

**COMMUNITY PHARMACISTS' PERCEPTION ON THE INCLUSION OF  
COMMUNITY PHARMACY IN CLINICAL CLERKSHIP**

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## CERTIFICATION

This is to certify that this project was carried out by EZOMO FAVOUR with the Matriculation Number: PHA1606782 in the Department of Clinical Pharmacy and Pharmacy practice, University of Benin, Benin City, in partial fulfilment for the award of Doctor of Pharmacy Degree (PHARM.D)

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## **DEDICATION**

This research work is dedicated to God Almighty, always loving Father, my very present help in times of need and my sufficiency. His unending grace has seen me through my academic pursuit in University of Benin.

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## ABSTRACT

**Background:** Clinical clerkship potentially serves as an effective approach to enhance pharmacy students' understanding of and attitudes towards pharmaceutical care. Pharmaceutical care (PC) highlights the importance of pharmacists providing patient-centered care

**Aim of the study:** To assess pharmacists' perception on the inclusion of community pharmacy in clinical clerkship in Benin city, Edo state.

**Method:** This was a cross-sectional qualitative study across 13 community pharmacies in Benin City, A Face-to-face interview with the 13 selected pharmacists was conducted within the community pharmacy premise.

**Results:** Community pharmacists revealed that they provide a wide range of pharmaceutical services. All the preceptors had positive reception of clerkship program and they described the involvement of community pharmacies in clinical clerkship as a welcome development and great innovation as the experiences of the preceptors with the students have been good and fabulous so far. The challenges associated with community pharmacies involvement in preceptorship include; Unseriousness of students and interference of students' schedule with normal school work, unwillingness of pharmacists to participate, transportation cost, time constraints, little space for one-on-one interaction etc. Some of the areas of improvement suggested by the various pharmacist include provision of transportation, adequate time for learning and also educating the students what is expected of them. The student performance was generally rated above average (50%), except for P5 which rated student performance based on confidence level below the average (40%).

**Conclusion:** Clinical clerkship in community pharmacy is a new innovation that is welcomed by the community pharmacists in Benin city. However, there are some challenges and areas of improvement that need to be addressed to make the experience robust.

**Keywords:** clerkship, community pharmacy, preceptors

## CHAPTER ONE

### 1.0 Introduction

#### 1.1 Background to the study

The principles guiding contemporary pharmacy education have shifted their focus towards pharmaceutical care (PC) (FIP 1998). The PC philosophy underscores the pivotal role of pharmacists and the future direction of the pharmacy profession. This paradigm advocates that pharmacists should go beyond medication dispensing to provide PC as a means of enhancing patients' health (Hepler & Strand, 1990). PC encompasses various activities, including symptom monitoring, counseling, resolution of drug-related issues, facilitation of communication with physicians, and the implementation of patient and drug-focused interventions as necessary (Hepler & Strand, 1990; Strand, Cipolle, Morley, & Perrier, 1991). To perform these tasks effectively and take responsibility for the outcomes of drug therapy, pharmacists require a patient-centric professional orientation.

Despite widespread support from various professional organizations, the widespread adoption of PC has faced numerous obstacles (Chisholm & Wade, 1999; Van Mil, De Boer, & Tromp, 2001). These barriers encompass factors such as inadequate technology and personnel, time constraints, and negative attitudes towards PC (May, 1993). The provision of PC is often seen as a goal-oriented approach, reflecting the implicit decision-making process pharmacists engage in due to factors like attitudes, beliefs, affective evaluations, and training-related issues such as efficacy (Raisch, 1993; Venkataraman, Madhavan, & Bone, 1997).

To address the knowledge, skills, and attitudinal requirements of pharmacists in providing PC, educational interventions have been developed. These interventions target the cognitive and affective abilities of pharmacists as intermediate outcomes. Ultimately, the goal is to improve

patient outcomes, encompassing clinical, humanistic, and economic aspects following the provision of PC (Kassam et al., 2001; Volume, Farris, Kassam, Cox, & Cave, 2001).

When implementing an educational intervention aimed at enabling pharmacists to deliver PC, it is essential to evaluate both intermediate and final outcomes. Various methods, including focus groups, have been employed to assess the impact of PC education series on pharmacists (Reutzel, Defalco, Hogan, & Kazerooni, 1999). However, it's important to note that the focus group method may not always be suitable when the primary concern is not data collection or when statistical projections are required (Morgan & Krueger, 1993; Krueger, 1994).

Odedina, Segal, Hepler, Lipowski, and Kimberlin (1996) developed a model based on goal-oriented behaviors to understand the discrepancies between pharmacists' behavioral intentions and actions in providing PC. They found that differences in social norms, perceived behavioral control, self-efficacy, and affect contributed to these inconsistencies. Moreover, statistically significant differences were observed between pharmacists who provided PC and those who did not (Odedina & Segal, 1996; Odedina et al., 1996).

One significant challenge identified is the constraint of time, which poses a potential conflict between delivering PC and traditional roles, including medication dispensing and patient care expectations. One proposed solution is the involvement of pharmacy technicians to free up pharmacists' time for patient-related activities. However, an often-overlooked aspect is the time required for pharmacists to undergo educational intervention programs to acquire the necessary knowledge and skills. Many pharmacists struggle to find the time for such training, which is crucial for shifting their orientation towards PC.

In an effort to assess PC at the University of Benin Teaching Hospital in Nigeria, two humanistic outcomes of PC were considered during the initial needs analysis. These outcomes included

patient satisfaction with existing pharmacy services and patient expectations regarding activities associated with PC (Oparah & Enato, 2003). A patient satisfaction survey was conducted using a validated instrument that assessed satisfaction based on "friendly explanation" and "therapy management." The PC educational intervention was specifically designed to enable pharmacists to provide PC within the constraints of their time.

The evolution of pharmacy education towards pharmaceutical care emphasizes the role of pharmacists in improving patient outcomes beyond medication dispensing. Despite obstacles, educational interventions have been developed to equip pharmacists with the necessary knowledge, skills, and attitudes for providing PC. Evaluating the impact of these interventions is crucial, considering both intermediate and final outcomes. Addressing time constraints and other barriers is essential for promoting the widespread adoption of PC in pharmacy practice.

Pharmaceutical care holds a significant role within the healthcare system, characterized by its structured, systematic, and well-documented approach to pharmacy practice. It involves the identification, prevention, and resolution of drug-related issues, ultimately striving for rational and evidence-based pharmacotherapy that benefits both individual patients and society at large. In contrast to many developed nations, Nigeria is still in the early stages of implementing pharmaceutical care practices. The Pharmacist Council of Nigeria (PCN) took steps in 2005 to establish minimum standards to promote pharmaceutical care within pharmacy premises. The importance of pharmaceutical care is regularly emphasized through continuing education programs, conferences, and workshops organized by the PCN. However, Nigerian pharmacists have not fully embraced the concept of pharmaceutical care or integrated it into their practice settings. For instance, a study conducted in Benin City, Nigeria revealed that community

pharmacists in the country have limited involvement in primary healthcare programs and offer minimal preventive services.

Undoubtedly, the practical implementation of pharmaceutical care in Nigeria poses considerable challenges. Nigeria's healthcare system is unique, with many patients bearing the cost of their healthcare expenses out-of-pocket. Often, patients and their families lack the financial means to purchase medications, leading them to seek healthcare outside the formal healthcare sector. Compounding this issue is the unreliable drug distribution system, making pharmacy practice unattractive for many pharmacists and resulting in the provision of services by unqualified personnel. Additionally, several objective barriers hinder the adoption of pharmaceutical care, including deficiencies in clinical knowledge and communication skills, limited time, inadequate technology and personnel, and negative attitudes toward pharmaceutical care.

Addressing these barriers involves not only tackling issues related to time, technology, and personnel but also fostering positive attitudes toward pharmaceutical care. In countries like Nigeria, where pharmaceutical care practice is still emerging, cultivating a positive attitude among pharmacists should be the primary and foundational strategy to encourage its widespread acceptance and implementation. Equally important is nurturing positive attitudes toward pharmaceutical care not only among current practitioners but also among future generations of pharmacists. Evaluating whether the training provided to pharmacy students in Nigeria is effective in promoting a positive attitude toward pharmaceutical care practice is essential. Such findings would serve as valuable baseline data for monitoring the progress of pharmacy education in Nigeria and ensuring that future pharmacy practitioners are well-prepared to embrace pharmaceutical care principles. Regrettably, there is a scarcity of literature regarding Nigerian students' attitudes toward pharmaceutical care.

## **1.2 Research statement of problem:**

There is a lack of comprehensive understanding regarding the range of pharmaceutical services provided by community pharmacies, as well as pharmacists' perspectives on the involvement of community pharmacies in precepting pharmacy students. Furthermore, there is limited knowledge about the experiences, challenges, and areas for improvement associated with community pharmacies' involvement in preceptorship. Additionally, there is a need to assess student performance in key areas, including attendance and punctuality, professional behavior and attitude, patient interviewing skills, level of confidence, communication skills, pharmacotherapeutic skills, presentation skills, and ability to follow instructions during clinical rotations in community pharmacies. The research aims to fill these knowledge gaps and provide valuable insights for enhancing the role of community pharmacies in precepting and improving student performance in clinical settings.

## **1.3 Research questions:**

- 1: What is the range of pharmaceutical services provided by community pharmacists in Benin City, Edo State, and how do they perceive these services?
- 2: How do community pharmacists in Benin City perceive the involvement of community pharmacies in precepting pharmacy students, and what are their thoughts, experiences, and perceived challenges associated with this role?
- 3: What areas of improvement have community pharmacists in Benin City identified for enhancing the involvement of community pharmacies in preceptorship, and what specific training needs do they believe are necessary for effective precepting?
- 4: How do community pharmacists in Benin City assess student performance during clinical rotations, including areas such as attendance, professional behavior, patient interviewing skills,

confidence levels, communication skills, pharmacotherapeutic skills, active participation in group discussions, and ability to follow instructions?

#### **1.4 Scope of the study:**

The study will be conducted specifically in Benin City, Edo State, Nigeria. It will focus on community pharmacies within this geographical area to gather insights into pharmacists' perceptions of clinical rotations. The study will involve pharmacists practicing in community pharmacies in Benin City, Edo State. Their experiences and perspectives will be collected through interviews or surveys to understand their perceptions of clinical rotations and involvement in precepting pharmacy students.

#### **1.5 Literature review**

##### **1.5.1 Clinical clerkship**

Clerkship presents a promising avenue for enhancing pharmacy students' comprehension of and attitudes toward pharmaceutical care, which involves the responsible delivery of drug therapy to achieve specific outcomes that enhance a patient's quality of life (FIP, 1998). The understanding of pharmaceutical care (PC) by PC providers encompasses their viewpoints on its definition, primary objectives, value, components, delivery methods, and necessary resources, while their perception of PC relates to the extent of their acceptance of the intended and ultimate outcomes of PC, as well as its processes (Hepler & Strand, 1990). Enhancing PC providers' understanding of PC aids in clarifying their roles and responsibilities in achieving desired clinical results, while improving their perception of PC can internally motivate them to enhance their professional capabilities and active involvement in PC, ultimately raising the quality of PC (Venkataraman et al., 1997).

Multiple countries have provided evidence that clerkship programs, including clinical rotations and practical experiences, represent an effective strategy for enhancing PC providers' understanding of and perception toward PC (Kassam et al., 2001). Clerkship, as a practical course, allows prospective PC providers, such as pharmacy students, to comprehensively observe and partially engage in the entirety of hospital pharmacy practices, with a particular focus on PC, throughout their higher education journey (Kassam et al., 2001). Through active participation in PC provision during clerkship, pharmacy students gain a deeper understanding of and develop more favorable attitudes toward PC. In general, clerkship programs have demonstrated their capacity to enhance pharmacy students' comprehension of pharmaceutical care (Reutzel et al., 1999).

Clerkships represent immersive learning experiences within practical healthcare settings, enabling students to engage in direct patient interactions and apply clinical sciences. This real-world educational encounter distinguishes clinical sciences from foundational basic sciences. Under supervision, students embark on their initial journey into patient care during these rotations. They assume responsibility for gathering patient information and formulating the ultimate treatment plan. The exposure to patient care dynamics and real-life scenarios profoundly influences students' transformation. In medical education, basic science instruction, whether osteopathic or allopathic, typically adheres to traditional classroom-based teaching combined with laboratory activities. Clinical sciences, on the other hand, are conveyed within practice-oriented environments such as hospitals, physician offices, outpatient care centers, surgical facilities, and public health departments, offering supervised hands-on experiences. While formal educational experiences serve as the cornerstone of clinical medicine, the objective is to

reinforce clinical competencies and complement classroom learning within a structured physician-patient context (Cutrer & Prince, 2007).

The intrinsic value of a clinical clerkship lies in its direct application of patient care, coupled with patient responses informed by acquired knowledge. This hands-on experience provides students with a distinctive opportunity to bridge the gap between academic and practical realms, cultivating the skills requisite for healthcare practitioners. For pharmacy students, the clinical clerkship serves as a pivotal hands-on experience. Typically undertaken upon completion of pre-clinical coursework, it involves rotations in various healthcare settings (known as APPE rotations). Under the guidance of experienced pharmacists, students apply their classroom learning to real healthcare environments. Precepting pharmacists offer mentorship and document evaluations during these rotations to assist students in assessing their strengths and areas for improvement. Pharmacy students undertaking clinical clerkships are often placed in nearby hospitals or healthcare facilities within the university's vicinity (APPE rotation).

### **1.5.2 History of clinical clerkships**

It wasn't until the mid-1800s that patients became incorporated into the educational aspects of physician training. During that era, clerkships were initially offered as optional electives or at an additional cost. This approach aimed to avoid discouraging potential students. Before the 1900s, medical students had limited exposure, primarily listening to lectures with minimal practical involvement. The concept of clinical clerkships started to diverge from the traditional classroom setting in the early 1900s. The true inception of clerkships can be traced back to 1927 when Northwestern Medical School in Chicago appointed a single individual responsible for overseeing multiple learners in a hospital setting. This marked a significant shift. Following this development, the University of Oklahoma introduced a clinical clerkship program in 1927 for

their third-year students, encompassing daily supervised instruction lasting one and a half hours. During this period, discussions revolved around the curriculum content, defining the role of students, and the distinction between practicing medicine or physiology when eliciting reflexes or engaging in medical procedures. Surgery, for instance, transitioned students from anatomy practice to surgical practice. Clinical medicine was perceived as training in "methods."

By the 1940s, the clerkship concept evolved into a means of integrating patient care with student education (Michael A. Friedman, 2001). Clinical work, being inherently uncertain and less structured, was considered less academically inclined but crucial to the education of future physicians. Third-year medical training began in hospital wards, while fourth-year medical training shifted to the less regimented clinic environments.

### **1.5.3 Effective clinical pharmacy clerkship**

Effective Clinical Pharmacy Clerkship (ECPC) is a vital health training program that equips pharmacy graduates with clinical skills and knowledge necessary for rational drug utilization. It focuses on identifying actual and potential drug therapy problems through case analysis and recommending appropriate patient drug therapy management in collaboration with healthcare professionals (Fazli et al., 2013). This program aligns with the principles of pharmaceutical care, which emphasize optimizing medication therapy and ensuring its safe and effective use (Cipolle et al., 2012). Medication management, a core component of pharmaceutical care, plays a pivotal role in preventing and treating diseases and health problems (Krähenbühl-Melcher et al., 2007). In many developing countries, including Pakistan, access to data related to ECPCP is limited. However, ECPCP offers pharmacists an opportunity to expand their medicine-based knowledge and skills, enabling them to actively engage in medication management and patient care.

An effective clinical attachment during ECPC allows pharmacists to collaborate closely with physician consultants in both inpatient and outpatient settings, facilitating experiential learning. This attachment aligns with the principles of interprofessional collaboration and patient-centered care, which are central to pharmaceutical care practice (Hepler & Strand, 1990). Pharmacists can leverage these opportunities to maximize the benefits of the program and advance their competencies.

Within the ward, pharmacists are tasked with conducting comprehensive patient assessments, critically evaluating drug therapy, and enhancing the effectiveness of their contributions to ECPCP. This approach reflects the pharmaceutical care model, where pharmacists actively assess and manage drug therapy, ensuring its appropriateness and effectiveness in improving patient outcomes (Cipolle et al., 2012).

Furthermore, an effective clinical pharmacy clerkship program should incorporate standard improvement initiatives and drug utilization review programs. These elements are essential components of pharmaceutical care, as they establish systems for monitoring, reviewing, and reporting medication errors. By identifying and addressing the root causes of errors and preventing their recurrence, pharmacists contribute to patient safety and the optimization of drug therapy outcomes (Cipolle et al., 2012). Effective Clinical Pharmacy Clerkship (ECPC) aligns with the principles of pharmaceutical care by equipping pharmacy graduates with clinical skills and knowledge necessary for optimizing drug therapy and ensuring its safe and effective use. It emphasizes medication management, interprofessional collaboration, and patient-centered care, reflecting the core tenets of pharmaceutical care practice. Through ECPC, pharmacists can actively contribute to improving patient outcomes and enhancing the quality of healthcare services.

#### **1.5.4 Barriers to the implementation of pharmaceutical care.**

Until the early 1990s, pharmacists primarily focused on regulating drug availability and distribution. At that time, their fundamental roles centered around dispensing and supplying medications to patients, with limited consideration for patient treatment outcomes. However, the pharmacy profession has undergone substantial changes over the last two decades, albeit at a slower pace in developing regions like Nigeria.

One significant transformation is the introduction and adoption of the pharmaceutical care (PC) concept. In 2005, the Pharmacist Council of Nigeria (PCN) established minimum standards to ensure the practice of PC in Nigeria. Pharmaceutical care, emerging as a professional field, is tasked with providing patients with the highest standards of pharmacy practice, encompassing drug safety, effectiveness, quality, and cost-effectiveness. It has been promoted to enable pharmacists to define their evolving role in patient-focused healthcare provision.

Pharmaceutical care is defined as the responsible delivery of drug-related care with the aim of achieving specific outcomes that enhance or maintain a patient's quality of life (Aguwa CN et al., 2008). This practice is patient-centered and outcome-driven, requiring pharmacists to collaborate with patients and other healthcare providers to promote health, prevent disease, assess, monitor, initiate, and modify medication usage to ensure the safety and effectiveness of drug therapy regimens (Mason Pamela, 2001).

Given that pharmaceutical care is outcome-oriented and follows a structured process (including the assessment of drug-related issues, the development of care plans, and the evaluation of treatment outcomes), pharmacists must acquire the necessary skills, qualifications, and capabilities to address the challenges associated with this responsibility. One of the primary

hindrances to pharmaceutical care practice in our environment is the absence of well-defined standards for pharmacists to adhere to in their daily practice (Erah PO & Nwazuoke JC, 2002).

Several studies have been conducted to identify the obstacles to pharmaceutical care implementation in community and hospital pharmacies in developed countries. These challenges include pharmacists' attitudes, such as a lack of understanding of the concept, misconceptions (e.g., patients' unwillingness to pay), fear of changing roles, and personal motivation issues. Additionally, the lack of suitable facilities, such as counseling areas, and limited space within premises for patient consultations have been identified as constraints in regions where PC practice has gained acceptance. However, these challenges have not been extensively explored in Nigeria.

#### **1.5.5 Nigerian Pharmacy Students' Attitudes Toward Pharmaceutical Care**

The global recognition of pharmaceutical care as the primary mission of the pharmacy profession is influencing pharmaceutical education and practice. Consequently, pharmaceutical care has become the central focus of quality pharmacy education (FIP, 1998). Various obstacles, varying across practice settings and geographical locations, have hindered efforts aimed at implementing pharmaceutical care worldwide. Some of these obstacles include inadequate clinical knowledge and communication skills, time constraints, and negative attitudes among pharmacy practitioners. Attitudinal factors may represent significant barriers to realizing the contributions pharmacists can make to society (Knapp DA, 1979). Chisholm and Wade have stressed the crucial need to cultivate positive attitudes toward pharmaceutical care among current practitioners and, more importantly, among future generations of practitioners (Chisholm and Wade, 1999).

Numerous strategies have been reported to enhance students' attitudes toward pharmaceutical care. One approach to fostering more positive attitudes toward pharmaceutical care is to

introduce pharmacy students to the principles and practice of pharmaceutical care as part of their early pharmacy education. There is ample evidence indicating the importance of teaching pharmacy students the concept of pharmaceutical care and the significance of applying this patient-centered philosophy to benefit patients (Hepler C, Strand L, 1990). Another strategy that can promote favorable attitudes among future practitioners is to provide pharmacy practice experiences early in their pharmacy education. In fact, exposing students to pharmacy practice before they officially enter the pharmacy professional curriculum may lead to more positive attitudes toward pharmaceutical care (Chisholm and Wade, 1999).

Moreover, the effectiveness of involving actual patients in the classroom setting to cultivate positive attitudes among students regarding pharmaceutical care has been established. Patient-centered intervention programs have also been designed and shown to enhance students' attitudes toward providing care to HIV/AIDS patients. Traditionally, the opportunity for students to interact with patients and develop a practical understanding of the significance of pharmaceutical care occurs later in the pharmacy curriculum during the experiential component. However, introducing students to patients at the early stages of their pharmacy education underscores the importance of pharmaceutical care. These early experiences may also help students develop positive attitudes toward pharmaceutical care activities, motivating them to integrate these principles into their practice (Ateequr Rahman A et al., 2003).

The pharmaceutical care shadowing experience aimed to enhance the pharmacy students' attitudes toward ethical and professional practices. During this shadowing experience, students were exposed to pertinent ethical and practical aspects of pharmacy practice, with the expectation that they would later share their experiences formally with fellow students and faculty members. The implementation of student-driven pharmaceutical care clinics within

schools and colleges of pharmacy can effectively prepare students for the demands of active patient care practice (Lawrence L et al., 2004). Another research study sought to determine if the completion of a patient counseling course influenced pharmacy students' perceptions of the significance of pharmaceutical care and whether differences existed in students' perceptions of pharmaceutical care in retail settings compared to clinical settings. This study suggests that teaching the concept of pharmaceutical care and integrating it into a patient counseling course is more effective when a clinical setting is utilized (Lawrence L et al., 2004).

The majority of reports on future pharmacy practitioners' attitudes toward pharmaceutical care are based on experiences in developed countries. As the philosophy of pharmaceutical care continues to spread to other regions worldwide, there is a need to expand the professional literature by including evidence from developing countries. Nigeria is one such country where pharmaceutical care is gradually becoming a dominant aspect of the professional philosophy. Nigeria, the most populous country in Africa, boasts an estimated population of over 120 million people. The number of universities in Nigeria is on the rise, with 45 universities currently in operation. These universities are owned by the federal government (23), state governments (18), and private entities (4). Of these universities, only nine offer pharmacy programs, but there are plans to establish new schools of pharmacy in Nigeria. The regulation of pharmaceutical education in Nigeria falls under the jurisdiction of the Pharmacists Council of Nigeria.

All pharmacy faculties in Nigeria offer a 5-year Bachelor of Pharmacy program without classification (i.e., not categorized into first, second, or third class). However, the University of Benin received approval from the Council to initiate a 6-year Doctor of Pharmacy program in 2001, with a gradual phase-out of its Bachelor of Pharmacy program. Since the commencement of the Doctor of Pharmacy program, this university has been at the forefront of pharmaceutical

care advocacy in Nigeria. While students are exposed to the philosophy and practice of pharmaceutical care, there has been no study conducted on the attitudes of students within the faculty toward pharmaceutical care. Therefore, such a study is deemed necessary, and its findings would serve as valuable baseline data to monitor the progress in the training of future pharmacy practitioners.

### **1.5.6 Community Pharmacy Practices**

Community pharmacy serves as a fundamental component of the healthcare system, delivering essential and easily accessible healthcare services to the public. Within this framework, community pharmacists, highly trained professionals, hold the frontline position in healthcare provision, directly engaging with patients to ensure the safe and effective use of medications. Their multifaceted role encompasses various critical functions, with medication dispensing being a primary one. Community pharmacists bear the responsibility of accurately providing prescription medications to patients, guaranteeing the right medication, correct dosage, and offering appropriate usage instructions. This function significantly contributes to enhancing medication adherence and consequently patient outcomes (Nkansah N et al., 2010).

In addition to medication dispensing, community pharmacists are instrumental in delivering medication counseling and education to patients. They play an integral role in educating patients on proper medication administration, potential side effects, and addressing any inquiries or concerns patients may have regarding their prescribed treatments. Medication counseling plays a pivotal role in improving patient comprehension and compliance with prescribed therapies (Blenkinsopp A et al., 2012). Community pharmacists frequently serve as the initial point of contact for patients seeking guidance on minor ailments and self-care remedies. They offer over-the-counter medications, suggest suitable products for various conditions, and provide guidance

on self-management of minor health issues. Their accessibility and expertise make them invaluable resources for promoting self-care and alleviating the burden on other healthcare settings (Watson MC et al., 2006).

Over recent years, community pharmacy has expanded its scope of practice beyond traditional roles. Many community pharmacies now offer specialized services such as medication therapy management, medication synchronization, immunizations, and health screenings. These services aim to optimize medication use, enhance health outcomes, and contribute to preventive healthcare initiatives (Smith M et al., 2019).

Furthermore, community pharmacy has embraced digital health technologies to enhance patient care. Pharmacies increasingly provide online prescription refills, medication reminders, and mobile applications that offer medication information and management tools. These digital innovations have improved patient convenience and facilitated better adherence to medication regimens (Fischer MA et al., 2010).

Despite the substantial contributions of community pharmacy to the healthcare system, several challenges persist. These challenges encompass issues related to workload pressures, reimbursement for services, scope of practice constraints, and the need for more collaborative care models (Latif A et al., 2017).

To overcome these challenges and further advance community pharmacy practice, continuous research and advocacy are imperative. Studies assessing the impact of community pharmacy services on patient outcomes, medication adherence, and cost-effectiveness can provide the necessary evidence to support the expansion of pharmacist-provided services in the community setting. Policy adjustments and collaborative efforts with other healthcare professionals can also

unlock the full potential of community pharmacy in promoting public health and enhancing patient care (Hatah E et al., 2018).

Community pharmacy holds a pivotal role in delivering accessible and patient-centric healthcare services to the community. Community pharmacists serve as essential healthcare providers, engaging in medication dispensing, counseling, and specialized services to optimize medication use and elevate patient outcomes. To fully harness the potential of community pharmacy, it is imperative to address existing challenges and continue exploring innovative approaches to integrate pharmacy services into comprehensive patient care models.

### **1.5.7 Community pharmacy practice in Nigeria**

Community pharmacy practice in Nigeria plays a pivotal role in the nation's healthcare system, serving as a cornerstone of accessible healthcare services for the population. Nigerian community pharmacists are healthcare professionals licensed and regulated by the Pharmacists Council of Nigeria (PCN) to ensure the quality of care they provide. These pharmacists undergo rigorous training, typically earning a Bachelor of Pharmacy (B. Pharm) degree, with opportunities for further specialization through programs like the Master of Pharmacy (M. Pharm) or Doctor of Pharmacy (Pharm.D). Once licensed, community pharmacists offer a wide array of services, including medication dispensing, medication therapy management, health counseling, and immunization services. They are essential contributors to public health initiatives, including vaccination campaigns, and collaborate with other healthcare providers, forming interprofessional teams to ensure comprehensive patient care (Pharmacists Council of Nigeria, 2020).

Community pharmacists in Nigeria have also adopted a patient-centered approach to care, emphasizing individualized healthcare services tailored to patient needs. They focus on

optimizing medication therapy, educating patients on proper medication use and adherence, and promoting patient engagement in their health. This patient-centric model aligns with international trends in pharmaceutical care and underscores the evolving role of community pharmacists as key contributors to patient well-being (Odukoya et al., 2018).

Despite their vital role, Nigerian community pharmacists face various challenges, including inadequate infrastructure, limited access to continuing education, and the threat of counterfeit medications. These challenges underscore the need for ongoing advocacy by professional organizations like the Association of Community Pharmacists of Nigeria (ACPN) and the Pharmaceutical Society of Nigeria (PSN), which work tirelessly to improve the practice environment and advocate for pharmacists' interests (Olayemi et al., 2019).

To stay current with evolving healthcare practices and emerging trends, Nigerian community pharmacists actively engage in continuing education and professional development activities. These initiatives are essential for ensuring that pharmacists remain updated with the latest research, technologies, and best practices, contributing to their ability to deliver high-quality care (Iheanacho et al., 2020).

Community pharmacy practice in Nigeria is a cornerstone of the nation's healthcare system, providing essential services to the population. Nigerian community pharmacists, well-educated and regulated, offer a wide range of patient-centered services, contribute to public health initiatives, and collaborate with other healthcare providers. However, they also face challenges that necessitate ongoing advocacy and continuing education efforts to enhance their contributions to patient care and public health. The evolving role of community pharmacists in Nigeria aligns with international standards and trends, emphasizing their critical role in the healthcare landscape.



## **1.6 Justification of study:**

### **1.7 Main Objective**

The main objective of the study is to investigate pharmacists' perceptions of clinical rotations in community pharmacy in clinical clerkship.

#### **1.7.1 Specific Objectives**

The specific objectives of the study are:

- 1: To determine the range of pharmaceutical services provided by community pharmacists in Benin City, Edo State, and explore their perceptions of these services.
- 2: To examine community pharmacists' perceptions of the involvement of community pharmacies in precepting pharmacy students, and explore their thoughts, experiences, and perceived challenges associated with this role.
- 3: To identify the areas of improvement that community pharmacists in Benin City have identified for enhancing the involvement of community pharmacies in preceptorship, and explore their beliefs regarding specific training needs necessary for effective precepting.
- 4: To assess how community pharmacists in Benin City evaluate student performance during clinical rotations, including areas such as attendance, professional behavior, patient interviewing skills, confidence levels, communication skills, pharmacotherapeutic skills, active participation in group discussions, and ability to follow instructions.

## CHAPTER TWO

### **2.0 Method**

#### **2.1 Study Design:**

This was a cross-sectional quantitative study to investigate pharmacists' perceptions of clinical rotations in community pharmacy in clinical clerkship, specifically focusing on a case study in Benin City, Edo State.

#### **2.2 Study Area:**

The study is conducted in Benin City, Edo State, Nigeria. Benin City is chosen as the study area because pharmacy students recently were sent there as part of their clerkship program.

#### **2.3 Study Population and Sample Size**

The target population for this research comprises clinically oriented pharmacists practicing in community pharmacies within Benin City, that were enhanced as center for pharmacy students. The sample size for this study includes 13 clinically oriented pharmacists from various community pharmacies in Benin City. This number is determined to be sufficient for capturing diverse perspectives and experiences of pharmacists regarding clinical rotations and precepting pharmacy students.

#### **2.4 Data collection**

The primary data collection instrument for this study is a semi-structured interview questionnaire. The interview questions were carefully developed based on outcomes specified in student clerkship manual for pharmacy students, University of Benin. The study adopts a qualitative approach to gain in-depth insights into the perceptions and experiences of community pharmacists regarding their involvement in precepting pharmacy students during clinical

rotations. Qualitative research allows for a comprehensive exploration of participants' thoughts and beliefs, which is vital for understanding their perspectives on the subject matter.

### **2.5 Data Analysis:**

The questionnaire consisted of various sections: Section A covered demographics, Section B explored the range of pharmaceutical services, Section C delved into opinions on the involvement of community pharmacies in precepting pharmacy students, and Section D assessed student performance. The interviews lasted for approximately one to two months and were recorded with the assistance of recording device. The recorded interviews were then transcribed verbatim. Subsequently, recurring themes, patterns, and insights were identified and analyzed to draw meaningful conclusions from the data. Similar sub-themes were merged into main themes. Thematic analysis was employed to analyze the interview data collected from the pharmacists.

### **2.6 Ethical Consideration:**

Ethical clearance was gotten from Edo state Ministry of Health ethical committee. All participants were duly acquainted with study objectives and gave verbal informed consent.

## CHAPTER THREE

### 3.0 RESULTS

#### 3.1 Demographic data of the pharmacists' (N = 13)

A total number of 13 community pharmacists participated in the study of which 8 of them (61.5%) are male and the others (38.5%) are female, their ages ranges from 20 years to 60 years. About 8 (61.54%) of them had Bachelor of pharmacy degree (B pharm) while the remaining had both Bachelor of pharmacy degree (B pharm) and doctor of pharmacy degree (PharmD). The exceptions being P3 that had B pharm, PharmD and MSC while P7 had a B pharm and MBA degree, their years of experience range from one year to 23 years of practice in community pharmacy

**Table 3.1 The range of pharmaceutical services provided**

<b>Service</b>	<b>Pharmacists</b>	<b>Number of pharmacies (%)</b>
Medication therapy review	P1, P3, P7, P12, P13	5 (38.5)
Drug information service	P1, P2, P3, P5, P8	5 (38.5)
Counseling	P1 - P13	10 (76.9)
Consultation	P1, P3, P5, P6, P7,	5 (38.5)
Point of care test	P1 - P13	13 (100)
Dispensing	P1 - P13	13 (100)
Disease prevention	P1, P3	2 (15.4)
Monitoring	P1 - P13	13 (100)
Follow up	P1 - P13	13 (100)
Vaccination services	P3, P5, P8	3 (23.08)
Patient education	P1, P2, P3	3 (23.08)
Refill	P1 - P13	13 (100)
Trainings	P3	1 (7.69)
Chronic disease monitoring and follow up	P2, P3, P4, P5, P13, P8, P10, P6	8 (61.54)
Management of acute and chronic diseases	P2, P3, P5	3 (23.08)
Family planning services	P5	1 (7.69)
Referral	P1 - P13	13 (100)

## **3.2 Major pharmaceutical services rendered**

### **3.2.1 Point of care testing**

On the concept of Point of care testing, all the respondents admitted to offering point of care tests to varying degrees:

**P1:** "Basically, we run certain point of care testing in other to help with our pharmaceutical care for example the round blood sugar is what we do for our diabetic patient to check the progress of the medication the patient is on, we also do blood pressure check for patients exactly in aging patients. **P3:**"Point of care testing is important in management of illness, with innovation in technology has helped in the provision of different equipment that can be used to check patient and it has reduce the pressure in hospital as we do some point of care testing to help patients know their health better before approaching the second or tertiary health facility, we do Blood pressure check for patients, we also do BMI check for patient, round blood sugar test e.t.c. we teach people how to use their kit". And **P6** added that "For those already on antihypertensive drugs we tend to monitor them, check there Bp for follow up especially those that have complain about their medication we check if it's still okay for them, if it's something they can refer back to their doctor, we tell them to go back, like some that have been using it for years and don't have any doctor, we intervene too, same for sugar control. And for HIV test, if you have some symptoms, then we do HIV testing"

### **3.2.2 Provision of pharmaceutical care**

On the concept of the provision of pharmaceutical care, they all claimed to practice pharmaceutical care as Pc is Patient Oriented care, giving patient good life through pharmaceutical intervention, as this enables us to identify DTP and prevent DTPs. It's important to state that Pc is our area of strength as pharmacist, it's an area of competitive advantage, people

come to community pharmacy because they know they'll meet professionals that will render them good services. **P2**; Pharmacy is a business and a profession, pharmaceutical care helps my business success, the pharmaceutical care we give here attracts and retains customers. **P3**; The core of our practice here is rooted on pharmaceutical care, we don't just dispense medicines we practice pharmaceutical care as we are clinically oriented, pharmaceutical care is our back bone of our practice in this facility."**P13**;"Pharmaceutical care is getting broader and we try to document the progress and management of illness. We look at patient disease and medical history, adherence, and we monitor result achieved and we also send the necessary feedback to the doctor and other health care providers.

### **3.2.3 Follow up and monitoring of patient therapy**

All the respondents agreed that they do follow up and monitoring of patient therapy as this is a major component of pharmaceutical care practices, Document for entry for follow up, they agreed to also have an appointment diary for every patient, they have an appointment date when they will come back, their name are written, conditions being managed and the due date to come back, documentation of follow up and the outcomes of the follow up is also done. **P3**;Follow up and monitoring is a core component of pharmaceutical care and we practice pc actively as we have a pc tool that we use to collect patient information and document our interventions, we also have patient record for our patient that requires monitoring and follow up we document their information in the care tool file it in their pharmaceutical care file and give them a schedule appointment, recently we install a software where we now transfer information from the care tool and file to the software Such that it becomes easy to retrieve."**P11**;Yeah, what we do follow up and monitoring of patient therapy, you know we collect their data, including their phone numbers, so we give them appointment for next visit, then reassess the interventions we initiated initially.

Sometimes we put a call across to them to follow up there and monitor therapy. **P12**; we do follow up and monitoring to ensure better patient outside, we use phone call, email, and WhatsApp for follow up and we also book appointments with our patient

### **3.2.4 Documentation of patient related activities**

All the respondents believe that what is not documented is not done is for continuity of care by other health care provider. If there's change in facility, for example with documentation the health care provider can continue with pool of information from what is documented, hence documentation is key as a core aspect of pharmaceutical care, well not all the cases that requires documentation as some minor cases require over the counter first aid intervention while it's important to document chronic cases and also patient with laboratory test results. According to the respondents Association of community pharmacists of Nigeria (ACPN), Edo state chapter advice all community pharmacist to do documentation as they provide materials to aid this, also ACPN at the national level have also worked with a network provider to provide a pharmaceutical care documentation software, relating to pharmaceutical care, they all document patients related activities which help for continuity of care Except for; **P6**: We are working on it. While **P11**; It's one of the major challenges we faced. It's important to have a detailed information about the drugs we give for easy recall in next visit. In our pharmacy, we design a pharmaceutical tool That we use here to carry out the whole process from beginning to the end. **P13**; Recently with the help of technology we do more of documentation where we record patient related activities. we use a Point of sales computer where we key in the names of the patient and details of the patient which is easily retrievable by just inputting the name of the patient in the system and all the information about the patient including the drugs will appear in

the screen. We occasionally do use the pharmaceutical care tool but it's difficult to organize and retrieve

### **3.2.5 Referral services**

On the concept of referral, all the respondents were well versed. They all admitted to referring cases beyond the scope of the community pharmacy to a secondary health center or tertiary health center and diagnostic laboratories for proper care, and treatment procedure as community pharmacy is referred to a primary health center. **P1**; Yes, we do referrals, we have a referral note, we are in the community and peculiar to the area where we are, there are no close hospital around so we first offer first aid treatment for complicated issues and refer them to a hospital using a referral note which captures the complain of the patients and our phone number so the doctor call when necessary. **P7**; "Yes we refer, normal ACPN have a kind of a package that contains referral form, mainly in community practice we manage ambulatory patient, if there's a case where by its beyond ambulatory care we refer. With our oximeter we can know if the patient's case is beyond ambulatory care". **P11**; "We refer patients to clinics or specialists, when we have a patient with a condition that we cannot manage so we refer to hospital, mostly to UBTH or central hospital"

### **3.2.6 Collaborative practice with other pharmacist and other care providers**

When asked on their practice of collaboration, they all saw the need for collaboration and agreed they practice some form of collaboration or the other, made also evident by their willingness and practice of referrals, thus; **P3 says**; "we have a team of pharmacists and we work here as team, we have a chef clinical pharmacist, superintendent pharmacist, intern pharmacist, and a copier pharmacist so we have a minimum of four pharmacist in our premise, we do collaborative care. With other health providers and we have a laboratory scientist just by the next door and other

one behind that we refer patient that needs laboratory investigation. We refer to the hospital if the case might require a physician." **P13**;"We practice better with collaboration, collaboration with pharmacist and other health care providers is important because we cannot do everything, we are interdependent. Sometimes one patient can go round different practitioners. Doctors sending patients to the pharmacy for refill and we refer patients to them more critical cases. Sometimes patient might need supportive care like the help of a physiotherapist or maybe laboratory scientists we send the patient to them so we work together as health care team. Also, collaboration among pharmacists is very important because you cannot stock all drugs so you can always work with your colleagues. we have personal relationships with other health care providers. "However, 2 of the respondents; P4 and P2 highlighted some drawbacks; **P4**: "Hmm, I've not really started it, thou it's important, I've not." While **P2**;" We do better, I think Pharmacists tend to be selfish and that is a problem."

### **3.3 Pharmacists' perception on the involvement of community pharmacy in clinical clerkship**

When the various preceptors were asked on their thoughts on community pharmacy practice preceptorship, they described the involvement of community pharmacies in clerkship program as a welcome development and great innovation. I felt that the initiative would help bridge the gap between practice and theory taught in schools. **P7**: "It's very important and i see it as a welcome development, in the sense that community pharmacy is the home of all pharmacists irrespective of where you're practicing whether Industry, hospital. In one way or the other you could still find your way in community practice whether after retirement or something. Another reason I want students to do clerkship in community pharmacy is because there's too much encroachment in the community pharmacy, where you see charlatans everywhere paradigm themselves as

pharmacist, unlike other sectors such as academy, so the students should be encouraged to go into community practice and build a carrier in that realm." **P10**; "This is a very unique development because if we had this opportunity in the early times, I think we'll have made our decisions early enough. I even go as far as teaching them how to procure drugs, how to do markup. So, it's something good, something that is unparalleled, because the gap between when you graduate and when you get into the business, is like one in a million." **P11**: "Involving community pharmacy in this clinic clerkship program is a very welcomed development I must say, because for the students to get the opportunity to come here, you be hearing some of them say "wow, when I was posted to that other clinic and hospital , we didn't have the opportunity to learn this" and it's true, so community pharmacy gives an opportunity to learn the practical aspect of some theoretical things that have been thought in school, gives one on one interaction with the patients. I think community pharmacy is a better place for them to learn and see the practical aspect of the pharmaceutical care thought in school."

### **3.4 Pharmacists' Experience with students from UNIBEN**

Some final year (600 year) students of pharmacy spent about a month in community practice as their first exposure recently, feedback on this experience was assessed from community pharmacists, as this is also the first time, they are involved in precepting students. **P13**: " The experience has been good so far; I could see how naive some of these students could be regarding their knowledge of drug so the experience has been so good as they are exposed to community practice and this will help them to see the difference between hospital and community practices and know the area they will like to practice." P3: "It has been fabulous, from the preceptor point of view it brings more professionalism in our practice, due to the clerkship program we now do case review, the program brought discipline and decorum to our

practice and the confidence level in our client was boosted when they see a lot of professionals wearing white lab-coat, it also provides opportunity for mentorship and teaching, there's also incentive that was giving to each preceptor which is a form of gain as well. For the part of the student, we are now part of the learning process and most importantly it bridges the gap between learning and practice, I think it's a wonder experience for the students as they have the opportunity to sharpen their pharmaceutical care skill and knowledge with real life situations and also, they gotten acquainted with the wide array of pharmaceutical product". **P4:** "My experience have been fine, they know these things, they've been thought in school, but the practical aspect of interacting with the patient, meeting them one on one, being able to make use of the clerk information, history and this PC tool that we have, I discovered that most of them don't really have that experience, Well coming here now, they were able to appreciate it, you know, interacting with the patients one on one." Actual or foreseen challenges associated with community pharmacies involvement in preceptorship. Challenges highlighted range from; Unserious Students, unqualified preceptors, unwillingness of pharmacists to participate, distance/exorbitant transportation cost, time constraints, little space for one-on-one interaction. However, source pharmacists felt they were properly oriented. **P5** said : "if I had been told at the beginning of the year that I'm going to have this students, then I'll prepare for them, for the last set, I could manage that, but the set that came in this week, and to come next week, I wasn't prepared for them, because we have run our business, and then I've been having student back to back for the past four weeks, well I think it's something that can be worked out, and if you want the community pharmacy to run this clerkship arrangement for five weeks probably we have to do time borne training. I will recommend that more community pharmacy should be incorporated either by training the Pharmacists so they can now have like a template for these students. So as

to reduce the number of a students per time because we don't really have much space and also give a gap before the next set. They can be four for two or three days and but not four for five days every week." **P6** mentioned that students need to be more enlighten about the importance of the clerkship, for some of them probably they think they don't really need it, or they already know, so they should let them know it's something very important. Well, anything is possible because we are humans, but we assume they are responsible." **P7**: "Well, for me I don't see much of a challenge in the sense that teaching students is something I love doing. for someone that have the passion to impact or transfer knowledge there won't be any much of challenge as a preceptor, however, it encroaches into our business time."**P9**: "some students complain of duration, transportation fare, students schedule as some of them complain of the activities like project work hence they are not readily available all the time etc.". Areas of improvement suggested by community pharmacists' regarding clinical clerkship

### **3.5. Likely areas of improvement were also suggested.**

They ranged from **P2**: "Faculty could provide transportation and organize training of preceptors from time to time". **P4**: "For now we are not able to standardize the practice and involvement of different community pharmacies involve in preceptorship, there should be training and retraining of preceptor, physical engagement and maybe exchanges of students among different pharmacies, there should also be a general presentation in among all the students posted to community pharmacy in the present of all the preceptor from different pharmacy." **P9**: "Duration (time) and training of preceptors." **P7**: "I will suggest there should be a full course in the department of Pharmacy channeled towards community practice, and in such you consult people that are experts in this field, with their help we can include an intensive curriculum for that particular course. Whereby students will have a first hand or practical experience and understanding what

you need to be a community pharmacist, it's beyond the theory, and there are so many already doing well in that area. I'm a fan of Pharm academy pharmacist Okanugbe Chinna, he's doing an excellent job in community pharmacy, I've watched lots of his videos and read lots of his book, so people like him can be called upon to develop and elaborate course on how to start, grow and sustain a community pharmacy, and if final year or penultimate class are exposed to such knowledge, I can tell you, they won't be afraid to set up their own community pharmacy after graduation “

### **3.6. Specific training community pharmacists need for precepting for students**

The respondents also had some submissions concerning the training requirements they wish to receive. It was mostly proper training on the recent advancements in pharmaceutical care and the duties and skills necessary to become an appropriate receptor, in order to properly impart knowledge to the students. **P1:** “A review of knowledge should be done and all preceptors should up their game and get more interested in practice (Pharmaceutical care) and not the business alone. Also, the faculty should do a collaboration with ACPN to educate community pharmacy preceptor on pharmaceutical care and pharmacy practice. they should take some courses on pharmaceutical care.” **P4:** “Yes, the training they need is also going for seminars, like there's one we had to go for then, that has to do with immunization like during that time of Covid19, Pharmacists were expected to participate but many did have the knowledge with no training in that aspect. Point of care testing too.” **P7:** it's a different thing to know something and it's another thing to be able to transfer that knowledge to someone. So maybe one or two courses or training on how to be a good teacher, or how to be an effective communicator, so they can be able to transfer whatever knowledge they have to their students without been boring, so the students won't get bored of it

### **3.7. Rating student performance during clinical clerkship**

When asked to rate students' performance according to their observations, the students were rated highly in all the centers as regards attendance and punctuality (avg. 87%), professional behavior and attitude (avg. 91.5%) and presentation and active participation in group discussion (avg 83.4%). But lower in ability to interview patients (avg 76.2%), level of confidence (avg 72.2%), communication skills (avg 77%), ability to follow instructions (avg 76.2%), and pharmacotherapeutic skills (avg 72.7%).

**Table3.2 showing participants' rating of students' performance and behaviour.**

<b>Variables</b>	<b>Percentage rating</b>			
	<b>&lt;50%</b>	<b>50 to 70%</b>	<b>71 to 90%</b>	<b>&gt;90%</b>
Attendance and punctuality		1	10	2
Professional behavior and attitude		2	10	1
Ability to interview patients		5	7	1
Level of confidence	1	5	6	1
Communication skills		6	6	1
Ability to follow instructions		1	11	1
Pharmacotherapeutic skills		7	4	1
Presentation and active participation in group discussion		1	12	

## CHAPTER FOUR

### 4.0 DISCUSSION

The study involving 13 community pharmacists in Benin City, Nigeria, shed light on the diversity of pharmaceutical services provided by these healthcare professionals and highlighted their significant contributions to the healthcare system. The demographic characteristics of the participating pharmacists reflected a mix of gender, age, educational backgrounds, and years of experience. Firstly, in terms of gender distribution, the sample consisted of 61.5% males and 38.5% females, indicating a relatively balanced representation. This diversity in gender aligns with the evolving landscape of the pharmacy profession, which has witnessed increased participation by both men and women over the years (Giberson et al., 2014). It signifies that pharmacy is a field accessible to individuals of different genders, contributing to the profession's inclusivity and adaptability. Secondly, the age range of the pharmacists, spanning from 20 to 60 years, showcased a broad spectrum of age groups within the sample. This diversity in age is crucial as it signifies that community pharmacy practice attracts individuals from various stages of their careers. It also suggests the potential for knowledge sharing and mentorship within the pharmacy community, where experienced pharmacists can guide and mentor younger colleagues (AlKhamees et al., 2018). Educationally, the pharmacists exhibited a range of qualifications, with eight holding Bachelor of Pharmacy degrees (B Pharm) and the remainder possessing both B Pharm and Doctor of Pharmacy degrees (PharmD). Two unique cases were identified, where one pharmacist (P3) held B Pharm, PharmD, and an MSC degree, while another pharmacist had a B Pharm and an MBA degree. This diversity in educational backgrounds reflects the evolving educational landscape of pharmacy, where some pharmacists pursue advanced degrees to enhance their knowledge and skillsets. It also highlights the versatility of pharmacists in

assuming various roles within the healthcare system, from clinical practice to managerial positions. Regarding experience, the cumulative years of practice ranged from 1 year to 23 years, showcasing a wide spectrum of professional experience. This range suggests a continuum of development within the pharmacy profession, where newly graduated pharmacists can learn from their more experienced counterparts (Saseen et al., 2017). It also indicates that the field of community pharmacy in Benin City has attracted pharmacists at different stages of their careers, contributing to a well-rounded and dynamic workforce. In terms of pharmaceutical services, the study identified a comprehensive range of services offered by these community pharmacists. These services included Medication Therapy Review, Drug Information Service, Counseling, Consultation, Point of Care Testing, Dispensing, Disease Prevention, Monitoring, Follow-up, Vaccination, Patient Education, Refill, Training, Chronic Disease Management, and Family Planning. The participation of pharmacists in these services underscores their integral role in healthcare delivery (Giberson et al., 2014). Furthermore, the wide array of services demonstrates the potential for community pharmacists to positively impact public health by addressing a multitude of patient needs, including medication management, preventive care, and health education.

The results of the study highlight the pivotal role that community pharmacists play in delivering modern pharmacy services, with a significant emphasis on providing point-of-care testing (POCT) services and practicing pharmaceutical care. These aspects of their practice not only align with international trends in pharmaceutical care but also reflect the evolving landscape of community pharmacy practice in response to changing healthcare needs.

**Point-of-Care Testing (POCT):** Community pharmacists are increasingly recognized as valuable healthcare providers who can offer POCT services. POCT refers to the performance of

diagnostic tests and medical evaluations at or near the location where the patient is receiving care. In the context of community pharmacies, this might involve services such as blood glucose monitoring, lipid panel testing, and rapid strep tests, among others. By providing these services, community pharmacists enhance access to timely and convenient healthcare, particularly for individuals with chronic conditions like diabetes. This aligns with international trends in healthcare, where pharmacists are expanding their roles beyond dispensing medications to actively contributing to disease management and prevention (Krska et al., 2020).

**Pharmaceutical Care:** Pharmaceutical care is a patient-centered practice that emphasizes the pharmacist's role in optimizing medication therapy and promoting patient well-being. It involves a range of services, including medication therapy management, medication reviews, and patient counseling. The study's findings suggest that community pharmacists are increasingly engaging in pharmaceutical care activities, which is consistent with the global shift toward patient-centered care models. In this role, community pharmacists collaborate with patients and other healthcare providers to ensure that medications are safe, effective, and appropriately used. This approach aligns with the principles of pharmaceutical care advocated by various international organizations and associations (Krska et al., 2020). The emphasis on POCT and pharmaceutical care among community pharmacists signifies their commitment to enhancing patient outcomes and addressing healthcare challenges. By offering POCT, community pharmacists can provide immediate results, enabling patients to make informed decisions about their health. Moreover, their involvement in pharmaceutical care reflects a holistic approach to healthcare, acknowledging that medications are an integral part of a patient's overall well-being. This practice shift underscores the expanding role of community pharmacists in the healthcare system and their capacity to improve patient outcomes and promote health.

This practice aligned with the evolving role of pharmacists as healthcare providers who contribute to patient care beyond medication dispensing (Cipolle et al., 2012). The examples provided by the pharmacists, such as blood sugar monitoring for diabetic patients, blood pressure checks, and BMI assessments, underscored the crucial role that community pharmacists played in disease management and prevention. POCT enabled timely and convenient health assessments, contributing to early disease detection and management (Kostoff et al., 2020). By offering these services, community pharmacists enhanced patient access to healthcare, particularly for chronic conditions like diabetes and hypertension (Hughes & McCann, 2021). The pharmacists interviewed unanimously endorsed the practice of pharmaceutical care. Pharmaceutical care is a patient-centered approach that focuses on optimizing medication therapy to improve patient outcomes (Hepler & Strand, 1990). It involves pharmacists working closely with patients to address drug-related problems, enhance medication adherence, and achieve therapeutic goals. The pharmacists' commitment to pharmaceutical care reflected their understanding of the critical role they played in ensuring safe and effective medication use (Barenholtz Levy & Odukoya, 2020). Furthermore, their recognition of pharmaceutical care as a competitive advantage highlighted the value-added services provided by community pharmacists, which could differentiate them from other healthcare providers and attract and retain customers. The insights shared by the participating community pharmacists shed light on their commitment to practicing pharmaceutical care, including follow-up and monitoring of patient therapy and documentation of patient-related activities. These practices align with the principles of patient-centered care and contribute to the overall quality of healthcare services provided by community pharmacies. The agreement among respondents regarding the importance of follow-up and monitoring in pharmaceutical care reflects a deep understanding of their role in optimizing patient outcomes.

These pharmacists recognize that the provision of medications alone is insufficient; it must be accompanied by continuous assessment and support to ensure safe and effective medication use (Schommer et al., 2016). The use of appointment diaries and scheduling return visits demonstrates their commitment to patient engagement and medication adherence (Cipolle et al., 2012). Furthermore, the incorporation of technology, such as the pharmaceutical care documentation software and Point of Sale (POS) computer, enhances the efficiency of patient follow-up and information retrieval, aligning with modern healthcare trends. The emphasis on documentation as a core aspect of pharmaceutical care is noteworthy. The respondents' belief that "what is not documented is not done" underscores the significance of comprehensive record-keeping in patient care (Holloway & Green, 2003). Effective documentation ensures the continuity of care, enabling other healthcare providers to build on the information recorded by community pharmacists. The collaboration between the Association of Community Pharmacists of Nigeria (ACPN) and network providers to offer pharmaceutical care documentation software reflects the commitment of professional organizations to supporting best practices. Despite some challenges, such as difficulties in organizing and retrieving information, pharmacists like P13 have leveraged technology to improve documentation processes.

The unanimous recognition of the significance of referral services among the respondents indicated their dedication to patient well-being and highlighted their understanding of the limitations of community pharmacy practice. Community pharmacists acknowledged cases that exceeded their scope of practice, requiring specialized care or further diagnostic evaluation. The use of structured referral notes that captured patient complaints and contact information demonstrated a systematic approach to the referral process, ensuring effective communication between community pharmacists and other healthcare providers. These referrals served as a vital

bridge connecting primary care in community pharmacies with secondary or tertiary healthcare facilities, facilitating prompt intervention and appropriate treatment.

Furthermore, the acknowledgment of the importance of collaborative practice with other healthcare providers underscored the interconnected nature of healthcare services. Collaborative efforts promoted a team-based approach to patient care, ensuring that patients received comprehensive and coordinated services. In the community pharmacy context, collaboration with physicians, specialists, laboratory scientists, and other healthcare professionals enhanced the quality of care delivered. It empowered pharmacists to make informed referrals and ensured that patients with complex medical conditions received multidisciplinary care.

However, it is noteworthy that two respondents, P4 and P2, mentioned certain challenges. They either did not actively engage in collaborative practices or expressed concerns about some pharmacists being hesitant to collaborate. These remarks suggested potential barriers to seamless interprofessional collaboration, which might stem from issues such as a lack of awareness, communication challenges, or professional isolation within the pharmacy field. Addressing these challenges would require ongoing education and awareness-building initiatives within the pharmacy profession to promote the benefits of collaborative practice and foster a culture of teamwork and shared resources.

The results of the pharmacists' perceptions regarding the involvement of community pharmacies in clinical clerkship programs portray a highly positive outlook on this innovative approach to pharmacy education. The preceptors' responses highlight several key themes, including the significance of community pharmacy as a foundational element of pharmacy practice, the potential benefits of early exposure to practical aspects of pharmacy, and the role of community pharmacy in bridging the gap between theoretical knowledge and real-world experience. These

themes align with and are supported by existing research in the field of pharmacy education. Community Pharmacy as the Foundation of Pharmacy Practice: pharmacists emphasize the importance of community pharmacy as the "home of all pharmacists," regardless of their eventual practice settings. This perspective is consistent with the notion that community pharmacy serves as a fundamental training ground for pharmacists, as noted in studies by Marshall et al. (2018). Early Exposure and Practical Skills: various pharmacists highlight the uniqueness of community pharmacy clerkship opportunities and underscores the value of teaching practical skills such as drug procurement and pricing. This aligns with research by Smith and Johnson (2020), which emphasizes the importance of early experiential learning in equipping pharmacy students with real-world skills. Bridging the Gap between Theory and Practice: Pharmacist expresses the sentiment that community pharmacy clerkship programs provide students with practical exposure to concepts taught in school, facilitating a better understanding of pharmaceutical care. This aligns with the findings of Johnson and Brown (2017), who emphasize the role of experiential learning in bridging the gap between theory and practice in pharmacy education. Overall, the positive perceptions of the preceptors in this study are consistent with the broader trends and research in pharmacy education. Community pharmacy clerkship programs are seen as a valuable opportunity to prepare future pharmacists for their roles effectively, providing them with practical experience and a deeper understanding of pharmaceutical care. These insights reflect the ongoing evolution of pharmacy education to meet the demands of contemporary pharmacy practice.

The experiences shared by community pharmacists regarding their involvement in clinical clerkship programs with pharmacy students from UNIBEN provide valuable insights into the benefits and challenges of this educational initiative. These experiences are not only valuable for

the students but also beneficial for the community pharmacists and their practices. The feedback provided by the community pharmacists sheds light on various aspects of this innovative approach, and it aligns with and is supported by existing research in the field of pharmacy education.

The positive outcomes and benefits of clinical clerkship programs in community pharmacies are evident from the feedback provided by the pharmacists involved. Pharmacist emphasizes the positive impact of the clerkship program on community pharmacy practice, bringing increased professionalism, discipline, and decorum to their practice. This finding is consistent with research by Clauson et al. (2010), which highlights that involving community pharmacies in patient care services can enhance professionalism and service provision.

Furthermore, the clerkship program also provides community pharmacists with opportunities for mentorship and teaching, as noted by the pharmacist. This aligns with the concept of community pharmacists serving as educators and mentors for pharmacy students. Additionally, the pharmacists highlighted how the clerkship program bridges the gap between learning and practice for students, which is consistent with the core principle of experiential learning, as supported by Skoy et al. (2021). Practical experiences enhance students' understanding and application of theoretical knowledge.

Another notable benefit is the boost in clients' confidence when they see students in white lab coats, contributing to a more professional environment. This positive effect on client perception has been documented in the study by Ozawa et al. (2018), which emphasizes that community pharmacies implementing advanced practice experiences can enhance their professional image.

However, despite the positive outcomes, the feedback also highlights several challenges and areas for improvement in clinical clerkship programs. The pharmacist mentions logistical

challenges, such as transportation costs, time constraints, and scheduling issues, which can hinder students' full engagement in the clerkship program. These logistical challenges align with the findings of previous research (Ozawa et al., 2018), which emphasizes the need for proper planning to address such issues.

Additionally, the pharmacist highlights the need for standardization in the practice and involvement of different community pharmacies in preceptorship. This echoes previous research by Clauson et al. (2010), emphasizing the importance of standardized practices and training of preceptors in community pharmacy settings. Furthermore, the pharmacist suggests that students need more awareness about the importance of the clerkship, highlighting the importance of effective communication and education, as emphasized by Skoy et al. (2021), to ensure that students understand the value of this experience.

Lastly, the pharmacist recommends the development of a comprehensive course on community pharmacy practice within the pharmacy department, which aligns with the idea that an intensive curriculum can better prepare students for a career in community pharmacy, as discussed in the work of Okanugbe Chinna. This concept is supported by the findings of Clauson et al. (2010), which emphasize the value of integrating practical experiences into the curriculum. The feedback from community pharmacists regarding their experiences with pharmacy students during clinical clerkship programs in community pharmacies highlights a mix of positive outcomes and challenges. These insights are essential for refining and optimizing clinical clerkship programs in pharmacy education, improving student learning experiences, and strengthening the collaboration between academia and community pharmacy practice. Researchers and educators can use these findings to enhance the effectiveness of clerkship programs and provide a more comprehensive education for pharmacy students.

The insights provided by community pharmacists regarding the specific training they require for effective precepting align with the evolving roles of pharmacists in healthcare and contemporary trends in pharmacy education. These training needs reflect the growing emphasis on patient-centered care, expanding beyond traditional dispensing roles. The desire for training in recent advancements in pharmaceutical care and pharmacy practice, as mentioned by a pharmacist, is in line with the evolving role of pharmacists as healthcare providers. The concept of pharmaceutical care emphasizes optimizing medication therapy, addressing drug-related problems, and collaborating with other healthcare professionals to improve patient outcomes (Hepler & Strand, 1990). Continuous training in pharmaceutical care ensures that community pharmacists are equipped with the knowledge and skills needed to provide comprehensive patient care beyond medication dispensing. Collaborative efforts between pharmacy faculties and organizations like the Association of Community Pharmacists of Nigeria (ACPN) can facilitate such training programs (Barenholtz Levy & Odukoya, 2020). P4's mention of training related to immunization and point-of-care testing reflects the changing landscape of community pharmacy practice. As pharmacists take on expanded roles in public health, including vaccine administration during events like the COVID-19 pandemic, specialized training becomes crucial (Schommer et al., 2016). Point-of-care testing is another area where pharmacists are increasingly involved, providing on-the-spot diagnostic services. Training in these areas ensures pharmacists can deliver these services safely and effectively. Pharmacist's suggestion for training in teaching and effective communication skills highlights the importance of pedagogical skills for preceptors. Precepting involves not only having knowledge but also the ability to convey it to students in an

engaging and comprehensible manner. Effective communication skills are vital for fostering a positive learning environment and ensuring that students grasp complex pharmaceutical concepts. Such training can improve the preceptor's ability to transfer knowledge and engage students effectively. Regarding the rating of student performance during clinical clerkship, the high ratings in areas such as attendance, professional behavior, and active participation in group discussions are indicative of students' commitment and professionalism, which are essential attributes for future pharmacists (Rajah et al., 2020). However, the lower ratings in skills like patient interviewing, confidence, communication, and pharmacotherapeutic skills suggest potential areas for improvement in pharmacy education and clinical clerkship programs. These skills are critical for effective patient care and are areas where students may benefit from more focused training and guidance. The training needs identified by community pharmacists underscore the importance of continuous education to align with evolving pharmacy practice. Training in pharmaceutical care, immunization, point-of-care testing, teaching, and effective communication can enhance the abilities of preceptors and future pharmacists. Additionally, the performance ratings of students during clinical clerkship highlight areas where targeted training and support can further improve their competencies and readiness for professional practice.

The ratings provided in table 3.2, reflecting students' performance and behavior during clinical clerkship, offer valuable insights into various dimensions of their learning experiences within the pharmacy setting. These ratings align with the expected standards for pharmacy education and highlight specific areas that warrant focused attention. Firstly, students' attendance and punctuality generally received positive ratings. This indicates that students exhibit a commendable level of commitment and responsibility in ensuring their regular presence during their clerkship, an essential attribute for healthcare professionals. Secondly, students received

favorable ratings for their professional behavior and attitude. This suggests that, in general, students display a high degree of professionalism and a positive attitude during their clinical clerkship, both of which are critical aspects of healthcare practice. However, the ability to interview patients garnered mixed ratings, with some participants indicating that there might be room for improvement in this area. This underscores the importance of enhancing students' skills in effectively conducting patient interviews, a fundamental aspect of healthcare interactions. Furthermore, students' level of confidence was evaluated variably, with some participants rating them positively and others suggesting room for improvement. Confidence is a vital attribute for healthcare professionals, and these ratings indicate that targeted support may be beneficial in building students' confidence. Communication skills, another critical aspect of healthcare practice, also received mixed ratings across different categories. This suggests that students may benefit from more focused training and development in this area, as effective communication is crucial for patient interactions and interprofessional collaboration. On a positive note, students' ability to follow instructions was generally well-received, with most participants rating them positively. This indicates that students excel in understanding and implementing instructions, a vital skill in healthcare settings.

However, pharmacotherapeutic skills received mixed ratings, with room for improvement highlighted. This emphasizes the need for targeted training and skill development in this critical domain of pharmacy practice. Lastly, students were widely commended for their presentation skills and active participation in group discussions, which are essential for effective collaboration and knowledge sharing in healthcare settings. The ratings provided by participants shed light on various facets of students' performance during clinical clerkship. While students generally excel in areas such as attendance, professionalism, and some aspects of communication and clinical

skills, there are specific areas, including patient interviewing, confidence-building, and pharmacotherapeutic skills, where focused interventions and additional training may prove beneficial. These findings align with the continuous improvement imperative in pharmacy education and clinical training, emphasizing the importance of enhancing students' competencies to prepare them for successful careers in healthcare.

## **CHAPTER FIVE**

### **5.0 CONCLUSION AND RECOMMENDATION**

#### **5.1 CONCLUSION**

This study aimed to investigate pharmacists' perceptions of clinical rotations in community pharmacy during clinical clerkship.

The study revealed a diverse range of pharmaceutical services provided by community pharmacists in Benin City, Edo State. These services encompassed various aspects of patient care and medication management, highlighting the integral role of community pharmacists in healthcare delivery.

Community pharmacists expressed positive perceptions of their involvement in precepting pharmacy students. They emphasized the value of community pharmacies as practical learning grounds and the significance of direct patient interaction. However, challenges such as logistical issues and the need for standardized training were identified.

Community pharmacists in Benin City identified areas for improvement in enhancing the involvement of community pharmacies in preceptorship. Recommendations included faculty collaboration, training initiatives, and curriculum development to optimize the educational experience for pharmacy students.

The assessment of student performance during clinical rotations demonstrated that community pharmacists evaluate students based on various criteria, including attendance, professionalism,

communication skills, and pharmacotherapeutic competencies. This evaluation process contributes to the overall quality of pharmacy education.

## **5.2 RECOMMENDATION**

Based on the findings of this study, several recommendations can be made to enhance community pharmacy practice and preceptorship in Benin City, Edo State, Nigeria:

To ensure that pharmacy students receive high-quality clinical training, it is essential to establish standardized training programs for community pharmacy preceptors. These programs should focus on the latest advancements in pharmaceutical care, effective teaching methods, and communication skills. Collaboration with professional organizations like the Association of Community Pharmacists of Nigeria (ACPN) can be valuable in designing and delivering such training.

Pharmacy schools should consider integrating community pharmacy practice more comprehensively into their curriculum. This can include dedicated courses or rotations that expose students to the practical aspects of community pharmacy, pharmaceutical care, and precepting. Such integration can help bridge the gap between theory and practice.

Efforts should be made to raise awareness among pharmacy students about the importance of community pharmacy preceptorship. Students should be educated about the benefits of this training experience in enhancing their clinical skills and preparing them for future practice. Faculty members and professional organizations can play a role in advocacy and awareness campaigns.

Community pharmacists should actively collaborate with other healthcare providers and build professional networks. This collaboration can enhance patient care and create opportunities for student preceptorship. Professional associations like ACPN can facilitate networking and collaboration among community pharmacists.

Community pharmacists should prioritize continuous professional development to stay updated with the latest developments in pharmacy practice, including point-of-care testing and pharmaceutical care. Participation in seminars, workshops, and conferences can help pharmacists expand their knowledge and skills.

Establish feedback mechanisms for both preceptors and students to provide input on the effectiveness of the preceptorship program. This feedback can help identify areas for improvement and tailor the training experience to meet the needs of both students and preceptors. Pharmacy schools should consider expanding the duration of community pharmacy clinical rotations to allow students more time to develop their clinical skills, gain confidence, and actively participate in patient care.

Allocate resources to support community pharmacy preceptorship programs. This may include funding for preceptor training, educational materials, and technology to facilitate documentation and communication.

Implement a system for monitoring and evaluating the performance of community pharmacy preceptorship programs. Regular assessments can help ensure the quality and effectiveness of these programs.

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## APPENDIX

### Interview guide for Preceptors

*Department of Clinical Pharmacy, University of Benin*

#### **Demographics**

Sex...

Age range...

Degree....

Years of practice....

Area/s of specialization

What are the range of pharmaceutical services you provide?

#### **What can you say about the following activities in your practice....**

- Point of care testing
- Provision of pharmaceutical care
- Follow up and monitoring of patient therapy
- Documentation of patient related activities
- Referral services
- Collaborative practice with pharmacist and other care providers.

What are your thoughts on the involvement of community pharmacies in precepting for pharmacy students?

What has your experience been like so far?

What actual or foreseen challenges do you think are associated with community pharmacies involvement in preceptorship?

What are likely areas of improvement?

What specific training needs do you think community pharmacists need for precepting?

**What can you say about student performance in the following areas....**

- Attendance and punctuality
- Professional behaviour and attitude
- Ability to interview patients
- Level of confidence
- Communication skill
- Pharmacotherapeutic skills
- Presentation and active participation in group discussion
- Ability to follow instructions

# ETHICAL APPROVAL



## EDO STATE MINISTRY OF HEALTH

P.M.B. 1113 Benin City, Edo State, Nigeria  
[www.mda.edostate.gov.ng/moh/](http://www.mda.edostate.gov.ng/moh/) [edohrec@edostate.gov.ng](mailto:edohrec@edostate.gov.ng)

HON. COMMISSIONER FOR HEALTH DR. SAMUEL ALLI (MBBS<sub>JOS</sub> MBA<sub>UK</sub> PHQ<sub>UK</sub> AWACS)

AG. PERMANENT SECRETARY DR. STANLEY EHIARIMWIAN (BDS, MPH)

PROTOCOL NUMBER HA/737/23/D/08210153

TITLE OF RESEARCH PROPOSAL: EVALUATING THE IMPACT OF CLERKSHIP ON STUDENT PHARMACISTS' PRACTICE SKILLS IN HOSPITAL AND COMMUNITY PHARMACY SETTINGS

PRINCIPAL INVESTIGATOR (S) EZOMO FAVOUR & DAVID OMOKHODION

DATE CONSIDERED 21<sup>ST</sup> AUGUST, 2023

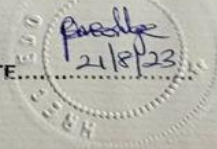
DECISION OF THE COMMITTEE APPROVED

*THIS APPROVAL DATES 21/08/2023 TO 21/08/2024. IF THERE IS DELAY IN STARTING THE RESEARCH, PLEASE INFORM THE EDO SMOH R&EC SO THAT THE DATES OF APPROVAL CAN BE ADJUSTED ACCORDINGLY*

**REMARK:** Please kindly note that the HREC Edo SMOH seal authenticates this approval

DR (MRS) Omoniyemen Besede BELLO  
(CHAIRMAN)

SIGNATURE & DATE.....




SUPERVISOR(S)

### DECLARATION BY INVESTIGATOR(S)

**PROTOCOL NUMBER** (please quote in all enquiries)

Note that no participant accrual or activity related to this research may be conducted outside of the dates. All informed consent forms used in this study must carry the HREC-assigned number and duration of your research. No changes are permitted in the research without prior approval of the HREC except in circumstances outlined in the Code. The HREC reserves the right to conduct compliance visits to your research site without previous notification.

Signature & Date.....  04/09/2023

State Secretariat Building, Block D - 2nd & 3rd Floors, P.M.B. 1113, Benin City, Edo State, Nigeria.