” Respondent 10.

“I think I think they are expensive the cost are very expensive and they keep on increasing I don't know the driving force why they keep on increasing and they are expensive because because now it's difficult to get an internship placement graduates or should I say pharmacy students who graduate from various institutions just want to see themselves going through the internship regardless of whether they are getting remuneration or what so considering that fact and considering that the profession is gradually you know getting congested so with placement being an issue the issue of remuneration in the coming term may be a problem now which means even the cost the registration cost may pose to be a challenge for some with some interns.” Respondent 5

“That's crazy. You can't really, that's a lot of money. So Mr. Mmako, I think it's not fair on them as an intern to be paying that money. Then that registration money, remember when they come to work, they should register with the council. And they are from varsity and most are from disadvantaged families as well. So to expect them to pay that kind of money? What does that money do? Why other professions are being charged less than pharmacists or interns? For me, it's an unnecessary expense the pharmacy must review the cost, not only for interns, but even for annual registration as a pharmacist is too much. Respondent 6

However, the response from respondent 12 took a different direction when he indicated that he is fine with the prices the only issue might be the Council moving the payment to installments throughout the year. “I am fine with the prices, I cannot complain. Maybe they should look at considering moving the payment from early January to maybe somewhere in June, or July after they have worked at this. Because it's quite a struggle to be able to afford to pay all that money in January

before you can start with it. So, with the cost, I am happy with the price” (Respondent 12). Similarly, respondent 11 said “...when I was an intern, I thought that they were very expensive. I thought they were expensive primarily because you are starting to work and, like I honestly felt like there was no need for them to be so costly. But now that I am older, I understand why. Because it takes a lot of work to put up, I assume a thousand pharmacy students every year, there's a lot of things that have to run to make sure that that whole programme goes through so, it makes sense...”.

4.3.1.7. Theme 5: Role of stakeholders in CPDs workshop.

Subtheme 1: Council role in CPDs workshops.

respondent 1 said “I think the council should explain in depth what they require from CPDs....I feel like if they made examples, came through with a CPD, and explained step by step what the meaning is of the CPD example, that would enlighten most interns because when we attend workshops, they just explain the intern manual and they think interns understand, by the moment interns go into writing the actual CPD, interns then realize that they did not get what was said.

“The role that the council can play is for them to make these workshops readily available for interns” (respondent 2). According to respondent 3, the council should support interns in this internship journey “.... The employer, together with the council, organizes to support the students as well, the interns as well. Remember, you don't know anything about CPD. It's done at a preschool school just to introduce you to the system. But it would be nice if you go for, together with the previous classes, you go for these workshops, and attend them physically with the council-appointed people to introduce the system to the students. To explain it thoroughly. Because, honestly speaking, these online things, can be a bit tough. It can be a bit difficult. So, I think that that would be very nice”. Said respondent 3

Respondent 4 said the council should organize as many workshops as possible if they can, about two or three of them in a year, because they are now receiving interns now and then. These days, it's no longer in the olden days during his time, when he knew that they get interns in January only and then the programme itself catered to everybody. So, these days, because they receive interns now and then, council should organize as many programmes as possible.

“I think the CPD workshops have been satisfactory from my side the council should just continue to you know host those workshops consistently as they continue to do So again, I think the council needs to make it easier for the interns to know who are their assessors in terms of the CPDs because I feel like CPD assessment is subjective. For example, if two interns get to submit the same CPD entry assessed by two different assessors now one may be competent and one may be deemed not competent because somehow it is affected by the subjective opinion of the assessor. So it must become easier for the intern and the assessor to know sort of as an intern to know who is assessing me so that you can be guided on what the assessor wants. I think that's one role that the council can play in trying to make sure that interns understand and know who their assessors are”. said respondent 5

Respondent 6 mentioned that the SAPC must make sure that they provide adequate resources to make the CPD workshop successful, *“the pharmacy council must make sure that they provide adequate resources to make CPD workshop successful. In a way that the venue where the CPDs workshop are held is a convenient venue accessible for the interns and the facilitators must be knowledgeable of what they are going to present to the intern”* Respondent 6.

“Well, the SAPC is playing a good role in that level because they monitor the submission. They monitor the quality of the submission. So, I think there is not much that they can do there. The only thing that the SAPC could do would be to fully empower and evaluate if the tutors are well-empowered. So far, the tutors are not fully empowered to manage the CPD workshops and things like that. So they don't

know what they are doing in that space” said respondent 7. While respondent 8 said “In terms of the council, their role should be to explain what CPDs are because most of the graduates are introduced to CPD's as they go into an internship or in the work field. So, they have explained how to do CPDs according to what they want or how they mark the CPDs”.

When coming to the role of the Council in the CPDs workshop respondent 10 indicated that the council must take the register of the interns that are attending the workshop, Respondent 10 said “*The council must take the register of the interns that are attending the workshop and it should be known that the workshop is compulsory for the intern and the tutor to attend*”.

“And then for council, I said that I feel that council, I don't know if they use some sort of checklist to mark us. I think they do. I think they showed one of them on the workshop in the booklet, right? But somehow, as a congruent checklist because there are times when you use that checklist and then they still send you a CPD back with no reason why it should be fixed, you know? So, yeah ... Also, there maybe alternative ways of allowing us to do CPDs. I don't know what that could look like, but... Yeah, provide like more structured support”
Respondent 11

“And then maybe the second point, I think the role that should be played by the council, maybe the council should allow us for them to engage them more. Because in the platform, you get to ask the question by typing. And you are not given a chance to follow up on the question you ask. So, the answer they give you, by default, you might just understand it. So, I feel like they should, when you type a question, they should make it an open platform where the students can voice out while everyone is listening. And then maybe engage the person who is responding, just so that we can help them carry it in certain aspects. Because sometimes, I feel like during those workshops, we are doing a lot of listening and engaging”.
Respondent 13

Subtheme 2: Pharmacy managers and tutor's role in CPDs workshop.

In her response, respondent 1 said “I wish that tutors took seriously the mentoring or tutoring opportunity into assisting interns, some tutors are just like. I'm a tutor, you come to me when you need something, they don't care if you do your CPDs, they don't care if you understand, and they don't care about anything. So, the role that an employer can play in this is making sure that those registered as tutors do their jobs in a tutoring manner”. According to respondent 2 *“The employer should at least make it possible for us as employees to be able to attend those workshops either virtually or physically. And they should also provide resources for us to be able to attend those workshops”*.

The employer should also invest time in changing either the pharmacy manager or the tutors. They should also invest time in participating in the workshops so that at least they get to understand what their interns are doing, said Respondent 5. In addition to that respondent 6 mentioned that “the employer must make sure that there is also available transportation of interns from where they are working to the workshop venue and the employer must give them enough time to prepare for the workshop”.

“About employer, the employer has to make sure that they provide the graduates with the correct tools or enough resources to make those CPDs happen. For instance, hospitals or a setting that does not have compounding areas can prevent a person not to doing CPD on compounding. So, the employer has to make sure that the setting has enough facilities to go with the CPD requirement” said Respondent 8. Respondent 13 added by stating that *“the employer must be available in workshops so that they can take notes and see what should improve at the workplaces or the kind of challenges the interns are facing”*

“in terms of the employer, the employer must be willing to offer itself and make resources available for the interns to execute their main objective of learning and getting practical experience. And where necessary, the employer needs to also orientate and teach these interns about the proceedings and procedures, the standard procedures of that particular pharmacy where the intern is carried out. The tutors must also play their role in terms of supporting these interns to be competent and also to check their work now and then and also to advise and give themselves

time to assess them and check their CPDs, go through them, so that they can be found to be competent, especially on the CPDs part". Respondent 4.

"That is to support the interns. Support them how? Make sure that their tutors are supporting the interns. This is pertained to the pharmacy manager. Make sure that you have regular meetings. The pharmacy manager must check with the tutor. Because it becomes difficult as an intern to now want accountability from your supervisor. Because sometimes you don't get a lot of support from your tutor as an intern. The only person who can get the tutor to guide and be quite responsible for the intern is the tutor supervisor, who is the manager. Perhaps regular meetings with the interns and tutors from the managers. Maybe find out what's happening. Are the interns coping? Are they fine? Are they submitting on time? Check with the tutors. Are they also submitting their student reports on time? Those things do affect interns. If your tutor is not on par with you, if your tutor is not supportive of you, it will affect you as an intern. In terms of registration for exams, in terms of exits". Respondent 3.

"In terms of the role of the employer in that space, I think the employer needs to improve on the kind of environment that they provide for these graduates in the sense that when you arrive in the facility, the orientation programme usually is vague. And it differs from one facility to another. Unless you are working in the private sector like CLICKS, for example, the orientation programme is very structured and the monitoring programme is very structured. But in the public sector, it depends on where you are working. So the quality of the work that you get from an intern differs from one facility to another. Secondly, if the institutions had a structured internship development programme in-house that is linked with the requirements or the output of the South African Pharmacy Council, the interns would benefit a lot. Now in terms of the tutors themselves, they need to be proactive, and desire to contribute. Because some interns are exposed to a tutor who only fulfills the function or the instruction of the employer by saying they need an intern. But they don't contribute to the training of that intern. Therefore, they don't hold interns accountable. So they miss the level of impact at an intern level to teach the young pharmacists accountability and responsibility, innovation and proactivity". Respondent 7

"And for the employer, the employer must ensure that the interns, he or her interns

attend the workshop. They should, have a responsibility to, let's say, give the interns time off to attend the workshop. If the workshop is going on during the time, they have a role of giving the interns a day off, not a day off, but some time off to attend the workshop” Respondent 10

“What I've noticed is that some of the supervisors or rather the tutors, more of I'm doing this because I have to do it, right? Sometimes play more of a mentorship role, like being involved with the interns, because a lot of interns come from varsity, not knowing what to expect. And then you come into a workplace where the workplace also has workplace politics, right? So, the supervisors can be more of mentors and help guide and be involved with the interns”. Respondent 11.

“Let's say some interns work with no network coverages Well, the dentist can provide it to them and can go write those exams and transport them and provide it so the employer the role the employer can play in this part is to provide the intern with a one-week study So that the intern can prepare for those CPDs and that registers in examination”. Respondent 12

Subtheme 3: Interns' role in CPDs in workshops.

Respondent 1 said, “as interns they should also make it their role to ask questions, seek clarity and try and perform better”. While respondent 2 said, “the interns should just be available, they should make sure that they are available to go and attend those workshops because the CPD's very important in a professional career”.

“...And then as for the interns themselves, they must just take responsibility. And they get to know that they are still in the learning process. And much of the task is required from their side. I mean, they need to be creative, they need to be willing to learn. They need to follow the standard operation procedures that are set for every workplace. And then in that way, I think it will it will help them. If I were to make a recommendation, I would say for the first month of being in a place, they should go through the standard operating procedure five, so that they can learn and get to understand what happens in different areas. So, I think that is my take on that...”.

Said respondent 4. Respondent 5 added by saying “...the interns should also continue attending the workshops...”

“... When an intern comes here, they need to know what they wish to learn. I have asked my interns when they start, what is your professional development plan? And they must submit it in writing. And we monitor it throughout the year. Now, it's not like that at the level of an intern. Even if you solicit that information, the intern doesn't think it's required...”. Said Respondent 7. According to Respondent 8 “As interns they need to learn more or read more on how to do the CPDs, learn more on guidelines and also have workshops regarding the CPDs amongst the graduates or the interns in a particular facility”.

“And the interns, it's our responsibility as interns to attend the CPD workshop so that we are guided on how to complete a CPD and how to be competent at one.” Respondent 10

“And the intern, I feel like, has a responsibility to participate in what is required of them. To do what is required of them. And if they do not understand, to go ask for help, whether it's from the... from the SAPC or their mentor or anyone in the workplace. And also, participate in activities around the area they work at. So that they get the exposure that is needed for them”. Respondent 11.

“The role that should be played by the intern, maybe the intern should try to prepare for those workshops, even though it's almost impossible or it's a bit difficult to prepare for them, given our work and all that. I think the intern should prepare more for those workshops because, when you type a text, you get to engage, you get a chance to engage the people who have been in the workshop and all the people that are in the room who can respond to all the queries or all the questions that you have. I feel like with us interns, a lot of times, we just log in and not during the day, just so that the person can recognize me and wait for the register so that she can sign and leave. So, I think the role of the intern should be engaging more and get a chance to ask those questions and all those challenges that you have.” Respondent 13.

4.3.2 DISUCSSION OF RESULTS.

4.3.2.1. Theme 1: internship as a transition tool from theory into practice.

In phase 1, the study indicated that the internship pharmacy internship is effective. To support this notion, respondents in phase 2 mentioned that it serves as a transition tool from theory into real-world practice. It was further noted that the reason for the internship being effective is that it teaches students how things are done in the real workplace. Respondent 2 also mentioned that it's effective because the training they get at hospitals is different from what they get as students. This is in line with a study by Galbraith & Mondal, (2020) which indicated that during an internship, students get acquainted with how real work life is. According to the SAPC, (2023) in its introductory statement to the intern manual, the internship period is a significant year for pharmacy graduates as it provides them with an opportunity to gain practical experience in a real-work setting. The General Pharmaceutical Council (GPhC) of the United Kingdom in its pre-registration handbook (GPhC, 2020) indicated that the original aim of the internship programme is to expose their trainees to the general practice for at least 13 weeks to prepare them to provide pharmaceutical services to their National Health System.

Similarly, the Tanzania Pharmacy Council (Pharmacy Council Tanzania, 2018) in its pharmacy internship also stated that the objective of the internship is to broaden their knowledge and enable them to have practical experience before their registration as pharmacists. According to Nisly & Brennan (2018), the role of pharmacists in patient care is radically expanding, therefore the profession must prepare and train its graduates for patient care, and the internship after the formal curriculum can help facilitate this preparation

Respondents also mentioned that the reason for the internship being effective is because of the communication between interns and the council during this period. The SAPC uses a variety of channels such as emails, WhatsApp, and e-newsletters to communicate with interns. According to Musheke and Phiri (2021), communication in an organization is an important element that has effects on the performance of individuals in an organization.

Another reason for the effectiveness is that respondents said the internship serves as a confidence booster, and respondents mentioned that graduates complete the internship programme equipped with proper knowledge. In agreement, a study at the University of California by (Schnoes et al., 2018) revealed that the internship programme increases students' confidence and career development skills and enhances decision-making in students' respective careers.

4.3.2.2. Theme 2: the importance of CPDs during internship.

Phase 1 results showed that pre-examination plays an important. In support of this respondents said it's important as it's a tool that the council uses to test if interns

have the same pharmaceutical knowledge just before they (Interns) are released into the markets. Respondents also indicated that the pre-registration plays an important role as it covers almost all the areas of pharmaceuticals and therefore ensures that interns are competent and know all areas of pharmacy. This is in line with the SAPC intern manual SAPC, (2023) which strongly recommends that students be exposed to all sectors of pharmacy during the internship year.

Respondent 13 stated that the pre-registration examination allows one to reach the level of competence. Phase 2 results show that it's important is it's a system where interns put all the theories learned in the school together into a single exam to test the knowledge acquired in all those years. This finding is in agreement with a guideline by the Singapore Pharmacy Council. (2023) which in its objective for the competency examination indicated that the pharmacy competency examination evaluates the pharmacist's understanding and knowledge of pharmacy topics for effective professional practice.

In agreement with the results of the study, a study by (Windle et al., 2020) indicated that the pharmacy internship programme allows new graduates to show their competency after a successful undergraduate Bachelor of pharmacy programme.

Respondent 4 conforming to phase 1 results said "Any knowledge and every knowledge that is acquired needs to be tested so that you know if the person has acquired that knowledge while Respondent 6 mentioned that when interns come to the workplace they only know the theory part so the pre-registration examination examines them in terms of what is happening in the pharmacy.

4.3.2.3. Theme 3: The Importance of CPDs during Internship.

Phase 1 results showed that CPDs play an important role during internship. According to respondents, this is due to the fact that CPDs provide a necessary push for pharmacists to continue being lifelong learners and develop themselves professionally. According to a study by Ahmed (2019), the CPDs assist health professionals in becoming competent and effective individuals, the study further indicates that the CPDs are important in keeping the knowledge and skills of professionals up to date. A study in England indicated that the factors to make CPDs effective for health professionals include, self-motivation and a positive work environment among many others, the study also indicated that CPDS being included in the workspace encourages vigorous learning(King et al., 2020).

Respondent 5 said that in doing CPDs graduates learn how to perform tasks, and how to document and provide evidence for tasks, which will help pharmacists in the future when performing record-keeping and documentation of pharmacy documents. Additionally, respondent 8 agreed by saying the CPDs are one tool that keeps health professionals on their toes and keeps them updated in terms of guidelines, new diseases, and new health policies.

According to respondent 13, “the CPDs content is structured in such a way that it covers almost everything that interns need to know, this ensures that after being successful in all your CPDs you should be deemed fully good”.

4.3.2.4. Theme 4: The pharmacist intern registration fees.

From the phase 1 study, results indicated that the registration costs are not reasonable. To support this Respondent 1 said they are not reasonable as people have just completed their final levels and are yet to transition into a different world. According to Participant 4, the fees are not reasonable when compared to what other health professionals pay their regulatory bodies. One participant mentioned that the fees do not show value for money as the costs and breakdown of how the money is used are not shown explicitly to interns.

The other reason for registration costs not being reasonable according to respondent 5 is because the fees keep on increasing. Respondent 7 said, “The costs are exorbitant and should not be there, the transition should be for free not the R4000 that they pay”.

Although results in Phase 1 indicated that the costs are not reasonable, respondent 12 in Phase 2 said it makes sense because the Council has a lot of administration and preparation to do for the internship programme, and the respondent later agreed that the costs are a little bit steep especially that we are coming from different backgrounds.

4.3.2.5. Theme 5: Role of stakeholders in CPDs workshop

CPD workshops are an important part of the actual CPDs. It prepares students and interns to write their CPDs and give interns a guide on how to write CPDs. The findings in this phase indicate that to make CPDs a success, the CPD workshops themselves must first be a success. In making the CPDs workshop a success some roles should be played by the Council, the interns, the tutors, and/or pharmacy managers. Phase 2 findings indicate that the council should explain to interns what CPDs are and what their expectations from students are. The study further indicated that the council should ensure that the CPDs workshops are held frequently to afford students as much opportunity to get an understanding of the system.

When coming to the role of the tutors and pharmacy managers the study found that the tutors should take the whole tutorship seriously, this could be because of the reluctance of most tutors in the programme. The findings further indicated that the pharmacy managers should organize transportation to the venues of the workshops and assist the students with study leaves as necessary as possible. In this study, participants indicated that the interns should just be available for all organized workshops and be as attentive and devoted as possible to the workshops.

4.4 SUMMARY

In this chapter results obtained from the questionnaire including respondent's demographics for phase 1 were presented. The results were further analyzed using the SPSS system. The results were then discussed using the current existing

literature. For phase 2, one-on-one interviews were developed from phase 1 responses, and the results for the interviews were presented, coded into themes, and further analyzed, the results were then discussed using the current literature. The next chapter will focus on the summary of the findings, the overall conclusion of the study, the limitations of the study, the recommendations from the study, and the references used in this study.

CHAPTER 5

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 INTRODUCTION

In this chapter the researcher focuses on the summary of study results, the study limitations, and the recommendations of the study.

5.2 SUMMARY OF RESULTS

The study aimed to evaluate and explore the pharmacy graduates' and employers' perceptions of pharmacy internship programmes in public hospitals around Limpopo province. The objectives of the study were: To assess the perceived effectiveness of the Pharmacy internship programme by Pharmacy graduates and the employer; To assess the role played by the pre-registration examination in preparing Pharmacy graduates from employers' and Pharmacy graduates' perspectives; To assess the role played cpd in preparing Pharmacy graduates from employers and Pharmacy graduates' perspective; Explore the perception of pharmacy graduates and employers on pharmacy internship programme.

The results obtained from the study indicate that participants perceived the internship programme as an effective programme towards enhancing and preparing students for the real-world space, this is because it is well understood by participants that the intern serves as a bridge between theoretical knowledge and practical knowledge. The study also indicated that the CPDs and the pre-registration examination are vital components of the internship structure, The CPDs according to participants in the study CPDs provide and ensure that continued learning in health is achieved and professionals are up to date in terms of emerging skills and knowledge in the health space, The participants indicated that the pre-registration examination is vital inadequate preparation of interns towards their career paths as a pharmacist as it is important in assessing interns clinical knowledge and the application of that clinical knowledge.

The study also showed that the Tutors and pharmacy managers must prepare the facilities and ensure that facilities have enough resources for training interns and provide full support to the interns throughout their whole internship programme. The study also showed that there is a little bit of reluctance from tutors to take part in this whole internship programme.

5.3 CONCLUSION

The study found that the internship programme is effective through its system of CPDs and pre-registration examination which play a significant role in making the programme a success. The study found that the CPDs and pre-registration examination are vital components in preparing interns for their career paths as pharmacist pharmacists. The study also found that interns pharmacy managers and or tutors perceive the programme as effective, although there is a need to increase tutors' and pharmacists' participation in the programme.

5.4 RECOMMENDATIONS

The following recommendations are made based on the results of the study:

- The SAPC should hold venue-based internship workshops every 8 weeks to ensure that there is consistent training for interns
- The SAPC should hold training for tutors as they play an important in the programme.
- The Department of Health and SAPC should develop a fixed rotational system to ensure that all interns across different facilities have the same exposure after the internship programme.
- The SAPC and Department of Health should consider training interns only at tertiary or academic hospitals.
- The SAPC Should consider allowing interns to pay internship registration fees on a monthly basis in installments and allow interns to register for internship programme and settle the costs at a more convenient time process should be

swift and less complicated to students since the current system of paying costs at a later stage is a more complex process.

5.5 LIMITATIONS OF THE STUDY

The focus of the study was only on pharmacists in the public sector in Limpopo Province. As a result, the findings of this study should not be made universal to the rest of the population in the province and country. There was minimal literature and few studies done on the similar topic in the past few years. The research had to interview participants telephonically as participants were fairly distributed across the province, and most participants had network issues as a result it was a challenge to interview without disturbances.

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5.7 APPENDICES

Appendix A: Questionnaire

SECTION A

Demographics

A. Age

--

B. Gender

Male	Female
-------------	---------------

C. Race

black	White	Coloured	Indian
--------------	--------------	-----------------	---------------

D. District of occupation.

District	Tick
Sekhukhune District	
Capricorn District	
Mopani District	
Vhembe District	
Waterberg District	

E. Highest qualification achieved.

Qualification	Tick
Bachelor's degree	
Honours degree	
Master's degree	
Doctoral degree	

F. Institution where qualification was achieved.

Institution Name	Tick
Rhodes University	
University of Western Cape	
Stellenbosch University	
University of Witwatersrand	
University of Limpopo	
University of Cape Town	
University of Kwa-Zulu Natal	
Sefako Makgatho Health Sciences University	
Nelson Mandela Metropolitan University	

Other (specify)	
-----------------	--

G. Current occupation

Intern Pharmacist	Community pharmacist	Pharmacy manager
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H. If a Pharmacy manager, indicate years of experience in the management position.

0-5 Years	6-10 Years	11-15Years	≥16 Years
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SECTION B

PERCEIVED EFFECTIVENESS OF THE PHARMACY INTERNSHIP PROGRAMME

1. The registration process for a pharmacy internship is easy and user-friendly.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
--------------------------	-----------------	----------------	--------------	-----------------------

2. The cost of pharmacy internship registration is reasonable.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
--------------------------	-----------------	----------------	--------------	-----------------------

3. The Internship programme adequately prepares interns towards their pharmacy career paths as pharmacist

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
--------------------------	-----------------	----------------	--------------	-----------------------

4. The training period of 12 months is sufficient in preparing pharmacy interns in all pharmacy domains and competencies.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
--------------------------	-----------------	----------------	--------------	-----------------------

5. The internship programme effectively prepares the intern to be competent in safe and rationale use of medicines and medicinal devices.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
--------------------------	-----------------	----------------	--------------	-----------------------

6. The internship programme effectively prepares the intern to be competent in promotion of public health

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
--------------------------	-----------------	----------------	--------------	-----------------------

7. The internship programme effectively prepares the intern to be competent in supply of medicines and medical devices

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
--------------------------	-----------------	----------------	--------------	-----------------------

8. The internship programme effectively prepares the intern to be competent in organizing and management of pharmaceutical services

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
--------------------------	-----------------	----------------	--------------	-----------------------

9. The internship programme effectively prepares the intern to be competent in providing education, research and critical analysis of pharmaceutical policies.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
--------------------------	-----------------	----------------	--------------	-----------------------

10. The training facility provides adequate resources for the training of pharmacy interns

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
--------------------------	-----------------	----------------	--------------	-----------------------

11. The rotation activities are structured and well organised

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
--------------------------	-----------------	----------------	--------------	-----------------------

12. The pharmacy staff gives sufficient support to the interns.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
--------------------------	-----------------	----------------	--------------	-----------------------

13. The tutors demonstrate ability and interest in training interns

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
--------------------------	-----------------	----------------	--------------	-----------------------

14. There is effective communication between the SAPC and the intern

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
--------------------------	-----------------	----------------	--------------	-----------------------

15. There is effective communication between the intern and the tutor.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
--------------------------	-----------------	----------------	--------------	-----------------------

SECTION C

THE ROLE PLAYED BY PRE-REGISTRATION EXAMINATION IN PREPARING PHARMACY GRADUATES.

1. The pre-registration examination adequately prepares interns for their pharmacy career paths as pharmacist pharmacists.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
--------------------------	-----------------	----------------	--------------	-----------------------

2. The pre-registration exam is set in line with the activities within the internship programme.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
--------------------------	-----------------	----------------	--------------	-----------------------

3. The pre-reg examination workshops are sufficient in preparing interns for pre-registration examinations.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
--------------------------	-----------------	----------------	--------------	-----------------------

4. The internship pre-registration examination is essential in determining the competency of an intern.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
--------------------------	-----------------	----------------	--------------	-----------------------

5. The pre-registration examination written during the internship programme is:

Too simple	Simple	Moderate	Complicated	Too complicated
-------------------	---------------	-----------------	--------------------	------------------------

6. The time given during the pre-registration examination is:

Adequate	Slightly adequate	Neither adequate nor inadequate	Slightly inadequate	Inadequate
-----------------	--------------------------	--	----------------------------	-------------------

SECTION D

THE ROLE PLAYED BY CONTINUOUS PROFESSIONAL DEVELOPMENT (CPD) IN PREPARING PHARMACY GRADUATES

1. The cpdss adequately prepare interns towards their pharmacy career paths as a pharmacist

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
--------------------------	-----------------	----------------	--------------	-----------------------

2. The cpds are set in line with the activities within the internship programme.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
--------------------------	-----------------	----------------	--------------	-----------------------

3. The CPDs are essential in determining the competency of an intern.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
--------------------------	-----------------	----------------	--------------	-----------------------

4. The CPDs workshop are sufficient in preparing interns for submissions of CPDs

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
--------------------------	-----------------	----------------	--------------	-----------------------

5. The competency standards set in the CPDs are

Adequate	Slightly adequate	Neither adequate nor inadequate	Slightly inadequate
-----------------	--------------------------	--	----------------------------

Appendix B: Consent form

PROJECT TITLE: PHARMACY GRADUATES AND EMPLOYERS' PERCEPTION ON PHARMACY INTERNSHIP PROGRAMME IN PUBLIC HOSPITALS AROUND LIMPOPO PROVINCE.



BY: Mr. Mmako K

SUPERVISOR: Mr. Manyama TL CO-SUPERVISOR: Mr. Tshitake RM, Ms. Mokou RC & Ms. Moloto NB

I _____ hereby willingly volunteer to take part in the project described above. I've been approached to take part in the study. I have had the opportunity to ask additional questions. My questions have been answered satisfactorily and I have been given sufficient time to decide about participating.

I know that participation is completely voluntary and that I can decide at any moment to decline or withdraw participation, without explanation or prejudice. Any data already obtained about me will be destroyed at my request.

I consent to the publication of the research I have provided for this project, as long as names or any other details that could be used to potentially identify me or my family are not published. I have been informed and I realize that:

1. The study is about pharmacy graduates and employers' perception of pharmacy internship programme in Limpopo province.
2. The Ethics Committee has approved that individuals may be approached to participate in the study.

3. The research project, i.e., the extent, aims, and methods of the research, has been explained to me.
4. I will be made aware of any new information during the research project that might have an impact on my decision to continue participating.
5. Only those directly participating in the research will have access to the documents related to my involvement in the study.
6. The researcher(s) will respond to any queries I may have about the study or related topics.
7. I may get in touch with the researcher (Mr. Mmako K) or Mr. Manyama TM if I have any inquiries or concerns about the study.
8. I have received assurances that the data collected from me will be kept private and confidential and used only for this study.

SIGNATURE OF PARTICIPANT

SIGNATURE OF WITNESS

SIGNATURE OF INVESTIGATOR

Signed at _____ this ____ day of _____ 20__

Appendix C: Permission Letter to the Limpopo Department of Health.



From: University of Limpopo,
Department of Pharmacy
School of Health Care Sciences
O-block Building

To: College Ave, Hospital Park, Polokwane, 0699
Limpopo Department of Health
Pharmaceutical services
Att: Mogale Happy

Date 19 JULY 2022

Dear Madam,

Re: Permission to conduct research at hospitals under the Limpopo Department of Health.

My name is Mmako Karabo Student no: [REDACTED].

I am pursuing a master's degree in pharmacy practice at the school of Health Care Sciences at the University of Limpopo. I am requesting approval to conduct my

research at the hospital's facilities administered by the Limpopo Department of Health.

My research focuses on the perception of pharmacy graduates and pharmacy employers on internship programme in public hospitals in Limpopo province and I aim to evaluate and explore the pharmacy graduates' and employers' perception of pharmacy internship programme in public hospitals around Limpopo province.

The SAPC demands that upon completion of a 4-years qualification, new Pharmacy graduates should enroll in a compulsory one-year internship programme to gain further knowledge in the field. While its theoretical purpose is known, it is not known whether graduates doing internships in Limpopo province hospitals get to meet fully the objectives of the internship programme.

My observation is that the SAPC does not investigate, improve, and assess the internship programme feedback. After the internship programme, the council does not evaluate nor ask for comments, recommendations, and feedback from successful interns. The feedback and comments from the interns can assist the council in improving the standard and the general internship mandate

The research will entail collecting data from the interns, community service pharmacists, and pharmacy managers. If they agree, they will be asked to fill out questionnaires and participate in one-on-one interviews. The questionnaire takes about 10 minutes to be filled and may take place during or after working hours. The one-on-one interviews take approximately 10 minutes and will be conducted at the premises during working hours. The one-to-one interviews will be audio-recorded.

Before the research begins, participants will be asked to provide their written or verbal consent. Their comments will be kept private, and unless otherwise stated, identities (including their names and the name of the organization) will be kept

anonymous. All data from the study that is published or written will respect the privacy of each individual. You will receive the findings in the form of a dissertation.

Participants in the study won't experience any advantages or disadvantages. They will be reassured that they are free to withdraw their consent at any time without incurring any costs throughout this project. There are no known dangers associated with taking part in this study. Participants will be referred for counseling sessions if necessary. The study's participants won't receive any reimbursement.

Consequently, I'm writing to seek formal written permission to carry out my research at the Limpopo Department of Health.

Kindly Let me know if you need any other information. I eagerly await your response as soon as it is practical.

Yours sincerely,

Mmako Karabo

Appendix D: Permission letter to pharmacy Managers.



From: University of Limpopo,
Department of Pharmacy
School of Health Care Sciences
O-block Building

To: Respective Hospital Pharmacies
(Address of each hospital to be included)
Att: Pharmacy Managers

Date 19 JULY 2022

Dear Sir/Madam,

Re: Permission to conduct research at your pharmacy.

My name is Mmako Karabo Student no: [REDACTED].

I am pursuing a master's degree in pharmacy practice at the school of Health Care Sciences at the University of Limpopo. I am requesting approval to conduct my research at your facility.

My research focuses on the perception of pharmacy graduates and pharmacy employers on internship programme in public hospitals in Limpopo province and is to evaluate and explore the pharmacy graduates' and employers' perception of pharmacy internship programme in public hospitals around Limpopo province.

The SAPC demands that upon completion of a 4-years qualification, new Pharmacy graduates should enroll in a compulsory one-year internship programme to gain further knowledge in the field. While its theoretical purpose is known, it is not known whether graduates doing internships in Limpopo province hospitals get to meet fully the objectives of the internship programme.

My observation is that the SAPC does not investigate, improve, and assess the internship programme feedback. After the internship programme, the council does not evaluate nor ask for comments, recommendations, and feedback from successful interns. The feedback and comments from the interns can assist the council in improving the standard and the general internship mandate

The research will entail collecting data from the interns, community service pharmacists, and yourselves as pharmacy managers. Should you all agree, you will be requested to complete a questionnaire and participate in a one-on-one interview. The questionnaire takes about 10 minutes to be filled and may take place during or after working hours. The one-on-one interviews take approximately 10 minutes and will be conducted at the premises during working hours. The one-to-one interviews will be audio-recorded.

Before the research begins, participants will be asked to provide their written or verbal consent. Their comments will be kept private, and unless otherwise stated, identities (including their names and the name of the organization) will be kept anonymous. All data from the study that is published or written will respect the privacy of each individual. You will receive the findings in the form of a dissertation.

Participants in the study won't experience any advantages or disadvantages. They will be reassured that they are free to withdraw their consent at any time without incurring any costs throughout this project. There are no known dangers associated with taking part in this study. Participants will be referred for counseling sessions if necessary. The study's participants won't receive any reimbursement.

Consequently, I'm writing to seek formal written permission to carry out my research at your pharmacy.

Kindly Let me know if you need any other information. I eagerly await your response as soon as practically possible. Yours sincerely,

Mmako Karabo

Appendix E: Ethical clearance



University of Limpopo
Department of Research Administration and Development
Private Bag X1106, Sovenga, 0727, South Africa
Tel: (015) 268 3935, Fax: (015) 268 2306, Email: anastasia.ngobe@ul.ac.za

TURFLOOP RESEARCH ETHICS COMMITTEE
ETHICS CLEARANCE CERTIFICATE

MEETING: 31 October 2022

PROJECT NUMBER: TREC/557/2022: PG

PROJECT:

Title: Perception of pharmacy graduates and pharmacy employers on internship program in public hospitals In Limpopo Province.
Researcher: K Mmako
Supervisor: Mr. TL Manyama
Co-Supervisor/s: Mr. RM Tshitake
Ms. RC Mokou
Ms. NB Moloto
School: Health Care Sciences
Degree: Master of Pharmacy in Pharmacy Practice

PROF D MAPOSA
CHAIRPERSON: TURFLOOP RESEARCH ETHICS COMMITTEE

The Turfloop Research Ethics Committee (TREC) is registered with the National Health Research Ethics Council, Registration Number: **REC-0310111-031**

Note:

- i) This Ethics Clearance Certificate will be valid for one (1) year, as from the abovementioned date. Application for annual renewal (or annual review) need to be received by TREC one month before lapse of this period.
- ii) Should any departure be contemplated from the research procedure as approved, the researcher(s) must re-submit the protocol to the committee, together with the Application for Amendment form.
- iii) PLEASE QUOTE THE PROTOCOL NUMBER IN ALL ENQUIRIES.

Appendix F: Faculty Endorsement Letter



University of Limpopo
Faculty of Health Sciences
Executive Dean

Private Bag X1106, Sovenga, 0727, South Africa
 Tel: (015) 268 2149, Fax: (015) 268 2685, Email:tebogo.mothiba@ul.ac.za

DATE: 06 SEPTEMBER 2022

NAME OF STUDENT: MMAKO K
STUDENT NUMBER: [REDACTED]
DEPARTMENT: PHARMACY
SCHOOL: HEALTH CARE SCIENCES
QUALIFICATION: MPHARM

Dear Student

FACULTY APPROVAL OF PROPOSAL (PROPOSAL NO. FHDC2022/3)

I have pleasure in informing you that your MPHARM proposal served at the Faculty Higher Degrees Meeting on 20 JULY 2022 and your title was approved as follows:

Approved Title: "Perception of Pharmacy graduates and Pharmacy employers on Internship program in Public Hospitals in Limpopo Province"

Note the following:

Ethical Clearance	Tick One
Requires no ethical clearance Proceed with the study	
Requires ethical clearance (TREC) (apply online) Proceed with the study only after receipt of ethical clearance certificate	√

Yours faithfully

Prof T.M Mothiba

Chairperson

Supervisor: Mr. Manyama T.L

Co-Supervisor: Mr. RM Tshitake

Ms. RC Mokou

Ms. NB Moloto

Appendix G: HREC approval letter



LIMPOPO
PROVINCIAL GOVERNMENT
REPUBLIC OF SOUTH AFRICA

DEPARTMENT OF
HEALTH

Ref : LP_2022-11-017
Enquires : Ms PF Mahlokwane
Tel : 015-293 6028
Email : Phoebe.Mahlokwane@dhsd.limpopo.gov.za

MMAKO KARABO

PERMISSION TO CONDUCT RESEARCH IN DEPARTMENTAL FACILITIES

Your Study Topic as indicated below;

**PERCEPTION OF PHARMACY GRADUATES AND PHARMACY EMPLOYERS ON
INTERNSHIP PROGRAM IN PUBLIC HOSPITALS IN LIMPOPO PROVINCE**

1. Permission to conduct research study as per your research proposal is hereby Granted.
2. Kindly note the following:
 - a. Present this letter of permission to the Office District Executive Manager a week before the study is conducted.
 - b. This permission is **ONLY** for all NHRD selected facilities
 - c. In the course of your study, there should be no action that disrupts the routine services, or incur any cost on the Department.
 - d. After completion of study, it is mandatory that the findings should be submitted to the Department to serve as a resource.
 - e. The researcher should be prepared to assist in the interpretation and implementation of the study recommendation where possible.
 - f. **The approval is only valid for a 1-year period.**
 - g. If the proposal has been amended, a new approval should be sought from the Department of Health
 - h. Kindly note that, the Department can withdraw the approval at any time.

Your cooperation will be highly appreciated

Head of Department

pp

12/12/2022

Date

Private Bag X9302, Polokwane
Fidel Castro Ruz House, 18 College Street, Polokwane 0700. Tel: 015-293 6000/12. Fax: 015 293 6211.
Website: <http://www.limpopo.gov.za>

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Appendix H: Phase 2 Interview Question

PERCEPTION OF PHARMACY GRADUATES AND PHARMACY EMPLOYERS

ON INTERNSHIP PROGRAMME IN PUBLIC HOSPITALS IN LIMPOPO PROVINCE

Phase 2: Qualitative strand ended open-ended questions for face-to-face interviews.

- 1.) From phase 1 results majority of the participants in the study indicated that the pharmacy internship programme is effective, can you explain the driving factors behind this statement?
- 2.) Can you describe reasons why most participants said that the pre-registration examination plays a significant role in preparing pharmacy graduates to be competent?
- 3.) Why do you think is the reasoning behind most participants confidently saying that the CPDs play an important role in preparing pharmacy graduates to be competent?
- 4.) What is your view on the pharmacy registration internship costs?
- 5.) Can you explain the roles that should be played by the council, employer, and interns in making CPD workshops a success?

Appendix I: an invitation to participate in an interview

RE: Invitation to participate in a study.



From: University of Limpopo,

Department of Pharmacy

School of Health Care Sciences

O-block Building

To: Pharmacist

Date 04 June 2022

Dear Pharmacist

Re: Invitation for participation in a study in the form of a telephonic interview. My name is Mmako Karabo Student no: [REDACTED]. I am studying for Master of pharmacy in pharmacy practice at the school of Health Care Sciences at the University of Limpopo. I am kindly requesting your participation in a master research study that I am conducting on the perception of pharmacy graduates and pharmacy employers on internship programme in public hospitals in Limpopo province, the aim is to evaluate and explore the pharmacy graduates' and employers' perception on pharmacy internship programme in public hospitals around Limpopo province. We therefore invite you to be part of this interview.

Part of the study involves one-on-one interviews which take approximately 10 minutes and will be conducted telephonically during working hours that are suitable for you. The one-to-one interviews will be audio-recorded. There are no foreseeable risks in participating in this study. Counseling sessions will be arranged for participants. The participants will not be paid for this study and participants can withdraw at any time. Kindly respond to us with a date and time that is suitable for you.

Please let me know if you require any further information. I look forward to your response as soon as is convenient.

Yours sincerely,

Student details.

Mmako Karabo

067 700 9378/072 149 2578

201730404@keyaka.ul.ac.za

karabowmaphoso@gmail.com

Supervisor details.

Mr Manyama Tebogo

078 377 9844

Tebogo.manyama.ul.ac.za
