MEDICATION THERAPY MANAGEMENT AND PATIENTS SATISFACTION WITH PHARMACEUTICAL SERVICES IN PUBLIC HEALTHCARE FACILTIES IN OYO STATE, NIGERIA

By

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CERTIFICATION

I certify that this dissertation is an original work carried out by Hamidu Adediran OLUYEDUN under my supervision, and submitted to the Department of Sociology, Faculty of the Social Sciences, University of Ibadan, Nigeria.

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DEDICATION

This work is dedicated to the Glory of Almighty God (Allah SWT), the Cherisher of the Universe, and to my late parents Alhaji Imran Adediran Oluyedun and Alhaja Harafat Atoke Oluyedun (nee Adeniji).

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ABSTRACT

Medicines or drugs are used to improve the health of patients by relieving symptoms and curing diseases. However, drugs may produce adverse effects when not taken according to prescriptions by pharmacists. Adverse Drugs Events (ADEs) are increasingly becoming common. Pharmacists play critical roles in Medication Therapy Management (MTM) to reduce ADEs, ensure optimal health outcomes and promote patient's satisfaction. These roles have largely been misconstrued by patients and their relatives. Only few studies have focused on patients' satisfaction with pharmaceutical care. This study was, therefore, designed to examine patients' satisfaction with pharmaceutical services and MTM in public healthcare facilities in Oyo State, Nigeria.

Social Action and Consumer Satisfaction Equity theories were used as the framework, while the cross-sectional survey design was adopted. Oyo State was purposively selected with low pharmacist-patient ratio of 1:25,000. Two public hospitals were randomly selected from each senatorial district of Oyo North (Ogbomoso and Saki), Central (Oyo and Moniya) and South (Adeoyo and Ring Road). A total of 769 copies of standard questionnaire were administered to patients and their relatives across Adeoyo (141 and 70), Ring Road (133 and 66), Oyo (35 and 18), Moniya (36 and 18), Ogbomoso (102 and 51) and Saki (66 and 33) through random selection. The instrument focused on respondents' knowledge of pharmacists' roles, factors influencing patients' knowledge of pharmacists' roles, patients' satisfaction with pharmacists' roles in MTM and socio-cultural factors influencing patients' satisfaction. Scores of <50.0%, 50–69% and ≥70% indicated low, average and high knowledge, respectively. Satisfaction was similarly classified as low, moderate and high respectively. In-depth interviews were conducted with 24 patients and their relatives, while key informant interviews were conducted with 12 pharmacists. While quantitative data were analysed using chi-square and multiple regression, qualitative data were content-analysed.

Respondents' mean age was 40±15 years. Most (69.4%) were females. Mean monthly income was N42,000.00. Respondents' knowledge of pharmacists' roles in MTM showed that 47.6%, 7.5% and 44.9% had low, average and high knowledge, respectively. Respondents' satisfaction indicated that 35.4% were highly satisfied, 40.4% were moderately satisfied and 24.2% had low satisfaction with pharmaceutical services. Age ($\chi 2$=15.715), education ($\chi 2$=25.265) and occupation ($\chi 2$=33.039) of respondents and operating environment like space ($\chi 2$=12.837) and adequacy of resources in the pharmacy ($\chi 2$=28.294) significantly influenced their perceived knowledge. Level of satisfaction was significantly influenced by religion ($\chi 2$=13.218), education ($\chi 2$=18.740), perceived knowledge of roles ($\chi 2$=828.552), operating environment, namely sufficiency of pharmacists ($\chi 2$= 17.106) and adequacy of resources in the pharmacy ($\chi 2$=28.825). Socio-cultural factors like language of communication of medication (β= -0.047) and courteous response (β=0.013) significantly influenced level of satisfaction. Pharmacists identified ineffective drug policies, inadequate staffing and unhealthy relationship with physicians as problems of MTM. Pharmacists were not actively involved in review of prescribed drugs in cases of ADEs. Patients complained of inadequate supply and high cost of medication for chronic ailments.

Patients in public health facilities in Oyo State were moderately satisfied with pharmaceutical care in relations to Medication Therapy Management. Pharmacists should be involved in review of prescriptions, especially for adverse drug events.

Keywords: Adverse Drug Events, Pharmaceutical services, Pharmacists' roles
Word count: 500

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LISTS OF ACRONYNMS

ADE - Adverse Drug Event

ADR - Adverse Drug Reaction

APhA - American Public health Association

CAM - Complimentary Alternative Medicine

CPC - Consumer Protection Council

DRP - Drug Related Problem

EFQM - European foundation for quality management

IDI - In-Depth Interview

KII - Key Informant Interview

MCPD - Mandatory Compulsory Professional Development

MRP - Medication Related Problem

MTM - Medication Therapy Management

NAFDAC - National Agency for Food Drug Administration and Control

NDP - National Drug Policy

NDP - National Drug Policy

PC - Pharmaceutical Care

PCN - Pharmacy Council of Nigeria

PSN - Pharmaceutical Society of Nigeria

CHAPTER ONE

INTRODUCTION

1.1 Background to the study

Medicines or drugs are used to improve quality of life and life expectancy by relieving symptoms, delaying disease progression, and curing diseases. However, no prescription is entirely harmless, as all drugs produce adverse effects in some patients (Kefale, Degu, and Tegegne, 2020). Medication-related problems (MRPs) are unwanted effects that actually or potentially interfere with health outcomes. There is more prevalence of adverse drug reactions (ADR) than one would think. It is estimated that ADRs are the sixth leading cause of death worldwide. Estimates suggest that they account for 6.5–6.7% of acute hospital admissions (Hacker, 2009). They contribute significantly to disease morbidity, mortality, economic loss, and overall pressure on the healthcare system. MRPs include medication errors, adverse drug events, and adverse drug reactions (Kefale, Degu, and Tegegne, 2020).

A significant challenge in examining the incidence and prevalence of ADRs is identifying the health challenges that could be described as ADRs. This heavily depends on the attending clinician's knowledge, experience, and capability and the quality of available information (Maddison and Page, 2009). Pharmacists are traditionally known to play significant roles in managing drugs towards improved patients' health outcomes. This can be effectively achieved through Medication Therapy Management (MTM), which consists of activities primarily aimed at improving health outcomes of people by helping them to have a better understanding of their health conditions and the medications used for the management (Viswanathan et al. 2015). These include educating people on disease state and the need to apply correct medication, in the proper dosage, for treating the disease

state, and identifying and managing the side effects of medications (Ramalho de Oliveira, 2015; Theising et al. 2015).

Medication Therapy Management (MTM) can further be viewed as the modern form of healthcare services, which improves the concept of the 'pharmaceutical care' process developed in the early 1990s. (Ramalho de Oliveira, 2015). Pharmaceutical care (PC) is a process of professional pharmacy practice and not an isolated intervention. It is meant to standardise pharmacy practice and make it impactful on the health of the people. It was coined with similar philosophy and objectives as the concepts of 'medical care' or 'nursing care' (Harris et al., 2014).

MTM standardises the practice of Pharmacy. It helps to discover and deal with medication-related problems. These problems may include not using drugs according to specifications, duplication of medications, unnecessary medications, and the need for medication(s) for an untreated or inappropriately managed condition (Joint Commission of Pharmacy Practitioners, 2014). Patients' involvement is critical to MTM as the patients' participation in managing their health enhances a better understanding of the medications prescribed for treatment of their health challenges (Osemudiamen, 2017). MTM services facilitate more effective collaboration between all healthcare providers, including pharmacists and physicians, and the patients to achieve optimum medication therapy outcomes (Pellegrino et al., 2009; Akonoghrere 2015 and Greer. 2015).

The impacts of MTM on outcomes and patronage of healthcare facilities may largely depend on its application in identifying and resolving medications problems, such as improvement in adherence to medication, fewer drug-related adverse events, and more efficient coordination of medication care (Mcdonough and William, 2003). The cost of medication-related morbidity is deemed high. The Institute of Medicine advocates that patients must actively participate in their healthcare process for safe, effective, timely, and satisfactory medication (Bluml, 2005).

Pharmacists are health professionals with critical primary roles in the process of management of medications. There are, however, several risks associated with this process

that may result in unanticipated adverse events, some of which may include prescription errors, dispensing and administering medications errors, idiosyncratic reactions, and other adverse effects (Amber, 2018). These undesirable events can be described as examples of 'medications misadventures'. The expected roles of pharmacists are to be able to understand and anticipate the potential enabling and motivating factors for these medication misadventures and prepare to recognise and prevent the probability of such occurrences. Medications misadventures are global problems that have become an issue of national priority in the United States (Amber, 2018).

The modern trend in pharmaceutical care practice ensures that pharmacists adopt the MTM concept, which focuses on improving patients' therapeutic outcomes concerning medication (Akonoghrere 2015). Thus, MTM services are patient-centred, determined by identified needs of the individual patient and the use of a standard patient care process. It involves comprehensive and collaborative efforts to identify and resolve medication therapy problems during the period the patient is under the pharmacists' care (Viswanathan 2014).

However, it has been established through past studies that patient's satisfaction, which is a sensitive and humanistic tool, can be adopted as an instrument for the assessment of the quality of healthcare services in society (Sharma, 2009 and Campbell et al., 2010). MTM is a social approach to pharmaceutical services and care, which attempts to change attitudes, skills, and inter-professional relationships in the health sector concerning the provision of medication therapy towards achieving improved therapeutic outcomes towards the health and quality of life patients.

1.2 Statement of the Problem

Drug-related adverse events are significant to public health (Wittayanukorn et al., 2013). The cost of medication-related morbidity is deemed high. Sometimes Patients and clinicians may have difficulty differentiating between an actual drug allergy and a predictable adverse drug reaction and may thus alter or withdraw medication (Nicholls, Mackenzie, and Braund, 2016). Adverse drug events (ADEs) represent unwanted toxic

effects resulting from taking a given drug or set of drugs. Non-documentation of ADEs may lead to an increase in medication expenditure. This may also impact the healthcare system negatively.

Pharmacists are experts trained to deal with this critical area of challenge to an effective healthcare system. Public perception of the roles and responsibilities of pharmacists remains a crucial factor in the better utilisation of public health facilities. However, the public has a poor understanding of the roles of hospital pharmacists as healthcare providers (El Hajj et al., 2011). Though the licensed pharmacist is better trained to handle patient-oriented care, an aspect of MTM, dissemination of information, monitoring of patient medication regimens, and pharmacovigilance, there are still hindrances in effective utilisation of the skills of pharmacists in medication therapy. This, on several occasions, had led to drug misuse and abuse which is already of great concern, especially in third world countries.

There is a traditional misconception of pharmacists' roles by patients, including elites, as somebody who issues drugs behind a counter or pigeonhole by following a doctor's prescription or order. Patients perceive pharmacists as drug sellers, storekeepers or dispensers rather than professionals that can intervene in their medication design to better the quality of their lives. Pharmacists are trained to identify and resolve Drug Related Problems (DRPs) which are of primary global health concern, ranking number three after cancer and cardiovascular diseases. There is a lack of comprehensive medication-related education, which affects optimal health outcomes.

Pharmaceutical practice in Nigeria is affected by the hospital settings. Hospital Pharmacy practice in Nigeria is mainly product-oriented practice that is negatively affected by bureaucracy and formalisation. The adoption of MTM in pharmaceutical care is influenced by cultural settings, the size and design of pharmacies, and procedural barriers. The policies on drugs management change with every change in government. Most pharmacists are not regularly trained on the current trend in MTM despite the introduction of a mandatory continuing education program by the Pharmacy Council of Nigeria. Previous studies have focused mainly on drug-related problems from the viewpoints of

physicians and nurses, with little attention to the critical roles of the pharmacists and patients' satisfaction in adopting MTM as a tool for achieving optimal health outcomes for patients.

1.3 Research Questions

The study addressed the following questions:

1. What are patients' perceptions about the roles of pharmacists in medication therapy?
2. How satisfied are patients with the services provided by pharmacists in medication therapy?
3. What sociocultural factors influence patients' perceptions of the pharmaceutical care provided by pharmacists in medication therapy management (MTM)?
4. What is the perception of practising pharmacists about pharmaceutical practices in relations to MTM?

1.4 Objectives of the Study

The main objective of this study was to examine Medication Therapy Management and patients' satisfaction with pharmaceutical services in public health facilities in the Oyo State of Nigeria. While the specific objectives of the study were to:

1. Determine respondents' perception of the roles of pharmacists in MTM in secondary health care facilities in Oyo state

2. Identify factors influencing respondents' perceptions of the roles of pharmacists in MTM.

3. Examine knowledge of practising pharmacists about pharmaceutical practices in MTM

4. Examine the level of patients' satisfaction with the services of pharmacists in MTM

5. Identify sociocultural factors influencing patients' satisfaction with pharmaceutical care provided by pharmacists in MTM.

1.5 Justification for the study

Medication Therapy Management (MTM) emphasises the social and administrative aspects of Pharmacy in responsibly providing care (Viswanathan et al., 2015). It is focused on quality service by setting professional standards and ensuring best pharmaceutical practices by promoting approaches that will ensure the realisation of improving patients' quality of life through responsible use of medicines. MTM emphasises the need for new and improved methods that focus on medication-related health literacy and helps to prevent health damages and waste of health care resources, leading to enhanced patient's health outcomes.

Medication Therapy Management is needed to strengthen healthcare and adopt a prevention focus in which pharmacists will provide correct and comprehensible information about medicines to their patients on time (Aderemi-Williams et al., 2017). Through MTM, there is the likelihood of improvement in clinical outcomes and medication therapy, thus resulting in effective pharmaceutical care in medication therapy such as mitigating abuse of particular drugs like antibiotics and problems associated with incorrect dosages and reductions in drugs resistance.

Medication Therapy Management ensures improvement on pharmacists' knowledge, skill, and functions, and thus it amounts to efficient workflow processes and overall improvement of drug therapy. The study will therefore enhance further research into areas of Social-pharmacy. Services for managing medication therapy are designed to address challenges with polypharmacy, preventable adverse drug events, medication adherence, and medication misadventures. Pharmacists provide medication therapy management where they serve an essential role in preventing medication errors and adverse events.

1.6 Scope of the Study

The study focused on MTM and patients' satisfaction in secondary health care facilities in Oyo State. It is an aspect of social Pharmacy and not a biological analysis of drug-related problems. Therefore, the study is limited to Pharmacists in the Government-owned Health facilities in Oyo state. In addition, the study populations are in-patients, outpatients, and their relatives that come for prescriptions fillings and refills, including clients on Health Insurance schemes and out-of-pockets patients.

1.7 Conceptual Clarifications

Adverse Drug Event (ADE): is when someone is harmed by a medicine. It may be due to appropriate or inappropriate use.

Adverse Drug Reaction (ADR): It is appreciably harmful or unpleasant reaction resulting from an intervention related to the use of medicine. Harm is directly caused by a medicine under appropriate use that is at normal doses. ADR predicts hazard from future administration and warrant prevention or specific treatment or alteration of the dose.

Drugs or medicines: This refers to any substance made from vegetable, animal or mineral materials or any preparation or mixture which entails internal or external application in the diagnosis, treatment or prevention of any disease or its symptoms, in man or animals, to restore, correct or modifying organic functions in man or animals; or disinfection of insects or pests, or contraception

Hospital Pharmacy: This is the department, section or unit of the hospital or clinic responsible for procurement, storage, preservation, packaging, sterilisation, compounding, preparation, dispensing or distribution of medicine in the hospital or clinics;

Medication Therapy Management (MTM): Generally called medicine review is a distinct service or group of pharmaceutical service typically provided by licensed pharmacists that assure medications are used to optimize treatment outcomes for individual patients. MTM helps to reduce the risk of medication related problems.

Patients: In this study, these are people who patronised pharmacies in the hospitals selected during data collection. They are interchangeably used with respondents.

Patient-centred: This is an approach in which the patient is seen as a whole in generalized pharmaceutical care.

Patient's perception: This is from patient point of view of health care provision of pharmaceutical services which takes into account genuity of the health care provision by the pharmacist to the patient; it takes into account care outcomes.

Patient Satisfaction: Is a subjective measure of whether a patient's expectation about health encounter were met

Patrons: are the patients or clients or the relatives (significant others) that come to the Pharmacy for a refill of prescription or purchase of medications and medicaments.

Pharmaceutical activities: These refer to dispensing, selling, distribution, storage, stocking, wholesaling or manufacturing of drugs and poisons

Pharmaceutical care: Pharmacists' traditional role in drug therapy is to achieve improved health outcomes and sustain a patient's quality of life.

Pharmacists: In this study, healthcare professionals within health systems that are responsible for safe and effective medication use. "Pharmacist" refers to any registered and licensed person to engage in Pharmacy.

Pharmacy Practice: In this study, it refers to the giving of patient-centred care, provision of drug information, monitoring of drug therapy, clinical interventions and provision of technical aspects of pharmaceutical services.

Pharmaceutical Services: These are the fundamental part of Pharmacy. The principal task is to provide pharmaceutical care as an inseparable part of health care. In the hospital is a clinical support service within the area of assistance and management of the human

resources needed for the Provision of Quality Health Care in Medication and other Pharmaceutical Products.

Public Healthcare facilities: These are facilities controlled by Government that are hospital or institution at which provision is made for health care. In this study it denotes secondary care facilities where provisions of pharmaceutical services are under the control of pharmacists.

Social Cultural factors: Include consumers' lifesyles, buying habits, religion, beliefs, values, demographics, social classes, sexuality and attitude. These factors determine the suitability of an organization's products and services for its customers' needs

CHAPTER TWO

LITERATURE REVIEW AND THEORETICAL FRAMEWORK

This section deals with a review of some previous works concerning medication therapy management and patients' satisfaction. Few papers relate pharmaceutical services, the prevalence of adverse drug events, and patients' satisfaction. This section attempts to present a review of some accessible works on pharmaceutical care, roles of hospital pharmacists, medication therapy, patients'/ public perceptions of the pharmacist, health governance in drugs management, patients' rights to health information, and patient satisfaction with patient healthcare. The chapter also reviews some of the socio-cultural factors that influenced patients' satisfaction with pharmaceutical care. The chapter further presents a theoretical foundation for the work, synthesising two theories to understand the relationship between medication therapy management (MTM) and patients' satisfaction with pharmaceutical treatments offered in public hospitals in Oyo state, Nigeria. Researcher used Max Weber's social action and consumers' satisfaction equity theories.

2.1 Health System and Medicines

The health systems in the developed nations of the world are deeply dependent on pharmaceutical Medicine. Health is one of our most valuable personal possessions, and medicines are crucial to our health. Most people have used prescribed medicines at some time in their lives. Pharmaceuticals can be obtained from the over-the-counter (OTC), hospital, and prescription sub-market (Ess et al., 2003; Asakitikpi, 2019).

The volumes of prescribing are staggering and enormous. Nonetheless, millions of people around the globe lack access to comprehensive health care involving medicines and other treatment options. Eighty per cent (80%) of the world's population has little or no access to medications (World Health Organisation, WHO, 2017). Like Nigeria, many individuals in impoverished nations do not have access to even essential pharmaceuticals and

healthcare products. These healthcare items include life-saving and life-enhancing treatments, such as antiretroviral drugs for HIV/AIDS and antiasthma treatments, which help prevent or treat asthma attacks and enhance breathing. Many parents do not have access to immunisations to protect their children from terrible diseases, and exposure to a broad range of other available healthcare goods is limited (Otive, 2012). The World Health Organization estimated in 1995 that 1.7 billion people, or almost one-third of the world's population, lacked regular access to key medications and immunisations. Indeed, since the mid-1990s, this has been relatively constant. (WHO, 2017)

The pharmaceutical sector is one of the worlds most lucrative. According to Britten (2008), the drug market is separated into three submarkets: over-the-counter (OTC) products, the hospital submarket and the prescription submarket. Pharmaceuticals are not only profit-oriented but also play vital roles in the cure, management and prevention of diseases. Diseases that hitherto decimate human populations are now under control through preventive and curatives medicines (Drumond, 2017).

It was reported worldwide that over a quarter of the world population lack access to medicine. Essential medicine is costly, unavailable, inappropriate, or poor quality (Ozawa et al., 2019). When essential medicines are available, inexpensive, high quality, and appropriately used, they save lives and enhance health. For vital medications to be available, hospital administrators must guarantee that the workforce recognises three concerns: Performance is essential; there is a value system in place and; performance enhancements necessitate collaboration. The new playing field necessitates that we change the way that healthcare is provided by placing the patient and society first (a paradigm shift). Interdisciplinary teams are required in today's patient and institution administration (Alejandaro et al., 2013). Nigerians' access to medications is still a major determinant of national healthcare. At the moment, life expectancy at birth is less than 60 years, indicative of other lousy health indicators (Umoru et al., 2016). The high level of trust in the quality of medications administered in government hospitals, according to Umoru, can help enhance access to medicines, mainly because the provider is seen as the most cost-effective alternative (Umoru et al., 2016).

The pharmaceuticals industries are known to manufacture and market drugs. Their activities are heavily controlled or regulated. They do more than profit-making ventures. They play significant roles in medication therapy in terms of care. Millions of lives have been saved from untimely death due to infectious disease due to better disease prevention and management, chronic and acute diseases, and more recently, mortality resulting from drug-related adverse effects resulting from prescription medicines (Coleman and Pontefract, 2016).

There are evident tensions between healthcare needs and business interests. Britten (2008) submitted that pharmaceutical companies intend to produce products with lifelong needs against public needs of drugs that will not require further treatment for their ailments. The challenge is for Pharmacists to balance these conflicting interests while ensuring the adoption of best practices by MTM, which will ensure the adoption of evidence-based practice, safe and appropriate prescription by skilled professionals. Benefits and risks must be balanced, and patients must be informed.

Contemporary ethnopharmacologists are in search of ideas for new drugs from the secrets of traditional remedies. Britten wrote that herbs were used to fortify sick people or drive away evil spirits. She further went that in traditional Medicine, principles of analogies and signatures guided the selection of remedies, such as the qualities of colour and smell is associated with bodily experiences. Various authors, such as Costa et al. (2018), noted that Medicine's symbolic characteristics have not vanished in today's culture. Dasgupta (2021) also mentioned red substances that have been used to help treat disorders and yellow plants, such as the saffron crocus that has been used to treat jaundice. According to Bitten (2008), specific ancient therapies have persisted in the *materiamedica* for thousands of years.

The European Foundation for Quality Management (EFQM) Business Excellence Model (EFQM, 2000) considers leadership to be a significant "enabler," and it has become a focal point for a variety of other public, corporate, and non-profit. In recent years, leadership centres have been established in almost every area of the public sector, including health, defense, education, and law enforcement. It would seem that leadership

is quickly evolving into the 21st century's cure-all. However, a number of challenges emerge amid all of this activity. There is no universally agreed definition of leadership, no agreement on developing leadership skills and leaders' best, and very little proof of the effects of leadership or leadership development on performance and productivity. Indeed, it appears that most efforts consciously avoid tackling these challenges, opting instead for the feel-good effect of doing something about it, whatever that 'it' may be. While the action is often preferable to inaction, without at least a basic understanding of the basic

The right to health includes access to medications, as specified by the Sustainable Development Goals (SDGs); nonetheless, many people struggle to obtain medications. Medicines play a critical role in lowering global morbidity and death. Providing universal access to affordable, accessible, and high-quality medications necessitates a complex systems approach encompassing a variety of stakeholders and disciplines, ranging from law and pharmacy to economics, as well as a worldwide accountability mechanism (Simao et al., 2018).

The cost of a drug is critical to its accessibility, and cost affordability and availability are all drivers of access. Many people, both policy specialists and the broader public, consider this economic constraint first. This emphasis on cost is reasonable, especially when considering access by the world's poorest populations. They frequently lack the financial means to procure medicines and other healthcare items. Their poverty is aggravated by the exorbitant prices they frequently have to pay for healthcare, including medications. Governments in developing nations are likewise affected by the severe scarcity of resources regarding purchasing medications and other healthcare products. Poverty is aggravated by the high costs that they are often confronted with, and the absence of availability of medicines is a complicated problem that prevents better Health (WHO, 2017).

Several resource constraints also hampered by purchasing medications and other healthcare items for use in public facilities in developing nations. Severe scarcity of medicines results from poor budgetary allocation in low and middle-income countries. Per capita expenditures are extremely low, especially in Nigeria, where 4.15per cent was

allocated to health instead of the mandatory 15 per cent. In the same period, South Africa allocated 12.5%, which is 11.6 times much more than Nigeria, and for a population of 67.7 million people relative to Nigeria's 200 million (Nigeria Health Watch 2019 and Ujah, 2020). In brief, in resource-poor settings, medications and other healthcare supplies are frequently costly for both the people and the government. Some of these countries labelled as impoverished, resource-poor or resource-limited are neither poor nor resource-limited in the strictest sense but rather ruthlessly plundering and impoverishing their leaders with reckless abandon. However, the cost is not the sole obstacle to entry. Other challenges abound. The following are some of the access barriers: Public health systems' limited capacity, a lack of political dedication to improving health, continual corruption in public and private health facilities, international trade and patent disagreements, cultural attitudes toward disease and treatment, and challenges in distributing, prescribing, delivering, and using products are all factors to consider**.** For example, Doctors prescribing innovator products over their less expensive, generic equivalents of equal effectiveness do not encourage access. Such is because innovator drugs and branded generics can incur up to 50 times more costly, and prescribing and dispensing rates can reach 75 per cent in some institutions (WHO, 2010). Such is a typical list, not an exhaustive one. As a result, several obstacles in developing countries prevent access to medications and other healthcare goods. Barriers can seem to overpower all efforts to increase access at times.

Nigerians' access to pharmaceuticals is still a major determinant of national healthcare. Manufacturing companies though not sufficient in Nigeria, are available in the urban area living the rural with little or no access to quality medicines (Obinna, 2017). At the moment, life expectancy at birth is less than 60 years, indicative of other lousy health indicators (Umoru et al., 2016). Therefore, there is an urgent need for improvement. Nevertheless, the high level of trust in the quality of medications administered in government hospitals can help enhance access to medicines, mainly because the provider is seen as the more cost-effective alternative. Umoru and coworkers concluded that Pharmaceutical Care could help pharmacists give better health information. The Essential

Drugs Principle and the Drug Revolving Fund are two strategies that can help enhance pharmaceutical availability.

Access to medicine is a significant issue all around the world. It has been documented that about two billion people do not have access to vital medicines; enhancing access to existing drugs might save 10 million lives per year, four million of whom are in Africa and Southeast Asia. Because of the country's pervasive poverty, the number of individuals without access to necessary medicines in Nigeria would be enormous. According to recent estimates from the national bureau of statistics, 69.1% of the population lived on less than $1 per day in 2010. Nigeria's projected GDP per capita in 2018 was around 2,032.86 US dollars. Such denotes that out of an estimated 180 million individuals, more than 120 million people. Despite NAFDAC's best efforts, even individuals who can purchase pharmaceuticals face a significant quality barrier (Ediomo-Ubong and Tasha, 2022).

Regrettably, Nigeria's regulatory environment remains fragile, with frequent violations of good industrial practice and the law. For example, patent and private Medicine Vendors continue to offer medicines that are outside the limits of their license with recklessness. Traditional Medicine Practitioners promote the treatment of all kinds of illnesses on the radio and television, in blatant violation of the rules prohibiting the commercialisation of particular disorders (Oyeyemi et al., 2020). Furthermore, the majority of Nigeria's drug needs are still imported. Such has many ramifications in Nigeria, not only for the economy but also for the labour. These factors will limit citizens' ability to obtain safe medications in Nigeria. Meanwhile, the public expects the government, pharmaceutical corporations, and health care professionals, particularly pharmacists, to do all possible to ensure that everyone has access to medicines. The general public expects that any medicine purchased through a public source would be of good quality, safe, and efficacious (Oladepo et al., 2020).

Most health system strengthening interventions neglect interconnections between system components, top mapping is all the rage these days, and sectors are not working together well enough to achieve proper synergism. Complex linkages between pharmaceuticals and health financing, human resources, health information, and service delivery, in particular,

are not adequately addressed. As a result, people's access to medicines is only partially addressed, and the focus is constantly on supply, which is unrelated to or correlated with demand. (Maryam et al., 2013 and Suerie, 2017)

2.2 Trends in the Use of Medicines

There is wide variation in the use rate of pharmaceuticals between countries primarily influenced by social and cultural factors. One of such examples is the higher rate of consumption of prescription medicines in France and Germany; more than what is obtainable in the Netherlands or the United Kingdom (Britten, 2008). Pharmaceuticals are both social organisations and pharmacological agents, with patients and the general public participating less in nearly every phase of the life cycle of prescribed medicines (Coleman and Pontefract, 2016).

Several people and cultures use (or do not use) medicines; ordinary people use a range of conventional and mystical solutions for curing various health problems in addition to treatments provided by physicians. The media increasingly mentions herbal products and other natural remedies, including dietary supplements. Advertising is a powerful means for creating awareness and positive perception in consumers' minds (Mensah et al., 2021) and Yeboah-Banin and Asante (2020). Increasing concern about the efficacy and safety of herbal products has arisen due to dramatic growth over the previous decade (Judith et al. 2005 and Bi et al., 2014). People use medicines in a different epistemological framework from where medicines are licensed and produced. Some factors such as colour codes are associated with the use and selling of drugs (Brieger, Salami, and Oshiname, 2007), shape and branding; attributes of the prescriber such as their enthusiasm for the treatment and their authority; characteristics of the recipients such as their psychological state and personality; and the characteristics of the settings, such as a hospital or domestic environment (Heath, 2020). According to Heath, hospitals should strengthen personal patient relationships, hospital regulations that affect patients, and the environment in which care is provided to enhance healthcare satisfaction.

Some cultures like Belgians like to have a pill for every illness, whereas the Dutch avoid the use of Medicine (Steven, 2007). According to the model of medicine takers produced by Pound et al. (2005), four distinct groups were identified: passive accepters, active accepters, active modifiers and rejecters. People take diverse approaches to Medicine in different circumstances and at different periods. Therefore the groups are not static. People who have accepted medical use without giving it much thought are passive users of medications; these people obtained their doctors' verdict and relinquished control of their illness.

On the other hand, active acceptors of Medicine have thought and reflected on taking their medicines, have tested their Medicine and taken it as prescribed. These are people referred to as purposeful adherents, and this group have made a conscious decision to pursue the prescribed regimen. Pound et al. (2005) revealed that the modifiers and rejecters or sceptics might prefer to remain in control by using alternative therapies or by tolerating their symptoms. The modifiers and sceptics are critical of Medicine and doctors and see pharmaceuticals unnatural as such damaging to the human body. This set of people prefers complementary and alternative medicine (CAM) therapies. Grime and Pollock (2002) and James et al. (2018) found out that in patients who were prescribed antidepressants, their attitudes were modified by their experiences with the drugs. Either the efficacy of the medicines enhancing adherence or the side effect that causes non-adherence. In conclusion, anti-drug attitudes can remain potent even in extreme circumstances (Onyiapat, 2017).

Several works revealed that patterns in medicine use also exist across different ages, gender and socio-economics. There are wide variations in the use and belief of medicines. To consumers'/patients medicines have social, emotional and psychological meaning, these accounts for quick or reluctance to accept medicines (Onyiapat, 2017). According to Geest, as Steven (2007) reported, medicines make an illness concrete. That is, a prescription legitimises an illness. Another factor is Xenophile, which believes that imported Medicine may have extra power that makes them more effective. Geest concluded 'that medicines can be weapons of oppression as well as rebellion and

resistance'. Popularity and scepticism of Medicine seem to be dialectically related (Van der Geest; FIP congress, 2007). Therefore, the needs and preferences of the patient should come first in the design of the pharmaceutical drug product in order to simplify drug administration and resolve medication-related problems (Boechler et al., 2015).

2.3 Medicine Information for Patients

Shenna (2009) defined Medicines information (MI) as the provision of unbiased, evidence-based and critically evaluated information about medicines to improve patient care. MI was previously identified as Drug Information. The phrase Drug Information was discontinued in 2000, being part of a drive to provide "better information for managing medicines" (Owusu et al., 2020). The reason was that "drug" has become associated with the abuse of drugs.

Patients need information and education to use Medicine adequately or appropriately. Pharmacists and others are potential sources of information about Medicine. The leaflets in medicine packs serve two primary purposes: patient education and patient empowerment. Shambel and Dumessa (2018) identified various questions the flyers answer. For example, they are native of Medicine, the rationale of prescribing, dosage, how to take it, cost, branded preference to generic medication, and alternative treatment. Health and medical information from mundane to complex enquiries need answers because this underpins pharmacy practice. Pharmacists should be there to improve all health and medicine literacy (Owusu et al., 2020).

Medicine has long attracted the attention of the media worldwide. A variety of medicine-related shows can be found in major newspapers, network news stations, and various television networks. The medical sector is more open than ever before, thanks to the rise of Internet publications and blogs (Arian et al., 2018).

Media portrayal of medicines tends to be highly polarised between the two extremes of "Miracle Cure" and "poisonous chemical" found that medical journals were the most important sources of information because of their insistence on originality (Neil, 2007) and (Larsson et al., 2019). Internet assumed to help redress the imbalance of knowledge

between patients and professionals have been selective, biased and failed to reveal major adverse events or harms related to inappropriate medications. The Internet provides an unparalleled and seemingly infinite source of all kinds of information (Dow et al., 2012). Social media has immense power and free open access to medicinal information. It impacts how we obtain information and disseminates crucial messages to millions of like-minded health professionals. Publishers, researchers, and physicians may find it one of the most valuable and efficient platforms available. It enables us to quickly distribute game-changing findings, novel medicines, and trial approaches. It is widely acknowledged that the media has a significant impact on public perceptions of health issues. The mainstream media-print, television, radio, and the Internet - has an unrivalled reach as a communication tool. Pharmacists can have a more fruitful relationship with the media if they better understand how medical news is produced inside media organisations. Media are suitable for advocacy. Thus they are needed for publicity and advancement. Specialist health and medical reporters with specialised training had far more potential to produce higher-quality health stories (Julie et al., 2010; Larsson et al., 2019).

In countries like the United States of America and New Zealand, Direct to Consumer Advertising (DTCA) is allowed, while some countries are not supported but partially approve internet adverts. It can thus help to improve rates of diagnosis and treatment for those with untreated or undiagnosed conditions; it can lead to healthier lifestyles (Richard, 2013). Direct to Consumer Advertising (DTCA) started becoming popular advertising promotional tools in the 1990s. Such was due to the ageing of the baby boomer generation and a rise in the number of patients making their own medical choices. Before this era, Manufacturers of prescription drugs targeted only healthcare professionals, who were supposed to interpret drug information for their patients (Will, 2020; Richard, 2013).

Direct to Consumer Advertising (DTCA) is seen as an advertising core element for the pharmaceutical industry to increase the desire for new/novel products and revamp therapies to the general public. Such is especially to sick end-users who want to discover new treatment options after their current drug regimens have failed to provide relief. Over several decades, the regulatory structure that establishes the limitations on pharmaceutical

marketing strategies has evolved significantly (Will, 2020). Proponents of direct-to-consumer advertising believe that it promotes knowledge of diseases and treatments, resulting in more doctor visits, improved engagement, and better and earlier disease diagnoses. Furthermore, it has the potential to increase treatment adherence and, as a result, improve outcomes. Industry benefits from increased sales and a larger market, leading to more healthy competition in drug research and development and lower prices. On the other hand, there are significant issues about direct-to-consumer advertising, including unethical activities and increasing prescription of medicines that patients do not require.

2.4 History of Pharmacy Practice in Nigeria

The key healthcare practitioners who optimise medicine use to give patients good health results are pharmacists; they are highly qualified and skilled healthcare professionals and are the specialists on drug therapy.

Pharmacy practice in Nigeria's healthcare system is inherent in four main areas: The hospital pharmacy, retail/community pharmacy, pharmaceutical manufacture, and wholesale/importation of pharmaceutical products. Pharmacy practice has a long history in Nigeria, dating back to the formal foundation of the profession. Herbalists used plants' leaves, barks, and roots to make concoctions, balms, and ointments to treat the sick. The herbalist was a combination of a doctor and a pharmacist. He was well-valued in the community and served as an expert resource for all health-related things. Unlike now, there was harmony in the "house of medicine" back then.

The history of pharmacy in Nigeria is thoroughly documented, as evidenced by Chief Andrew Egboh's and Dr Fred Adenika's (both deceased) books on the subject. The government did not recognise early pharmacists, and most of them suffered throughout their careers. However, thanks to the patriarchs' dedication and tenacity. Pharmacy in Nigeria has progressed from its humble beginnings to its vibrant position. They can now pursue a university degree, including postgraduate courses, and receive official

recognition from the government, academics, hospitals, and the community (Ojo, 2015, and Pharmaappraoch, 2020).

The pharmacy practice was the first branch of science dedicated to treating sick people. The profession of pharmacy does not have its base origin in Nigeria. In the past, the healing knowledge was kept by Traditional healers and was passed verbally to the apprentice or their offspring. Fredrick II of Hohenstaufen, Emperor of the Holy Roman Empire, separated Pharmacy from Medical Science in 1240. During the 8th century, the earliest known pharmacy premise in the world was cited in Baghdad, Iraq (Ubaka, 2013, and Olurinola, 2003). In 1887, the most premature Pharmacy premise, licensed by the Governor-in-Council, was operated in Nigeria at Balogun Street, Lagos state, by Mr Richard Zachues Bailey (1829-1911). He was noted to be a good person with a high level of professionalism. People began to refer to him as a doctor because of these characteristics. The Pharmacy practice was viewed virtually as an extension of Medicine at the time, and the majority of the dispensers were picked and trained by medical doctors (Ojo, 2015, and Ubaka, 2013). Other notable pioneers of pharmacists were: Mr Emmanuel Caulcrick, Thomas King Ekundayo Phillips (1884 – 1969), HRH. Others were Oba John Adetoyese Laoye (1899 – 1975), Sir Kofo Abayomi, Prof. Dr Cletus Nzebunwa Aguwa, Alhaji Adamu Balo Dikko and Chief Etim Bassey (Pharmaapproach, 2020).

In 1899, European doctors living in Nigeria began tutoring dispensers. Because there was no formal school, the apprentice method was thus adopted. The students learned the act of dispensing and compounding in the house or the business premise of the Managing Director daily or decided to reside with the managing directors for some years. Graduated dispensers were hired by the government to serve in hospitals. Those employed in the hospital started selling drugs in the 1920s. These perhaps marked the beginning of the age-long view about pharmacists in Nigeria. The Association of Dispensers (AD), Nigeria's first pharmacy association, was founded by these dispensers. The association today metamorphosed into the Pharmaceutical Society of Nigeria. Pharmacists did not establish a group in the civil service until 1947 known as the Nigerian Union of Pharmacists. In 1977, it was abolished as all unions were taken over by the national trade

union. Pharmaceutical Society of Nigeria was registered in 1956 officially (Pharmaapproach, 2020).

Hospital pharmacy practice shapes the public's perception of the profession. In the early days of pharmacy, the vast majority of "pharmacists" were in reality "dispensers." The medical officials in charge of the hospitals or dispensaries were in charge of managing such hospitals or dispensaries. In the year 1900, Nigeria had only four hospitals, three of the hospitals were government hospitals, and one was a mission (Catholic) hospital. They were located in Lagos, Asaba, Abeokuta, and Calabar (Ikhile and Chijioke-Nwauche, 2016). A standard hospital formulary was utilised in these hospitals. Before this date, there were several missions medical set-ups in several coastal communities that could hardly be regarded as hospitals. Between 1900 and 1960, however, the number of government and mission hospitals increased steadily (Pharmapproach, 2020).

2.5 Models of Pharmacy Practice

Every profession exists because of the social needs for them. And to meet the social needs profession evolves in social evolutionary process (Oparah A., 2010). In terms of philosophy and practice pharmacy has undergone series of evolution. The stages in evolution from product to patient orientations take centuries from Apothecary Model to Total pharmacy Care wherein Medication Therapy management emerged.

Apothecary Model: the main function of Pharmacy here was manufacturing of drugs and this began as a cottage industry serving the individual. Patient were personalised according to their own recipe. The model combined industry, drugstore and primary care provider together. Apothecary gave Pharmacists a clear defined social value. (Checkland, 1999)

The second’s stage was compounding model around 1945 during the industrial revolution. This involves mass production of drugs. This is the period of compounding and guiding patients on self-care.

The Distribution Model was the third evolution. The period witnessed increased availability of manufactured drug and the 1951 Durham Humphey Amendment to the

1938 US Food Drug and Cosmetic Act (Opara, 2010). This is the period in which prescription only drugs emerged. This period gave legal status to medicine. This period limited Hospital Pharmacists to supporting roles for the management of Drugs. The emphasis here is on the products not on patients for the hospital pharmacists

The fourth stage was Clinical Pharmacy Model Stage this originated in USA in the 1960s. The physicians maintained responsibility for medication therapy outcomes. The social value of Pharmacy started with this model because pharmacists are allowed to advice, interprets, monitor, manage, detect, review, take part in ward rounds, care audit and perform drug research. (Checkland, 1999)

The fifth stage is the pharmaceutical care model (PC), this is the period that pharmacists take responsibility for functions that they perform and those performed under their supervision. The goal of PC, according to Hepler and Strand (1990), is the responsible delivery of medication therapy with the goal of achieving specific results that improve a patient's quality of life. In order to create, implement, and monitor a plan aimed at avoiding and resolving drug-related problems (DPRs), chemists must collaborate with patients and other health care experts. Pharmacists are responsible for identifying drug-related issues, fixing them when they arise, and preventing future issues. As stated by FIP 1988, the PC Model is a collaborative action that seeks to avoid, detect, and resolve medically linked and drug-associated issues. The Model assigns chemists to control medications and promote health.

The Total Pharmacy Care Model by Holland and Nimmo (1999) uses reductionist and subjective interpretation of events to explained modern pharmacy practice. TPC that is Total Pharmacy Care Model is the delivery of comprehensive range of services for better health outcomes for the entire populace within the limits of a Nation resource. TPC is the combination of the five previous existing models: that is, distribution, self-care, drug information, clinical pharmacy and pharmaceutical care.

The combination of the six models is now the new thing which is called Medication Therapy Management in which Pharmacist plays the roles of a Manager and experts in the drug committee and pharmaceutical services. The doctors, nurses and other health care

providers are at home with the concepts because it recognises the contributions of other health care providers on medications. Core Elements of an MTM Service Model in Pharmacy Practice includes the following five approaches:

i) Medication therapy review (MTR)
ii) Personal medication record (PMR)
iii) Medication-related action plan (MAP)
iv) Intervention and/or referral
v) Documentation and follow-up
vi) Medication outcomes

Medication therapy management (MTM) services have developed as a way for Pharmacists and other providers to help patients as well as carers improve therapeutic outcomes and cut costs associated with providing healthcare.

2.6 Pharmacist: Definition, Roles and Responsibilitues

Pharmacists are highly-trained and skilled healthcare professionals with expertise in drug therapy and specific training on optimization of use of medication to provide patients with positive health outcomes. The traditional roles of Pharmacists include compounding and dispensing medication and screening for errors whilst the doctors are responsible for diagnosing, prescribing and management. Pharmacists provide patient care that optimises medication therapy and promotes health, wellness and disease prevention. They rely on their professional relationships with patients to give their advice to best meet individual patient needs and desires. Therapeutic Drug Monitoring (TDM) is a primary role of pharmacist and is the “specialty” that underpins the basic functions of all pharmacists and gives them the opportunity to offer something that is unique to patients, since few other health care professionals have expertise in this area. The pharmacist's role in improving rational drug therapy when he is a part of the patient care team is to guarantee the patient the proper use of the best drugs available. The pharmacist’s responsibilities as a drug specialist include education for patients, medication reconciliation, and the management of drug-related issues. These pharmaceutical services have undergone clinical, humanistic,

and economic evaluations, and they have proven to be highly beneficial to other medical practitioners (Narthorn C., at al.2016).

Drug-related problems (DRP) are examined in both inpatient and outpatient settings with the goal of reducing the impact of DRP on patients and establishing safe medication procedures. The expectation of the majority of medical doctors, as well as the general public, continues to be that professional pharmacists mix and administer medications while medical practitioners diagnose ailments and prescribe medications. The function of the pharamcist, however, is one that is dynamic and constantly changing nowadays. The traditional roles of the pharmacist include:

1) Compounding extraporenous medications, preparing, and distributing medications and proper storage

2) Collecting patient drug histories and maintaining track of patient drug profiles to evaluate drug therapy for potential interactions with patients' existing prescriptions and medical histories

3) Counselling patients and carers on the need of adhering to the prescribed pharmaceutical regimen as well as safe and proper drug use.

4) Monitoring patients in order to prevent or reduce the likelihood of negative medication misadventures

Although all of the roles mentioned above are associated with medication therapy, it has recently come to light that pharmacists have the ability to play a far more important part in the healthcare system (Oladipo et al 2022, and Oduenyi A., 2022).

Public pharmacies began to appear in the 17th century in European countries due to exposure to Arabian influence. However, it was not until about 1240 A.D. in Sicily and southern Italy, that Pharmacy was separated from Medicine. Frederick II of Hohenstaufen, who was Emperor of Germany as well as King of Sicily, was a living link between Oriental and Occidental worlds. At his palace in Palermo, he presented subject Pharmacists with the first European edict completely separating their responsibilities from

those of Medicine, and prescribing regulations for their professional practice (Kelly et al 2014).

Both for inpatient and outpatient treatment, hospital pharmacists have proved themselves as vital members of the patient care team. Hospital pharmacists are responsible for upkeep of the formulary system, reviewing medications, monitoring usage of drugs, and reporting pharmaceutical errors so that corrective measures can be taken. Hospital pharmacists are in charge of making sure that the procurement and distribution of medications complies with legal requirements and that the drugs provided to patients are appropriate. Advising patients on how to use medications, any potential adverse reactions, and responding to their inquiries (Ahmad and Ahmed 2016).

2.7 Pharmacy Practice and Roles of Hospital Pharmacists in Nigeria

With the current upsurge in generics and emphasis on pharmaceutical care, pharma-counseling and generic substitution, the hospital pharmacists need to be armed with information to meet this societal need for quality of life. The setting of hospital pharmacy practice in Nigeria may be described as underdeveloped. Pharmacists licensed hitherto in Nigeria since the profession's inception, which is over 90 years, are less than Twenty-Five Thousand (Pharmacists Council of Nigeria, 2017). The presence of pharmacists in the rural community is almost zero in Nigeria. According to Burns (2021), there is a shortage of pharmacists in public and private sectors in Canada, which necessitates placing it in Shortage Occupation lists (SOL); this is similar to southeast England. The shortage in Nigeria is because of poor working conditions regarding remuneration and job satisfaction cum brain drain (Ekpenyong et al., 2018). In Nigerian hospitals, pharmacists' responsibilities are still bound in the traditional practice of drug dispensing and inventory management (Erah, 2003 and DrugXpert, 2018). The pharmacy's structure is incompatible with proper dispensing and modern pharmacy practice (Ansari and Alam, 2016). In Nigerian hospitals, product-oriented pharmacy practice is the standard. Pharmacists rarely keep patients' drug profiles.Despite a policy declaration issued by the country's Federal Ministry of Health on clinical pharmacy practice in 1988, the focus has been on product accessibility and availability, not service orientation, even from the Bamako Drug

Revolving Fund project public-private partnerships in hospitals (Oparah, 2010 and Ushie et al., 2016).

According to DrugXpert 2018, there are 47 standards to stimulate and achieve MTM. The Pharmacists Council of Nigeria (PCN) and Pharmaceutical Society of Nigeria (PSN) with Pharmacists need to break the inertia of MTM in Nigeria. There may be a need for curriculum updates and rejuvenation (Fakeye, Adisa and Ehrun, 2017).

Pharmacists are experts on drugs and medicaments; it is their professional responsibility to ensure that patients attain the maximum benefits and safety in providing services. In their work, Hajj et al. (2011) reported a paradigm shift from the mere supply of medication to direct care for patients. The American Pharmacists Association (APhA, 2012), and (Hassali et al., 2012), also in the work of Osinubi and AilojeIbru, (2014) emphasized curriculum change to reflect a paradigm shift in the practice of Medicine and Pharmacy. There is a need to understand the health needs of the people, their expectations and factors that influence their therapeutic choices and adherence to medications' regimens (Jimmy, Marwa, and Beena, 2015). Over time, commitment is connected to the impression of need and the disease's functional severity, according to Duarte-de-Arajo et al. (2018). MTM requires that Pharmacists provide their services within a pharmacist-patient professional relationship characterised by care, skilled communication, great trust, cooperation, and shared decision-making in which pharmacists collaborate closely with patients. As a vital component of an effective health care system, pharmacists have distinct and significant tasks and duties in guaranteeing the satisfaction of consumers (Worley et al., 2007 and Mináriková et al., 2014).

Pharmacists are profoundly different from other health professionals, the significant and distinct difference being Drugs/Medicines. Pharmacy is wholly immersed in drugs: pharmacokinetics, pharmacodynamics, pharmacotherapy, pharmacovigilance and pharmacotherapeutic decisions (Keijsers, 2014). The pharmaceutical sciences distinguish the pharmacy profession, and this, combined with the pharmacy's infrastructure, which includes pharmaceutical education, makes the pharmacist a vital member of the healthcare team. A pharmacist is a caregiver, patient advocate, manager, decision-maker, leader,

communicator, lifelong learner, and educator (Sassen et al., 2017). The Budapest Declaration of the Federation International Pharmaceutical 1984 and special meeting held in 1988 in New Delhi and 1993 in Tokyo, as well as the Executive Board meeting held on June 24th 1994 the World Health Organisation spelt out the role of the hospital pharmacist in the health care delivery system (Olaniyi, 2005, and Peppard, 2020).

Pharmacists are to ensure the safety of Medicine from procurement and all the stage of distribution channels to dispensing for better outcomes; they are concerned with cost-effectiveness, promotion of drugs rationality, and see to adherence with regulatory issues. All pharmacists influence the health care system through their involvement with various activities such as production or compounding, procurement, research, regulation and counselling. The overarching purpose of hospital pharmacists, according to FIP, is to improve patient outcomes by using medicines in a prudent, productive, safe, appropriate, and cost-effective manner. (Van der Geest; FIP congress, 2007, Thiacana et al 2018 and Bandaru et, al 2019). All medication-related activities in hospital settings must adhere to the "5 Rights" (the right patient, the right drug, the correct dose, the right route, the right time) are familiar to pharmacists because they deal with medication administration. Not just any adopted or adapted ad hoc staff, hospital pharmacists should be responsible for all hospital medicine logistics (Olaniyi, 2005; Bandaru et al., 2019). Before being dispensed and administered, all prescriptions must be read, evaluated, and verified by a hospital pharmacist. Hospital Pharmacists are expected to provide orientation and educations on drugs to physicians, nurses, patients and their wards (Simpson, 2017).

The role of a hospital pharmacist includes assessing which type of medication is appropriate for each patient, making decisions quickly and efficiently, and enlisting the needed help of doctors, nurses, and other healthcare experts. Hospital pharmacists keep a close eye on the effects of the medications they dispense and advise their patients on dealing with them (Simpson, 2017). Hospital Pharmacists are to decide routes and administration of Medicine based on individual's needs. According to Barnard, 2019 and Bandaru et al. 2019, a hospital pharmacist should be called upon frequently as an embodiment of rightful advice to prescribe combinations of safe and effective medications

or provide answers to specific patient issues. They can provide information on probable side effects ensuring that drugs are suitable for currently available therapies. They will regularly assess the therapies' impact on patients to ensure that they are safe, effective, and appropriate.

Peppard (2020) reported another crucial role of hospital pharmacists is to discharge patients; they do this by keeping a record of who is being discharged and who has lost to follow up. This necessitates the pharmacist examining the patient's medical records to ensure that the Medicine given is correct and corresponds to the medication listed in the discharge statement (Celio et al., 2018). Then, the pharmacist should dispense the proper medication and ensure complete compliance. It is the responsibility of hospital pharmacists to monitor the supply of all medicines for use in the hospital and manufacturing, procuring, dispensing, and quality assurance of their drug stock with the assistance of pharmacy assistants and pharmacy technicians. A hospital pharmacist can share their medical knowledge with other personnel in the healthcare team. Patients, particularly pregnant or nursing mothers and those suffering from chronic heart, liver, or renal diseases, may benefit from this knowledge (Peppard, 2020, and Celio et al., 2018).

Hospital pharmacists are medical experts who have three primary responsibilities. The first function includes manufacturing, procuring, dispensing, storage, quality assurance, and supplying all medicines for use in the hospital (Barnard, 2019 and Celio et al., 2018). The pharmacist is an essential member of the healthcare team in the functions of the clinical services, where a strong focus is on the patients. The pharmacist consults with nurses, doctors and other personnel in the multidisciplinary team daily to aid their choice for patients on the right Medicine, dose, and administration route (Celio et al., 2018). They inform patients about potential adverse effects, verify that new therapies are compatible with existing medications, and track the treatment's effectiveness to ensure safety and efficacy. Pharmacists in the medication management role are in charge of developing and managing hospital-wide medication management policies and guaranteeing that these policies are abiding. This involves the gradual introduction of new, expensive medications and ongoing monitoring of the usage of all authorised drugs and

those used in clinical trials (Simpson, 2017). Brown et al. (2017) concluded that the profession of pharmacy is saddled with the fundamental responsibility of assuring the safety and effectiveness of medications, which includes clinical trial research

The hospital pharmacist is the healthcare systems' latent weapon for managing the use of all medicines. As a member of the multidisciplinary healthcare team, they can advise patients about the medication's adverse effects and dose regimen to continue to take them or discuss their options with their doctor or physician (Brown et al., 2017). The hospital pharmacist enhances the hospital-to-home interface of medication management by assisting the patient in taking drugs regularly, sometimes for the first time (Spinks et al., 2020). The hospital pharmacists supervise the medication supply chain at hospitals levels to reduce wastage and maximise therapeutic benefit, including clinical trial medication management and compassionate access medication programmes. They work with other personnel on the medical team to provide treatments, advise patients, record patient histories, show medication use, maintain the safety and security of all medicines and hospital supplies. These are among the tasks and responsibilities and the nucleus function of dispensing drugs in prescription and supplies (Simpson 2017).

2.8 The Revised Basel Satatements on Future of Hospital Pharmacy.

The approved 2014 revision of the expected roles of pharmacists in the future which was initially stated in 2008 focused on six themes which cover major aspects of pharmaceutical practices: the Basel statements contain an overaching and governance statements which describes the goals, responsibilities and collaborative efforts of pharmacists. It states the working relationship and environmenet of pharmacists to ensure optimal health outcomes through prescription and ensuring appropriate usge of medicines. It also states ways by which pharmacists should be supervised and could function effectively. It stated the seven rights:-

Theme 1 deals with procedures for procurement of medicines and the roles of pharmacists in drug management, while theme 2 is about the roles of pharmacists in drugs prescription and education of patients on usage of drugs to avoid incidences of ADEs. For instance it

states that ‘hospital pharmacist should be an integral part of the multidisciplinary team responsible for therapeutic decision making in all patient care areas’. Theme 3 states the roles of hospital pharmacists in preparation and delivery of drugs to patients for optimal health outcomes. This is to ensure that drugs comply with quality standards, and support all efforts to reduce risks of ADEs.

Theme 4 of the Basel statements is on Drugs Administration such that medication history of patients such as allergies, drug interation, past adver events and other relevant medication history are accurately recorded in prescribed formats and books. This also advises on the appropriate labelling of drugs Examples include: Labeling of intravenous tubing near insertion site to prevent misconnections, and use of oral syringes that are distinctly different from hypodermic syringes to prevent injection of enteral or oral medicines. Theme 5 focuses on monitoring of use of medicines to keep records on defective medicines for review. This includes keeping easily accessible non-punitive reports of medication-errors. It also stated how reports should be kept and used internally and externally to improve the quality and safety of medicines use process.

The focus of theme 6 is on human resources, training and development. It focuses on how the workforce in the hospital pharmacy will develop a systematic collaboration with other health workers. It spelt out how the work force will be educated and trained, and ways of ensure the required size of competent workforce in the pharmacy. For instance, a part of the statement reads; Hospital pharmacists should work with key stakeholders to ensure that workforce education, training, competency, size, and capacity are appropriate to the scope of services, coverage, and responsibilities of all cadres providing pharmacy services’. It further states how to promote team-based care.

2.9 Pharmaceutical Care (PC) in Health Institutions

There have been several changes to the pharmacy profession in terms of theory and practice to meet the dynamics of cultural assumptions and changes in the lawful/administrative guidelines, likewise, health care supply technology. The evolutions trends vary from country to country; it started with the Apothecary Model, Compounding

model, Distribution Model, Clinical Pharmacy Model, Pharmaceutical Care Model, and Total Pharmacy Care Model from which the concept of Medication Therapy Management (MTM) emerged (Ogbonna et al., 2019).

MTM has its root in Pharmaceutical care and the Total Pharmacy Care Model. MTM involves essential primary pharmaceutical care functions. Primary MTM is practised in outpatient pharmacies in the Hospitals (Ikhile and Chijioke-Nwauche, 2016). Secondary MTM care deals with more complex medical conditions than primary care. Secondary MTM is practised in acute-care setup and specialised care programmes such as oncology and pain control (Ogbonna et al., 2019). Tertiary MTM care is offered in institutions that deal with critical healthcare needs. Tertiary MTM involves the provision of patient critical-care service.

Total Pharmacy Care Model (TPC) enumerated by Cohen (2018) and used a reductionist and subjective interpretation of events. According to Cohen, TPC provides comprehensive coverage of services that leads to the most significant possible contribution to a nation's population's health care within the constraints of the health care delivery system's health. As enumerated by Cohen (2019), the Five care models new in pharmacy try to make Pharmacists and other health care workers relevant as new technologies tend to commoditise healthcare services and enable patients' relevance and become actual consumers. It is a flexible model that allows a paradigm shift, and the evolution is continuous in different parts of the world. The Good Pharmacy Practice Guidelines published by the Pharmacist Council of Nigeria are pharmaceutical care. The Pharmaceutical care concept is not well researched and documented in Africa; most African countries are still dispensing oriented alone, which emphasises the products and not on patients. Pharmaceutical care in all countries starts and progresses mainly due to the enthusiasm and efforts of a few individuals. The future of pharmacy is in the resolution of medication therapy difficulties, such that traditional dispensing may be phased out in favour of mail-order delivery (Brian, Azuka and Odili, 2019).

Patients are not silent; in countries like Australia, there was a strong lobby and pressure that pharmacists should be patients oriented and focused and that there should be a

multidisciplinary approach. According to the quality use of medicine policy, a flourishing environment should be created for pharmaceutical care, thus better Medication Therapy Management (Quiqley, 2018). Pharmaceutical care varies from one country to the other: it depends on the numerical and potential strengths of the pharmacists, level of practices, dispensing workload and, size of pharmacy. The primary aim is for the team to give care in the pharmacotherapy aspects to enhance the patients' quality of life (Quiqley, 2018; Kolawole and Adejumo, 2020). Pharmaceutical Care or MTM can help pharmacists give better health information. The Essential Drugs Principle and the Drug Revolving Fund are two strategies that can help enhance the availability of medications (Umoru et al., 2016).

2.10 Patients-Centred and Person-Centred Care

According to Bricker (2016), patient-centred care is a concept that stresses the participation of patients and their families in medical treatment's decision-making. Barbara (2011) submits that patient-centred care actively involves you and your family in the decision-making procedure when making plans for care and treatment. Such is because it respects your tastes and diversity, recognises your needs, regard your freedom to determine health decisions and choices, and encompasses your right to comment, pose questions, and make complaints regarding your healthcare. A pharmacist must treat each client who seeks his services with respect and dignity, and they must be involved in all decisions on their medications.

Patient-centred care and person-centred care are vital, but they're not the same concepts. On the other hand, person-centred care is based on people's acquired knowledge, which allows for improved recognition of health problems and requirements over time and promotes appropriate care for these requirements in the context of other conditions. That is, it focuses on the individual as a whole. There is a gap between the rhetoric and the reality on the concept of patient-focused care. In reality, the fundamental focus should be the patient at all times. Patient-centred care is the key to policymakers, and it is not technology-centred, doctor/ pharmacist–centred, hospital- centred or disease–centred. It requires a shift of power towards patients. Also, it involves a change in structures and organisation and the mindset of health care professionals (Catherine, 2007).

According to Catherine (2007), despite efforts to increase patient involvement, there is still a disconnect between what a pharmacist informs a patient and what extent to which the patient wants to know. Patients prefer baseline diagnosis and treatment information; however, not every patient's desire further information at all phases of their illness, and other patients' desire tailored clinical information. Providing more information does not just result in better decision-making. The pharmacist needs to put the patient's needs first. Pharmacists must be patient-centred and medicine-focused.

Nowadays, gender is a critical factor in pharmacy; more women are enrolling and graduating and holding essential posts in the pharmacy world (Gershman, 2020; Janzen et al., 2013). Such is likely to impact the composition of the future workforce, demographic planning service delivery and planning and the relationships between gender and career grades become an issue as observed by Ian Bates (Catherine, 2007; Martin et al., 2021). Pharmacists' roles are expanding daily, and recent patient's rights constitute a critical aspect. Patients need to be adequately informed about the planned treatment of their illness. Owonaro et al. (2017) found that optimum pharmaceutical services were not provided to patients.

Audrey (2020) showed that Patient satisfaction is an essential part of health care, and research has shown that communication and patient satisfaction are linked. Kamel, et al. (2001) and Hayash, et al. (2005) found out that Patients value the pharmacist's attitude and specialised activities such as offering details and information and the comfort of operating hours, which impact their satisfaction. Mekonnen, et al. (2016) found out that Interactions with pharmacists can influence patients' hopes and satisfaction in sectors directly relevant to pharmaceutical care. Okamoto, et al. (2001) and Bhakta, et al. (2021) believed that pharmacy services are heading to more intervention-oriented services. Teaming with other patient providers can help maximise clinical benefits while reducing unfavourable consequences. Therefore, the seven pharmacist stars must provide the following in his service: access to care, consistency and transition, engagement of family and friends, physical comfort and emotional support, education and awareness, control and implementation of care, and respect for patient preferences.

Panvelkar et al. (2009) and Yalley et al. (2017) submitted that Patient satisfaction is an essential humanistic result that must be examined since it is linked to a health care service's long-term viability and reflects the impact of pharmacy services on patients' lives. However, Gourley et al. (2001) submitted that because satisfaction is subjective, it's difficult to assess, and it's not a metric for structures or processes. Larson et al. (2002) reported that care is more objective than satisfaction. Patient satisfaction comes in various forms and varies from pharmacy to pharmacy. As described by Afolabi et al. (2013), patient satisfaction is the subjective assessment of healthcare services and practitioners.

Lang and Fullerton identified four underlying elements of patient satisfaction: professional communication, physical and emotional comfort, demographic difficulties, and location plus convenience. Satisfaction was defined by Parek et al. (2016) as an experience-based performance rating of services. Argon and Edwards (2004) submitted that the function that supports ideas and satisfaction is satisfaction, which includes pleasure with the primary provider's team and the waiting period.

2.11 Concept of Medication Therapy Management (MTM)

Today, the pharmacy profession is undergoing re-professionalisation and making it socially responsible for decreasing drug-related morbidity and mortality that could be avoided (Khan, 2011 and Paul, 2018). Various efforts have been made in defining the concepts of Medication Therapy Management (MTM). Some of these definitions see MTM as focusing on the determination of drug needs of individuals and the provision of safe and adequate drugs for the use of patients to ensure optimal medication and effective therapy (Paul, 2018). MTM is also seen as a mutually rewarding relationship with specific responsibilities and roles for pharmacists; also patients. Such a pharmacist uses his drug control and management skills to create awareness for the patients on drugs and their use, and the patients responded with commitment and interest.

According to Brian et al. (2019), MTM enables pharmacists to rethink their approach to practice and at the same time. MTM competency refers to the knowledge, attitudes, skills and behaviours that a professional acquires, accumulates, and develops through education,

training, and work experience. Pharmacists' perceived socioeconomic status of the patient may likely influence the rendered service's nature and scope. Also, the acceptance of the concept of MTM affects the value system of the pharmacist and not in a small way is the influence of pressure of drug containment influence the drug selection process.

MTM involves essential primary pharmaceutical care functions. Primary MTM is practised in outpatient pharmacies in the Hospitals (Brain et al., 2019). Secondary MTM care deals with more complex medical conditions than primary care. Secondary MTM is practised in acute-care setup and specialised care programmes such as oncology and pain control (Kolawale and Adejumo, 2020). Tertiary MTM care is offered in institutions that deal with critical healthcare needs. Tertiary MTM involves the provision of patient critical-care service. Generally, MTM services can help people take their medications more effectively, stick to their regimens, and enhance their overall health.

When utilised, medication Therapy Management (MTM) has been documented to assist in minimising harmful drug interactions for patients who take multiple medications; MTM provides shared cost savings and allows patients to assess to pharmacists to share concerns about their medications. According to Calendar Year (CY) 2019, 2019 Part C and D Final Rule and Call letter in the United State of America, MTM is a free service offered by all Part D plans to certain members suffering several chronic diseases. Several medications and the risk of more expenses on annual Part D covered prescription expenditures than a set amount. Despite these benefits, MTM is underutilised by eligible clients', especially vulnerable populations.

2.12 Public Service and Pharmacy in Nigeria

Everywhere globally, the public service is the essential tool governments use to implement their policies and programmes. It is at the heart of any country's development and service delivery. The Public Service is a part of the government's executive branch. It is a crucial instrument for the government to fulfil its responsibilities to its citizens (Adebayo, 2001 and Adewole, 2015). Anonymity, Continuity of Service, Security of Employment, Pool of Experience, Neutrality, Permanency and Impartiality are

characteristics of the Nigerian public service (Adeyemo, 2001). In addition, the functions of the public sector include policy formulation, indispensability, accountability, and advice (Ushie, Ugal and Ingwu, 2016).

Politicians and public servants are two essential groups with divergent goals. Nonetheless, the two groups interact, and a final policy emerges on a specific issue, strongly influenced by each group's feelings. A good example is the Oyo State Government's implementation of Public-Private Partnership (PPP), in which the majority of state-employed pharmacists favoured the Drug Revolving Fund. However, politicians had their way and mandated PPP. According to Okafor (2005) and Adewole (2015), politicians become impervious to expert and professional advice at some point. Politicians have demonstrated that they are accountable to the people, not technocrats or bureaucrats. A politician's success is measured by the amenities and lucrative economic projects he brings to his community and constituency.

Public servants have a role in providing sound recommendations to Ministers and extra-ministerial departments' political figures. In their careers, they are required to have decent conduct and etiquette, dedication and effort, and, most importantly, a positive attitude and temperament. Ministries differ from public corporations, according to (Okafor 2009), since the former is more bureaucratic and lacks autonomy, whilst the latter does. The Honourable Commissioner is the political head of ministry at the state level, while the Permanent Secretary is the executive head. The Accounting Officer is the latter. The public service is structured like a pyramid; it is hierarchical, with directives or commands coming from the top (Honourable Commissioner or Permanent Secretary) to the bottom. Any violations of Civil Service Rules are subject to disciplinary action. Public service is a vital part of any modern society's development. According to (Ikechukwu 2005), Nigeria has undergone public service reforms since 1981. Lack of trust in institutional structure and authority relationships, wasteful and complex procedures, a weak staff reward system, a lack of reliable information, and a lack of scientific performance assessment paradigms are all reasons for reform (Okafor, 2009).

Nigeria's public health facilities are primarily viewed as inadequate by the general populace (Afolabi and Erhun, 2003). Long waiting times, delays in attending to patients, long delays in attending to patients, long delays before getting results of investigations, missing or misplaced folders, unavailability of drugs, and high drug costs are among the issues that patients/clients face, according to IIiyasu et al. (2010), Skinvasion (2000), and Jawahar (2007). Overcrowding, consultation delays, and a lack of sufficient direction are other factors contributing to patient dissatisfaction. According to Jegede (2010), some patients prefer to use further away from facilities because they are more confident in the therapy delivered at those facilities. Health literacy plays a significant role and impacts the public's choice of healthcare institutions. Patients make decisions on doctors and facilities based on information, experience, or opinion obtained from friends and relatives (Samerski, 2019).

2.13 Professional Negligence amongst Pharmacists

Professional negligence is when a professional fails to fulfill their tasks to the standard expected or violates duty of care. As a result of their bad behaviour, they suffer a financial loss, as well as bodily damage or injury to their client or consumer (Delpasand et al., 2020). Suppose there is proof that the service offered fell below the norms of the pharmacy profession, resulting in undesirable effects. In that case, a case of professional negligence can be launched against the pharmacist. Professional negligence violates the pharmacist's legal duty to their patient (Brushwood, 2020). A common law agreement in which the client expects a particular level of professionalism and adherence to industry standards is known as the duty of care. Medical malpractice is the most commonly used term to describe the negligence of medical professionals. The term "duty of care" refers to a comprehensive legal definition that protects people from others who participate in actions that could damage others if due safeguards are not taken (Christopher, 2014).

The pharmacist profession has grown in prominence to the point where legal considerations applicable to medical practice can now be applied. Healthcare involves a multi-disciplinary complex of professionals in different fields of endeavour, where the primary focus is the patient's well-being. A pharmacist's neglect to exert an appropriate

degree of competence and care in treating a patient is professional negligence. Criminal negligence is defined as a circumstance in which a pharmacist's level of carelessness is so great that a patient's death leads to a charge of criminally negligent homicide or illegal killing, but not willful murder (Bardi, 2017). According to Bardi, some negligence cases involving pharmacists are wrong dispensing, failure to detect prescribers' wrong directions, failure to provide adequate supervision, incorrect labelling, and giving wrong advice.

2.14 Pharmacists and Patient's Rights

Pharmacists have a critical role in ensuring patients' rights are protected, given the current need for enhanced knowledge of human rights related to health. Like all licensed professions, practising pharmacy is a privilege, not a right (Kruijtbosch et al., 2019). This privilege is granted by the regulated body called the Pharmacists Council of Nigeria (PCN). Patients or their families must be active in or aware of all elements of the patient's care due to the collaborative nature of healthcare. Patients must perform specific duties, including providing comprehensive and accurate information regarding medications and a history of drug and food allergies, for patient treatment to be effective and patient satisfaction with the course of drug therapy to be achieved (Shaghayegh, 2014).

Patients must be motivated to obtain information and confirmation regarding the medication they are consuming when they do not entirely grasp directions in partaking properly in decision-making (Bailo, Vergani and Pravettoni, 2019). By implementing the care plan, giving correct and comprehensive health information, and expressing comprehension of techniques and treatment instructions, the patient is supposed to meet a reasonable share of responsibility (Heath, 2020). The patient is accountable for the implications of refusing treatment, failing to obey hospital rules and regulations, and failing to respect the rights of others, as well as for ensuring that financial obligations of care are paid (Shaghayegh, 2014 and Heath, 2020).

The Consumer Protection Council's (CPC) Patient Bill of Rights (PBoR) is an assemblage of Patients' rights incorporated in the constitution. They are protected by the Consumer

Protection Council Act, National Health Act, Freedom of Information Act, and the Hippocratic Oath, among other such acts. The 12 rights the patients are entitled to are all-encompassing, from the right to relevant information to the right to lodge a complaint and voice dissatisfaction with services provided (Nigeria Health Watch, 2018). Patient rights refer to the fundamental standards of conduct between patients and medical caregivers, as well as the institutions and individuals who aid them. A patient is any person who has sought or is being assessed by a healthcare practitioner. Hospitals, healthcare workers, insurance companies, and any other payer of medical-related costs are all examples of medical careers.

Patient rights, covered by a legal declaration adopted by most healthcare personnel, cover access to care, patient respect, privacy, and consent to treatment (Thornton. 2020). The "5 Rights" (the right patient, the right drug, the right dose, the right route, the right time) are familiar to pharmacists since they're in charge of dispensing medications (Peter Schröder-Bäck, 2014). From the patient's standpoint, it should be evident that the pharmacy department can help the person who provides the Medicine fulfil the 5 Rights better. Many decisions made in the pharmacy department will influence the capacity to ensure that the Medicine is correct in every way. Automation, packaging, labelling, clinical decision support, and drug naming, among other factors, might influence the chance that the person administering the medication will be able to do so safely (Peter Schröder-Bäck, 2014). A part of human rights is patient rights; human right is a concept that decides minimum expectations for how others should treat people. Following laid down ethics refers to social norms regarding how people should regard one another (Olejarczyk and Young 2021). The terms "rights" and "ethics" are closely related; therefore, Health care professionals must make sure patients' rights are ensured as submitted by Olejarczyk and Young (2021).

The partnership between patients and health care professionals involve professional standards, understanding differences, open communication respect for personal life in a situation whereby the patient cannot make decisions. In some cases, the medical condition, age or culture may be limiting factors to decision–making ability. In such cases,

the patients' rights are protected through a legal provision of a proxy to make decisions on behalf of the person. The rights are enumerated in "A Patient's Bill of Rights" as presented by American Hospital Association that discussed the responsibility for every right one enjoys (Ross and Kyusuk, 2002). A patient's bill of rights is a set of protections for those undergoing medical treatment. A patient's bill of rights can be in the form of a statute or a non-binding statement; it promises patients information, equitable treatment, and freedom over medical decisions, among several other rights.

The Universal Declaration of Human Rights, adopted in 1948, affirms "the inherent dignity" of all members of human society, as well as their "equal and inalienable rights." The concept of patient rights was founded on the principles of this concept of the person and the fundamental dignity and equality of all humans (Mohiuddin, 2019). Patients' rights differ throughout countries and jurisdictions and are typically influenced by cultural and social norms (Nigeria Health Watch 2018). Different models of the patient-physician connection have been established, which can also represent the citizen-state connection, and these have informed the specific rights to which patients are due. The paternalistic model, the interpretive model, the informative model, and the deliberative model are four types of model. For example, in the paternalistic paradigm, the clinical expert's assessment of the patient's best interests takes precedence over the supply of complete medical information and decision-making power to the patient. On the other hand, the informative model regards the patient as a consumer who is best positioned to determine what is in her own best interests and hence sees the doctor as primarily a source of information (Mohiuddin, 2019).

Patient rights are constantly changing and are intricately linked to government institutions and laws. Individuals, businesses, institutions, and supplementary health agencies who fail to respect these patient rights may face serious consequences or penalties (Nigeria Health Watch, 2018). Patients have rights, but they also have obligations. Patients, for example, must be accountable for listening to and acting on their pharmacists'/doctors' advice, as well as telling the truth when questioned. One way to think about patients' rights is to consider the legal ramifications of their violations. Medical malpractice and injury claims

sometimes entail torts, defined as civil injustices and an acknowledged basis for a lawsuit. The majority of medical malpractice suits in the United States are based on negligence; a plaintiff and a defendant are involved in a civil negligence suit. To win in court, the plaintiff (in this example, the patient) must establish four components of medical malpractice: (1) a prior obligation, (2) a breach of that obligation, (3) damage, and (4) immediate cause (Mohiuddin, 2019). The doctor-patient interaction should be kept private, according to law and ethics. Pharmacists, like physicians, should never expose sensitive information unless the patient specifically requests that it be shared with others or unless it is mandated by law (Thornton, 2020).

The ability of a patient to make decisions about whether or not to embrace healthcare suggestions is referred to as decision-making capacity. A patient must grasp the possibilities, the repercussions related to the various options, and the costs and advantages of these implications by linking them to personal priorities and values to have competent decision-making competence (Hadler and Roser, 2017). Daily, pharmacy departments are subjected to a variety of competing pressures. New challenges appear regularly. Although budget restrictions, drug shortages, and technology are constantly evolving, the pharmacist's duty in serving the patient remains constant. The pharmacy patient bill of rights can be used to ensure that all decisions made by pharmacy departments are made with the patient in mind (Weiss et al., 2015). The pharmacy patient bill of rights offers a blueprint for departments to utilise when making decisions in the patient's best interests. The patient, however, has the responsibility to provide detailed information for adequate care and satisfaction with the services being provided. Information is often required on a patient's health status, lifestyle, and insurance details. There must be ethical considerations for privacy patient's rights and preferences, informed consent, confidentiality, trust and commitment (Legare et al., 2018).

2.15 Patients' Empowerment

According to Funnel and Andersum (2003), patients' empowerment makes patients responsible for their lives. Patient empowerment is a core value that motivates patients to adhere to prescribed chronic therapies to be involved in their medication self-management

and preventive health care (Aslani, 2013). Though health professionals are experts in their field, patient empowerment makes the patient experts on personal health statuses. Patients must be seen as part of the health team to decrease medication errors and ensure the quality of services and care. Therefore, for better treatment outcomes, managing patients must shift from paternalism, technical and friendly concept to holistic approach wherein patient-centered is the focus, especially in the elderly (Wakefiled, 2018).

The paradigm is shifting from a professional attitude of a one-size-fits-all approach to patient empowerment. Pharmacists must ensure that their encounters with patients yield positive relationship outcomes. They must bear in mind that patients' expectations are shaped by their meeting with other health care practitioners, their health care needs, and socio-cultural factors such as health literacy, education, and socioeconomic status. Wakefield (2018) concluded that the pharmacist-patient relationship reflects the expectations of both parties. Depending on the context and goals, patient empowerment can be characterised differently. It's a "process that helps people achieve control over their own lives and strengthens their capability to act on issues that they designate as significant," according to the European Patients Forum (European Patients Forum EPF, 2017). It is a relational concept where the patient's surroundings are essential. Health literacy, collaborative decision-making, and self-management are all aspects of empowerment. One of the crucial aspects of patient-centred healthcare is patient empowerment. It is both a prerequisite for and a result of patient-centred healthcare – a goal as well as a process.

Empowerment is defined as "multiple processes that assist people in gaining control over their own lives and increasing their capacity to act on issues that they consider as significant." "A process through which individuals and communities can articulate their needs, articulate their concerns, design methods for participation in decision-making, and take political, social, and cultural activities to address those demands," according to Collective Empowerment (EPF, 2017). Patient-centred care models have been shown to improve both the quality of care and the potential for long-term cost savings. Still, far too

many patients cannot obtain the assistance they require to become equal partners in their care.

The European Patients forum draw ten charters on empowerments of patients these are: I am more than my health condition; I am empowered to the extent that I wish to be; I am an equal partner in all health decisions; I have the information I need in an easily understandable format, including my health records; my health professionals and our health system actively promote health literacy for all; I have the on-going support I require to manage my care and; I have the experience I need to manage my care. Equity and empowerment are inextricably linked - I want a level playing field for all sufferers (EPF, 2017). Patient empowerment aims to promote the development and implementation of policies, strategies, and healthcare services that enable patients to participate in the decision-making and management of their conditions according to their preferences while raising awareness of their rights and responsibilities. Empowerment increases a patient's ability to tap into personal resources to manage chronic diseases in daily life and navigate the healthcare system. Self-efficacy, self-awareness, confidence, coping skills, and health literacy are all aspects of empowerment. The patient's understanding is derived from day-to-day life with an illness and regular interactions with the healthcare system and not exactly like the lay/consumer perspective (EPF, 2017).

2.16 Pharmacists and Patients' Emotional Health

The WHO defines health "as a state of complete social, emotional, physical, mental and spiritual wellbeing". There is thus the need for pharmaceutical care to respond appropriately and timely to some emotional reactions resulting from illnesses such as fear, anger, and depression. Conditions are usually accompanied by pain, deformation, infirmity, and medical costs, as well as dependency, social disturbance, loneliness, and mortality (Donna, 2018), unlike some other professionals, Forest et al., (2002) that patient-practitioner interaction should be regarded as a human bond which is significant in health care. Pharmacists must therefore approach their patients with compassion and empathy, especially when dealing with personal and emotional aspects of their health challenges. The pharmacists must communicate effectively (Riley et al., 2013).

However, Patients should be willing to allow for an incursion into their physical and psychological privacy as part of treatment; this is an unpleasant experience for most people. Illness does lead to loss of identity, abandonment of meaningful social roles, taking up a new name, separation from the usual support system. Pharmacists need to be empathic in handling these dynamics due to the illness experience. Pharmacists should learn to manage both the intellectual and emotional content of what the patient communicates. Paralinguistic aspects of verbal communication and nonverbal components of communication must be well observed to arrive at better outcomes (Fosgerau et al., 2021)

2.17 Manpower Imbalances in Pharmacy

Generally speaking, there are severe imbalances between health care providers and patients, throughout Third World wherever there are significant deficits of medical services, there are also severe deficits of pharmaceutical services and pharmacists, and the majority of people do not have access to fundamental life-saving pharmaceuticals; this has resulted into medication-related problems, morbidity and mortality (Epkenyong et al., 2018). Simultaneously, pharmaceutical medications, many of which are ineffective or hazardous, are widely available on unregulated free markets. The ratio of pharmacists to the population in some of the more advanced emerging countries is relatively high in urban areas but significantly lower in rural areas (World Health Organisation report, 2012). Such is also the case in Nigeria, in which the concentration of pharmacists is higher in the big cities like Lagos and Port Harcourt. The World Health Organisation (WHO, 2012) reported that it is usual to see ratios of less than 1:100 000, and some countries have even lower percentages. Within countries, ratios can range from 1:12 000 in the capital to 1:700 000 or less in the countryside, indicating a general scarcity and unequal distribution of professional health workers and deficient socioeconomic development levels. Such must be compared to the industrialised countries' typical ratio of roughly 1:2300. Workforce supply and demand inequalities are notoriously challenging to fix worldwide since market corrections can take decades to complete, and let the market self-correct

don't benefit those who are now suffering (American Public Health Association, APhA, 2019).

The national scarcity of pharmacists has been widely reported. It has been highlighted as one of the causes for the opening of new pharmacy schools or the expansion of the available schools of pharmacy and colleges for the classes to accommodate more (Robinson and Bowyer, 2006). Robinson et al. (2006) work in West Virginia clearly explained the situation in Nigeria in which, in the past few years, the number of pharmacy schools and intake has increased compared to the past 30 years. In Nigeria, the Pharmacy profession is numerically weak; many trained pharmacists have migrated to greener pastures. The shortage of pharmacists is a signal of poor pharmaceutical services, resulting in most individuals not having access to essential life-saving medications. This works against the Sustainable Development Goals (SDGs) on health, especially drug policy reform issues. In industrialised countries, the ratio is 1:2,300 (Ekpenyong et al., 2018). The situation is poorer in developing countries, including Nigeria. The shortage of practising Pharmacists in Public health institutions in Nigeria is part of the general workforce challenges affecting the health sector. In Nigeria, the ratio of practising pharmacists to patients is 1:12,000 (based on an estimated population of 150 million) as against the WHO recommended ratio of 1:5,000 (Ekpenyong et al. 2018). The situation is more worrisome in Oyo state, with a balance of around 1:25,000 (Ayantoye, 2017).

The severe scarcity of pharmacists in developing nations like Nigeria, particularly in public health facilities, is part of a more significant health personnel issue involving a quantitative and qualitative disparity between demands (and need) and supply. Pharmacists are not available for supervisory roles, leadership and guidance, the view pharmacists available prefer to work in big industries and cities. Adopting a Rational Policy on Essential Drugs necessitates the creation of a rational pharmacy workforce policy as part of a more extensive healthcare and manpower-development strategy (WHO, 2012).

In market-economy countries, the imbalance between categories of the workforce takes the shape of an excess of a generalist, or community (retail and wholesalers), pharmacists

compared to other types, such as hospital pharmacists (especially in the smaller hospitals, most especially in rural communities of Oyo State), For example, less than twenty-five per cent of Hospitals in Oyo State have the services of pharmacists, Industrial pharmacists dealing with research and technology are understaffed, while government pharmacists in charge of pharmaceutical services administration are among the worst in Nigeria. The Directorate of Pharmaceutical Services Ministry of Health in Oyo state required at least thirty pharmacists of different cadres but is being manned by just two senior personnel. Human Resources for Health (HRH) planning should be matched with health system demands for an effective system (Pagaiya, Phanthunane, Bamrung, et al., 2019). In Oyo State, Nigeria, deficits, skill-mix disparities, misallocation, impediments to inter-professional cooperation, rural instability, and a lack of statistics on the health workforce remain. The density of pharmacists to patients is below the neighbouring states.

2.18 Socio-Cultural Issues and Health Disparities in Pharmacy

Age, education, decision-making process, distance, occupation, religion, residence, kin group influence, and ethnicity are all socio-cultural variables that influence satisfaction. These socio-demographic factors can have a favourable or unfavourable impact on patients' satisfaction with pharmaceutical care (Berhane et al., 2016; Jegede, 2010). Education affects both decision-making and service perception. Human behaviour and response may be influenced by unique experiences and the significance of situational elements (Erinosho, 2005). The most dangerous mistake any Pharmacist can make is that all cultures share the same values, use the same symbols, behave in the same ways, and make the same decisions. The general rule among cultures is dissimilarity rather than resemblance.

Proficiency in the scientific and technical parts of pharmacy practice may not be enough. To serve society as caring, ethical professionals and informed citizens, all registered pharmacists would need to be retrained by the Pharmacist Council of Nigeria through Mandatory Compulsory Professional Development (MCPD). Such will shift their focus away from products and onto patients. Pharmacists should develop meaningful partnerships with the community to improve people's attitudes toward pharmacy. The

Argus reports from 2004-05 back this up (Americans Associations of Colleges of Pharmacy, 2006). Pharmacy students learn about cultural diversity, values, ethics, and leadership while addressing and solving community problems through community engagement. Service-learning (SL) is a type of community engagement that teaches students how to become competent professionals, medication experts and contribute meaningfully to society's health in one or more positions. Such will strengthen the professional-community interaction, allowing for more effective service delivery.

According to Narsavage et al. (2002) and Redman et al. (2002), health professions educators must face the task of educating students to become competent in the sciences while also training them to become active citizens, eager to address gaps in our health care system, (Okoro, Odedina and Smith 2015). This andragogical technique has been successful in other health professions. According to nursing literature, service-learning provides a powerful message about the importance of volunteerism and the need to advance one's cultural competency path. In conclusion, service-learning courses have evolved to build links between academic pharmacy and community health, which can result in positive attitude shifts and role acceptance. There will also be a reflection, the inward examination and exploration of a problem prompted by an experience that produces and clarifies meaning for the learner and culminates in a transformed conceptual perspective (Navtivio, 2001). Pharmacists must provide equitable and effective patient care; obstacles are expected, but they must not be a deterrent to taking significant action (Wenger, Rosenthal, Harpe, and Waite 2016).

2.19 Determinants of Patronage of Healthcare Facilities

Age, educational position, income level, and length of stay are significant predictors of people's patronage of available healthcare facilities, according to research conducted by Olugbamila et al. (2017) in the Saki West Local Government Area of Oyo State. It was discovered that there is a considerable discrepancy in the number of male and female visitors to healthcare institutions. Females used healthcare facilities more than males, and the differences between the two locations shrank as the distance grew. Physical accessibility and coverage are essential factors motivating citizens to use healthcare

services. As a result, choosing the right location for a health care facility is crucial (Moradhvaj, NanditaSaikia, 2019).

As highlighted by Olugbamila et al., It is crucial to provide appropriate public education and include existing institutions in medical facilities (2017). People's perceptions and attitudes regarding using healthcare facilities will change due to increased awareness, access to and usage of healthcare facilities will constantly improve, and access to safe pharmaceuticals. More healthcare facilities must be built in places where there are gaps, and current healthcare facilities must be improved to satisfy people's health needs to ensure that everyone has access to Medicine (Moradhvaj, NanditaSaikia, 2019).

2.20 Patients' Pharmaceutical Buying Behaviour towards Prescription and Non-Prescription Drugs

Patients prefer medication that they choose, and that is affordable, according to Puja et al. (2016). The counsel of a physician or pharmacist is less concerned about money. In today's marketing environment, the patient's best interests are emphasised. The days of manufacturers selling anything to patients are long gone. Nowadays, the consumer's purchasing preferences determine what should be manufactured or stocked, in what number, and of what quality. As a result, while selecting whether or not to promote a product, a marketer must consider various criteria, as patients have varying tastes, which can sometimes be completely different.

As a result, the duty of the maker and marketer becomes more complex, and it is critical to comprehend patient behaviour. In pharmaceuticals, understanding patient behaviour is still challenging because the target patient is not the end-user, but the influencer, i.e. the doctor who writes the prescription. Puja et al. (2016) investigated the behaviour of pharmaceutical users and provided insight into the 4Ps of marketing: product, place, pricing, and promotion, as well as certain psychological elements.

The patients' model is characterised as their actions when looking for, evaluating, and dispensing products and services that they believe will meet their requirements (Etim et al., 2019). The study of patient behaviour has significantly benefited from sociology and

other behavioural research. The modern-day prescription debate centres on the need for modern marketing to be patient-centred and to be concerned with patients' needs and desires. Thus, understanding patient behaviour is crucial for corporations to achieve market success.

Various factors influence patient behaviour, and culture cannot be ignored in the absence of an individual's behaviour, which is influenced by social elements such as reference group, family, social status, and role. Both diagnoses and treatment choices are affected by society (Andrews 2016). Consumer behaviour is shaped by various human elements such as age and stage in life, occupational and economic conditions, lifestyle, personality, and self-concept (Bault and Rusconi, 2020). Motivation, perception, learning, belief, and attitude are the key physiological factors. All of these have a significant impact on product and service selection due to examining various options (Levesque and Li, 2014). Various product qualities that the patient relates with each product option can be evaluated, and their importance is decided during this procedure. At times, the evaluation of choices might be comprehensive, while it can be pretty narrow and quick at other times. The customer uses his or her particular heuristic rules to filter down the possibilities (Campo et al., 2016). These rules can take many forms and represent different assumptions or mindsets. They can be tied to their ideas about products and companies, whether they correlate product familiarity with the product quality or assess product quality based on visual appearance indicators (Andrews, 2016).

Some patients rate drugs depending on their manufacturer. It is usual to link high prices with excellent quality or establish product attribute judgments based on the place of origin (Mingming et al., 2016). Over time, a personal connection to the brand can be formed, strengthening the patient's habitual purchase behaviour and making them less likely to switch to another brand (Dunne et al., 2014). All product purchases are not planned, and the purchasing environment can lead patients to acquire items they did not mean to purchase. The patient buying choice process is a five-stage decision process that includes identifying the problem, looking for information, evaluating options, purchasing, and reviewing the product after that (Shahpasandi, 2020). If they have insider information,

most first-time patients to the hospital and hospital pharmacy have little choice but to buy what is prescribed.

2.21 Structure and Organisation in Hospital Pharmacy

One of the cornerstones underlying the quality of health services is the organisation of an institution. Most healthcare institutions have an out-of-date pharmacy and architectural design, as most were created before Nigeria's independence. According to Brazinha and Llimós (2014), impediments such as poor hospital architecture are difficult to overcome in many Brazilian hospitals, and Gutierrez (2012) claims that the history of hospital pharmacies has an impact on space allocation, and thus the clinical practice expected from pharmacists.

Because of orientation and space constraints, pharmacies are designed to be product-oriented. In fact, assigning space to pharmacies appears to be an afterthought in third-world countries. However, bad service is not just due to a lack of resources; increased expenditure does not imply increased efficiency or quality. Organisational changes are needed to optimise the use of available resources and thus improve the quality of health services. The lack of time for clinical activities is due to a shortage of pharmacists and other duties pharmacists perform, which is hidden to most patients.

According to Doucette et al. (2012), pharmacy assistants can be taught and retrained to improve productivity and reduce the pharmacist's time spent on technical functions. By relieving pharmacists of technical obligations, new pharmaceutical services could be produced. Due to the multiple obligations that small, under-motivated personnel must be accomplished, the pharmacist's participation in the hospital's multidisciplinary activities is a complex assignment.

Lack of knowledge and communication skills, fear of intruding other professionals' space, and fear of other health professionals interfering with their work, according to Khlaidi (2013), may hinder the pharmacist's interaction with other members of the health team. Pharmacists rarely communicate with other members of the health care team unless something is wrong or an issue needs to be resolved (Berger 2011). As a result, because

conversations frequently begin with a problem, they might be perceived as unpleasant or confrontational, causing professionals to get defensive, impeding dialogue. In the clinical setting, however, excellent communication between pharmacists and other health workers can help to prevent drug errors (Penm, Moles, Wang, Li, and Chaar, 2014).

According to Penn et al. (2014), pharmacy leadership is conservative and resistant to change. It is characterised by a lack of time due to the heavy bureaucratic and administrative burden, difficulty connecting with other professions, and structural issues. An organisational issue was recognised as a lack of standardisation of work processes and adherence to Standard Operating Procedures by pharmacists and the health team. Furthermore, organisational conservatism, a lack of autonomy and innovation, and a rigorous adherence to logistical manuals are barriers to new approaches to Medication Therapy Management.

Some contemporary hospitals are attempting to re-establish pharmacy design that considers the psychological needs of patients, such as offering more fresh air, more incredible views, and more pleasing colour schemes. These concepts date back to the late eighteenth century when hospital builders used the concept of providing fresh air and access to the 'healing forces of nature' to improve their structures (Gutierrez J.P., 2012; Dosea, 2015). In Nigeria, modern hospitals and micro-hospitals rely on government funding and historical charity or religious organisations and affluent individuals, national and international donations. Such makes it challenging to reconstruct pharmacy facilities, and history shows that in the past, volunteers or members of the founding and supporting religious groups typically staffed pharmacies (Reis et al., 2015; Hall, 2008).

2.22 Power, Authority and Drug Management

Power and authority are inherent in the relationships between groups and individuals. The power to manage the actions of others is referred to as social power. It can be found in all aspects of social life (Pereira, Pedro, and Santos 2016). Power implies the power to command – to compel others to follow one's commands – as well as the power to make or influence decisions that affect the lives and actions of others, as well as one's fate, directly

or indirectly. Power can be internal or external; the latter refers to our positions and prestige, whereas the former refers to our internal sense of self. According to Heath (2018), power hierarchies can cause an imbalance in patient-provider relationships. Patients are primarily misunderstood and treated as second-class citizens by their health care providers.

When perceived as a power struggle, politics centres around who will set public policy and what that policy will be - what taxes will be charged, how the tax burden will be spread and whether free Malaria medicine will be provided to underprivileged populations (Nayyer and Lee, 2015). "The chance of a man or a group of men to actualise their own will in a social action even against the resistance of others who are participating in the action," Max Weber wrote.

In social life, power and authority can be found in social roles and relationships, but they are most obviously focused on the state. The term "state" refers to the institutions that determine who has "the monopoly of the legitimate use of physical force within a given authority" (Kirby, Broom, Gibson, 2017), as well as how that monopoly's power is established and used. The government is composed of people who wield this power. The government, by its legitimacy, manifestly has supreme power in society. Government officials can use the state's coercive authority to safeguard their right to command and make decisions within their limited fields of operation, even though they cannot employ physical force in principle. As groups and people within society attempted to centralise authority, develop mechanisms for settling conflicts, and employ force to conform to specific social norms, different political institutions arose (Pereira, Pedro, Santos, 2016). According to the modern liberal conception, the state serves as an arbitrator amid competing interests, maintaining the standards that allow for an orderly social life among health care personnel and favourable outcomes (Marie and Manias, 2016).

In summary, the state can preserve the entire social order by enforcing social mores, resolving disputes, protecting society from external enemies, enforcing codes of conduct, and providing various services. However, it does so to benefit one social class or any of

society's diverse groups. The sociological study of the pharmacist-patient interaction can also help us better understand how government services work (or dysfunctions).

2.23 National Drug Policy (NDP)

Regardless of the vibrancy of a health policy, without access to high-quality, affordable medicines, it will be barren. Existing players and potential investors in producing, distributing, prescribing, and dispensing essential life-saving medication should be offered charming incentives. The pharmaceutical sector has become more vibrant due to the National Drug Policy to improve people health overall. (Lambo, 2005; Ogbonna, et. Al., 2015)

The first NDP for Nigeria was embraced and dispatched in 1990 against the foundation of drug accessibility, supply, and distribution deficiencies. Because of different factors, for instance, absence of drug administration system and control; insufficient subsidising of medication supply and control exercises; high reliance on imported medicines; inadequate storage facilities, transportation, and distribution of drugs; poor choice and purchase practice; the participation of unqualified people in the purchase, distribution and medications sales; inefficiency of medication suppliers to institutions for public healthcare; and absence of political will to safety, effectiveness and excellent quality of medications to satisfy health-related needs of Nigerians (National Drug Policy, 2000 pg.1 and Ubong and Pates 2017). The adoption of NDP led to some modest progress, such as the release of an Essential Drugs Lists (EDL) and a National Drug Formulary (NDF) and National Drug Distribution Guidelines (NDDG) Federal Ministry of Health 2nd Edition, 2012. It is intended that by prudent execution of the revised NDP with the collaboration of the United Nations Office on Drugs and Crime (UNODC) as outlined in the accompanying execution plan 2021-2025; safe, effective, and high-quality medications and services to meet the needs of the populace should be available to Nigerians in the long-term (UNODC, 2021).

The NDP's goals include the guarantee of drug management efficiency in the public and private sectors; guarantee of the availability of safety, effectiveness, affordability, and

high-quality drugs at all degrees of health care based on health needs; the promotion by prescribers, dispensers, and consumers on drugs rational use; ensuring safe, efficacious, effective, and good medicines; to attract government dedication at all levels for the accomplishment of its objectives and targets (NDP, 2005). Among the targets of NDP are: absolute adherence to the utilisation of the Essential Drugs List in public health institutions by 2008; creation of National Standard Treatment Guidelines (STGs) as far as the overall system of healthcare by 2006 and 80% adherence by 2008; costs of essential drugs published to 90% target by 2005; transparent drugs distribution and procurement: the concept of rational drug use awareness by prescriber, dispensers and consumers at 90% by 2006; and adherence by prescribers at 60% by 2008. All these laudable targets and objectives become total mirages to date despite beautiful strategies for implementation from choice, procurement, storage, distribution, rational use, legislation, enforcement, inspection, quality assurance, dispensing and prescription regulation, pharmacovigilance, policy for donated drugs, revolving fund scheme, pricing policy, all through to importation and exportation of drugs amongst others (Thaciana et al., 2018, and NDCP, 2021).

2.24 Bureaucracy in Drugs Management

Government services to the people worsen in quality and quantity due to different inefficiencies caused by corrupt bureaucracy in many contexts. According to Okotoni (2001) and Ijewereme (2018), Nigeria is troubled by a plethora of challenges. That has impeded its ability to play a meaningful role in national governance, including politicising jobs in the sector. Rules, protocols, dialogue, consultation, anonymity, objectivity, and other aspects of bureaucracy are emphasised (Okotoni, 2001). Democratic institutions share some of the same principles as bureaucratic institutions, such as discourse, consultation, regulations, and procedures.

According to Ajibade and Ibietan (2016), the politicisation of bureaucracy impedes the effectiveness of public service. As posited by, the neutrality of bureaucrats is a concept of the past in all cadres of the Nigerian civil service (Okotoni, 2001; Ugwuanyi and Chukwuemeka, 2013). In low or developing economy country the status of governance

and the character of public service work together to impede the provision of public goods and services to the masses. According to Ukeje et al. (2019) and Okotoni (2001), public bureaucracies are riddled with faults and flaws. One of the discontents of Nigerian bureaucracy, according to Okotoni (2001), is the politicisation and over-politicisation of the civil service and public institutions. The increasing politicisation of personnel appointment, recruiting, and promotion based on ethnic, religious, political, and social class considerations are dangerous centrifugal factors that will sabotage the system's effectiveness.

The expansion of government duties has resulted in a significant increase in government bureaucracy. The emphasis is on the rational components of bureaucratic administration and the need for persons in power to control public officials properly. Critics of government bureaucracy have expressed concern about bureaucratic officials' increased ability to control others' behaviour, notably over individual entrepreneurs (Adewole, 2015). Bureaucratic dysfunctions usually result in red tape and bureaucracy, leaving citizens at the mercy of officials and the risk of inefficiency and irresponsibility that can arise from stable tenure and a lack of competition. Pharmacists, like other clinicians, try to work around several bureaucratic barriers erected by technocrats regularly to aid their patients. They promote speedy resolution of front-line issues (Segel, 2017; John et al., 2020).

2.25 Oyo State Public Service and Practise of Pharmacy

Government worldwide exists primarily because of the need to provide a broad range of goods and services for people, which individuals or small groups may not be able to offer efficiently. This is an essential or critical role given health leadership and governance (Gafar, 2017). There is always continuous pressure to assess the quality and consistency with which public health services are delivered. In Oyo state Public Health services, the major parastatal and Ministry involved are State Hospitals Management Board, which sees the recruitments, promotion and remuneration of the staff, and other stipulated functions. On the other hand, the Ministry of health is the policies formulators. They have

supervisory roles and are empowered for buildings of structures in the hospitals (Adewole, 2015).

According to Oyejide (2019), there appears to be a broadly shared public view in Nigeria that public service delivery is generally poor and that the attitude of government officials, whose responsibilities it is to deliver these services, also leaves much to be desired. Several civil service reform committees, such as the Udoji Public Service Review Commission (1972–74), the 1988 Civil Service Reform, and the Alison Ayidu Review Panel on Civil Service Reform (1994), have been established (Gafar, 2017). Lack of political will, poor management, faulty diagnosis, poor recruitment policies, lack of human resource capacity building, political patronage, quota system, poor remuneration, diversion of public funds, poor human resource management, and poor performance management are documented in the submissions.

According to Osborne et al. (2014), Poor organisation, planlessness, overstaffing, indiscipline, red tape and secrecy, insensitivity, rigidity and over-centralisation, apathy, ineptitude, corruption and favouritism, rudeness and high handedness, sloth, truancy, and malingering have all been documented in the Nigerian civil service. Expecting a passing grade from any health worker who finds himself or herself in a situation like this is an exaggeration (Osborne, 2018).

The provision of public services, including health care, is based on bureaucracy, hierarchy, centralisation, planning, direct control, and self-sufficiency principles. Traditional public administration has been chastised over time for various reasons, including a lack of cost-effectiveness and efficiency, as well as a lack of clear policy-administration separation. The abandonment of centrally commanded public bureaucracy favouring semi-autonomous public organisations is radically changing the traditional approach of delivering public services under the New Public Administration (Oyejide 2019). The gentrification of hospitals under the State Hospitals Management Board provided structural separation from the Ministry of Health, managerial autonomy in terms of personnel and financial management, and managerial accountability in terms of personnel, finance, and other management issues (Oyejide, 2019). This allows the

agencies to be structurally separated from the rest of the government while operating under more business-like conditions than the government bureaucracy. This led to the formation of Public-Private Partnerships, in which private-sector pharmacists serve as fund managers and hospital pharmacists serve as government representatives (Adewole, 2015).

2.26 Pharmaceutical Care and Public Perceptions

Public expectations as measured by a patient's perception of the services of a health professional is often determined by the cultural perception of health and illnesses, the level of communication, cultural perception of the services rendered and cultural background of the patients (Jegede et al. 2010). These factors may thus affect the patients' perception and satisfaction with the services of a pharmacist (Jimmy et al., 2015). Patient's satisfaction is a critical determinant of the quality of the healthcare systems and a critical humanistic tool to measure outcomes in MTM. It can be used as a predictive tool to determine a health facility or professional (Gourley et al., 2001). It is also a personal assessment of a service or product (Paul, 2018). However, it is difficult to evaluate because it is subject to emotions and changes with little stimulus. It is not a structure or process due to its subjectivity. Patient satisfaction with pharmaceutical services focuses on the evaluation of performance.

Patients' needs for information to help them improve their health are increasing. Communication satisfaction is low. There is a low level of satisfaction with information about prescription medications. Patients frequently do not understand what they have been told (Berhane and Enqueselassi, 2016; Ayalew, Taye, and Tsega, 2017), all of whom found that patients' intervals were frequently far from optimal and that confusion about inter-dose intervals seem to be shared. In terms of goal achievement, frustration is the polar opposite of satisfaction. When a person is unable to attain an objective, he or she may become frustrated. Various circumstances could cause an individual's incapacity to reach stated goals. Such obstacles could be psychological or physical (Iheanyi, 2011). Dissatisfaction with pharmacy services can result in insurance charges, lawsuits, poor

treatment outcomes, and reduced government revenue. Patient satisfaction must be monitored, enhanced, and maintained as a paradigm shift in thinking.

Patient satisfaction is a critical factor in the quality assessment of the health care systems (Gourley et al., 2001). It has been categorised as an essential humanistic outcome measure in Pharmaceutical Care. Many authors believed patient satisfaction to be a personal review or assessment of a service or product. At the same time, Gourley et al. described it as a predictive measure of the likelihood that a patient will continue to utilise the service of a particular provider. Patient satisfaction, though a valuable humanistic outcome measure in pharmaceutical care that can assess the sustainability of a health care service and reflect the impact of pharmacy services on patients' lives (Panvelker et al., 2009), is challenging to evaluate due to its subjectivity.

This view was supported by the work on patent satisfaction with Nursing Care by Anita and Zehra (2019).Pharmacists play an essential part in the healthcare system by providing drugs and information. Pharmacists are responsible for a broad spectrum of patient care, from distributing prescriptions to tracking patients' health and progress to optimise their response to drug therapy. General satisfaction with the affective features or emotive components of the consultation and contentment with the behavioural aspect of clinical competence are all substantially connected with satisfaction with communications. Furthermore, patient satisfaction is linked to their willingness to follow the guidance (Hussein, Tessen, Mogesie, and Yosef, 2021) and Yohanes, Behalu, and Tilye, 2021).

According to Yohanes et al. (2020), socio-demographic characteristics including age, gender, and race have relatively minimal relationships with satisfaction. Even pharmacists' clarity in communication efforts does not always result in patient pleasure. It is possible that the patient does not comprehend or is hesitant to ask questions. For a long time, survey evidence has suggested that most people wish to learn about their illnesses and treatments (Anna-Henrikje and Sabina, 2019).

Poor access to quality medicines, a shortage of qualified health experts and care, an insufficient number of pharmacists and pharmacy staff, and poor standards of pharmacy

education are all practice-related challenges in pharmacy. According to the Registrar of Pharmacists Council of Nigeria (PCN), drug-related difficulties are more critical than pharmacy labour shortages. Regardless, patients must obtain the most significant possible advantage from the pharmacist's services (Ekpeyong, 2018). Modern pharmacy services have a bright future if they are made available to all members of the health system, particularly patients and health administrators, promptly. When the continuity, relevance, and financial sustainability of service are to be preserved, pharmaceutical care should be acknowledged, respected, and strategically implemented as the best practice of healthcare.

Dissatisfaction with pharmacy services can result in insurance cancellations, lawsuits, poor treatment outcomes, and decreased government revenue (Shambel and Dumessa, 2018). As a paradigm shift in thinking, patient satisfaction must be assessed, improved, and sustained. Furthermore, declining reimbursement for organisations, which has put pressure on hospital pharmacies, an examination of pharmaceutical care in government hospitals is required. Patient happiness impacts quality measures and hospital reimbursement in this period, and pharmacists are seen as a system asset in both inpatient and integrated networks. In today's technology-driven environment, rating one's experience with a service provider has been relatively regular in recent years. Furthermore, what patients have to say about their hospital experience is relevant to government and hospital officials. Positive interactions with hospital pharmacists during drug administration, review, and discharge counselling can significantly impact patient outcomes.

Irrespective of the Health Sector Reform or any future changes in health care, the primary emphasis of pharmaceutical practice remains the patient. The "recipe" for achieving patient satisfaction and service excellence is based on the pharmacy practice's mission and creating a shared vision among colleagues and employees. An action plan should be established and "visited/revisited" regularly to keep everyone up to date on the latest information and improve the quality of patient care (Sanfilippo, 2017). In the perspective of the patient, effective service begins at the front desk, which is the focal point of any office. The physical office environment exudes a warm and comfortable attitude for the

patient. The patient's perception of the wait time and the actual wait time are frequently at odds. According to Sanfilippo, the length of time a patient waits to fill a prescription is "numero uno" in patient satisfaction. It can be a significant source of frustration, impatience, tension, and wrath.

The reengineering of pharmacy rooms to make them optimal for patient pleasure is now the most pressing issue in Nigerian hospitals. The 'recipe' for achieving patient happiness and service excellence is based on the practice's mission and creating a solid vision among the staff/employees. Most government facilities do not have an action plan and are not abreast of the latest information to enhance the quality of patient care. The traditional practice of pigeonhole dispensing and nonchalant attitude persist.

2.27 Online Medication Therapy Management (OMTM)

This is a new concept in managing the medication challenges of patients who are unable to visit the hospitals. It is often adopted during a natural disaster such as flood, war or epidemic, and pandemic, preventing contacts or direct access to healthcare personnel or institutions. It is an aspect of telemedicine. The World Health Organisation (WHO) defines telemedicine as the provision of health care services by healthcare professionals using information and communication technologies (ICT) for the exchange of accurate information for the diagnosis, prevention and treatment of disease and injuries, research and evaluation, and continuing education of healthcare providers. This is done in the interest of a better healthcare system and in the spirit of improving people's health and the environment (Kruse et al., 2020). When doctors and patients are physically separated and use two-way speech and video contact, telemedicine provides medical services to them remotely. The Health Insurance Portability and Accountability Act of 1966 (HIPAA) compatible video conferencing facilities powered by satellite technology have enabled clinicians to consult patients (Valentino et al., 2020).

In Nigeria, clinicians' use of e-health is viewed as a dual obligation that requires appropriate reinforcement. Performance expectations, effort expectancy, facilitating condition, and reinforcement determinants, according to Adenuga et al. (2017), are

significant in the utilisation of telemedicine services for remote-patient clinical diagnosis and care by Nigerian clinicians. Telemedicine, often known as telehealth, provides medical treatment to patients who are not physically present via electronic communication (Rho, Choi, Lee, 2004 and Shiferaw et al., 2021). Telemedicine is split into two primary groups based on the timing of interaction between healthcare providers and patients.

The first category, known as asynchronous telemedicine, stores and disseminates messages from healthcare providers to patients at anytime (Kruse et al., 2020). It does not require real-time communication between patients and healthcare providers, as does synchronous telemedicine, which leverages video conferencing facilities to achieve real-time audio-visual communication (Talal, 2020).

Both synchronous and asynchronous telemedicine has been used across Nigeria, with the COVID-19 pandemic and the restriction of movements encouraging remote consultations with patients across many hospitals in urban centres like Lagos and Abuja (Ekanoye et al., 2020). Telemedicine in the Nigerian healthcare sector is in shambles, with many physical healthcare facilities across the country lacking the capacity to manage the demand they receive. Nevertheless, telemedicine will benefit even though it is not helpful for all medical cases. Telemedicine is still a great alternative to help reduce the number of people who patronise our healthcare facilities. Nigeria can significantly benefit from the industry's expected boom (Valentino et al., 2020). Telemedicine is building the framework for technology and solutions that allow people to get diagnoses and treatments faster and more efficiently than ever before. Mobile devices are being used to diagnose skin cancer using artificial intelligence and machine learning models.

Nigeria's IT industry is booming, accounting for roughly 8% of its recent GDP growth. Not surprisingly, this economic transformation has revolutionised the country's health markets, with nearly half of the programmes in the database utilising information and communication technology (ICT) to improve their procedures. Eight of the projects improve health providers' ability to diagnose and treat patients, seven improve provider-patient communication outside of typical appointments, and fifteen improve overall data gathering and analysis (Centre for Health Market Innovations 2021). The incapacity of

healthcare systems in both industrialised and developing countries to cope with the rising number of COVID-19 cases, along with the necessity to exercise social distance to prevent the disease from spreading, such has resulted in a surge in demand for telemedicine (Combi et al., 2016). By addressing the nation's shortage of medical personnel and reducing the waiting period for care, Nigeria can improve the general well-being of its population in the future. This is brought on by the distances to health facilities in cities like Lagos and the expansion of access to high-quality health services and information in remote and challenging-to-reach areas (Epundu et al., 2017).

2.28 Theoretical Framework

The structural or macro theory is one sort of sociological theory, and the social action, interpretive or micro view, is the other. The study adopted these two theories to explain the interplay of micro and macro factors in shaping perceptions and determining levels of satisfaction with the roles of pharmacists in medication therapy management (MTM). The two theories were adopted to explain how factors within the society shaped patients perceptions and how the aggregate of individual's perceptions influenced the structuring of drugs management policies.

2.28.1 Max Weber social action theory

Max Weber is the originator of the social action theory. Social action perspectives are used to observe smaller groups within the society. Unlike structuralism, they are similarly concerned with the subjective states of individuals. Theorists of social action consider society as a result of human activity. Weber argued that sociology was the study of social action and that structuralism and interpretivism should be combined. In his overall approach to research, he argued that the study of social acts should primarily emphasise sociology. An individual's social action' was an action that assigned a significance (Trueman, 2015).

Max Weber categorised ideal social actions into four: Goal rational social action (involves a clear awareness of a goal), value rational social action, affective, social action (which is based on an individual's emotional state at a given time), and traditional social action

(which is based on established custom; people act in a certain way because of built-in habits: they have always done so) are the four types of social action.

Rational theorists believe that all social action is rationally motivated. Rationality means that the actions taken are analysed and calculated for the greatest amount of (self)-gain and efficiency. Rational choice assumes individuals to be egoistic and hyper rational although theorist mitigates these assumptions by adding variables to their models. Traditional actions: actions which are carried out due to tradition, because they are always carried out in a particular manner for certain situations. Traditional is divided into two subgroups: customs and habit. A custom is a practice that rests among familiarity. It is continually perpetuated and is ingrained in a culture. Customs usually last for generations. A habit is a series of steps learned gradually and sometimes without conscious awareness Actions taken as an aftermath of one's emotions with the goal of expressing one's feelings are referred to as affective actions or emotional actions. The two subgroups of affective are unrestrained reaction and emotional stress. There is no inhibition and no discretion in an uncontrolled reaction. The fundamental conviction that a person is unfit or incompetent to realise their greatest ambitions is the source of emotional stress. Actions that are planned and carried out after assessing the objective in relation to other goals and after carefully weighing all available means (and their potential effects) to achieve it are referred to as instrumental action (also known as value relation, instrumentally rational, goal-instrumental ones, or zweckrational).(Fadul and Estoque, 2010, and Secher, 1962)

Max Weber looked at the centre of interaction. When a prospective reaction is not desirable, the activity is modified accordingly. Web recognises and presupposes that humans vary their activities depending on social settings and how they affect other people. Necessary action can be directed at other actors and causes both action and inaction. The actors' rationality is justified by their beliefs, which can be artistic, religious, constitutional, or based on professional policy. Weber distinguished between two sorts of comprehension: 'aktuelles verstehen,' or direct observational understanding of the actor, and 'erklärendes verstehen,' or the sociologist's attempt to comprehend the meaning of an act in terms of the factors that led to it. To acquire this level of comprehension, you must

put yourself in the shoes of the person whose behaviour you attempt to explain to comprehend their motivations. Weber then split human acts into two categories: 'direct understanding,' or AktullesVersehen, which involves an actor's observation, and 'explanatory understanding,' which examines the motives or explanations for the action. Social Action, according to Weber, provides a causal explanation for action and its consequences. Weber also identified instrumental Rational Action, also known as Zweckrational, which entails a cost-benefit appraisal of acts. In this example, the pharmacist's benefits, respect, communication, and attitude in providing MTM are considered. People's acts can also be affective or emotional. These are acts that people take due to their social ties with others. In this instance, the decision to use a specific Hospital Pharmacy or pharmacist's service may motivate feelings. It could be because of a person's fondness for pharmacists or previous experience with the hospital pharmacy/pharmacist. Individuals are impacted by the roles of significant others such as friends and relatives while making logical decisions about whether or not to use a specific institution for care.

According to social action theory, individuals within societal variables can choose a practical path of action. Individual decisions to use hospital pharmacy facilities or pharmacist services are frequently impacted by culture, social relationships, perceived ethical, religious, or status obligations, and pharmaceutical efficacy (benefits). Weber was interested in objectivity and subjectivity, and he concentrated on the individual and culture. Individual subjectivity is required to comprehend social behaviour. According to social action theory, he believes that bureaucratic organisations are the dominating structures in society. Weber premised his beliefs that bureaucracies Institutions are made up of individuals who act logically in social settings with the goal of accomplishing bureaucratic agendas. In the words of Weber, the development of contemporary civilizations has been a move towards rational social interaction. Modern cultures are therefore experiencing a rationalisation process (Trueman, 2015). The social action perception is to examine factors that could make particular individuals and groups be defined as 'deviants', where *deviance* can be defined as "behaviour that does not conform to the norms of a particular social group." Such a definition may influence their future

actions within society. The social action viewpoint looks at how and why some people and groups are labelled as "deviant," which is defined as "behaviour that does not conform to the standards of a particular social group." Such a definition may have an impact on their future behaviour in society.

2.28.2 The Consumer Satisfaction Equity Theory

This theory is premised on the assumption that individuals will always be driven by the need for fairness and balance in relationships, especially if any way they perceive or identify any form of inequity or unfair treatment, concerning their inputs and outputs ratios, will always seek for means of redressing it or adjusting their input to reach their perceived equity. Moreover, this is critical to being satisfied (Guerrero, Andersen, and Afifiet, al., 2014). When a party in a relationship feels equitably treated (that is, satisfied), he/she will outwardly express satisfaction.

Guerrero et al. (2014) believed that Equity theory consists of four propositions: self-in as it affects efforts by individuals to maximise their benefits or outcome; self-outside, which relates to the efforts by group members to collective maximise group rewards and share it equitably amongst members; others-inside wherein individuals relationships with inequitable distribution of benefits leading to distress.; and other-outside in which those who perceive they have been inequitably treated in relationships seek redress. The more manifest the inequality, the greater the desire to correct it (Kristi, 2016). Thus, equity theory is a metric for determining whether or not the distribution of resources, services, and products to participants in a relationship is fair.

Equity theory may be helpful to explain the pharmacist/patient relationship and MTM. In applying the theory to the pharmacist/patient relationship, the patients seek the medication therapy for which the gains is not lower than the cost paid. The patients measure the improvement in the health outcomes relative to others who adopted other alternatives in the health system. The patients become dissatisfied if the perceived gains, in improved health, are less than inputs in terms of time, money and other costs (Ibraimova et al., 2011). According to Farley et al. (2014), satisfaction is "a mental state of being rightly or

inadequately rewarded." This ideology is based on the idea that a "man's earnings in dealing with others should be commensurate to his investments." According to the equity principle, all participants in social commerce should have the same output-to-input ratio. When a client perceives that his output to input ratio is equivalent to what he exchanged with the other person, he is satisfied. Expectancy disconfirmation, equity, and attribution are three concepts that have been used to study how customers build up satisfaction judgements. Equity theory aims to determine if the distribution of resources or services is equitable to both partners in a relationship. The ratio of contributions (or costs) to benefits (or rewards) for each person is used to determine equity.

Equity theory, which was first developed in the 1960s by J. Stacy Adams, is considered justice theory in the workplace and thus seeks to always create a system that will be just, fair, and equitable in distributing scarce resources among members of a group. This way seeks a balancing system that tends to erase inequality to maximise individual rewards. Inequalities in relationships make people involved become sad to a degree proportional to the degree of inequality. It is believed that fair value treatment motivates them to maintain fairness in their interactions with their co-workers and relationships within the organisation. The ratio of inputs to outcomes determines the structure of workplace equity. The contributions made by the employee to the organisation are referred to as inputs. Despite receiving a rural payment, rural pharmacists feel deprived. Because they often feel cheated in their posting to a remote community, they may develop an inferiority complex, which may damage their interaction with the patients.

Like other popular motivation theories, equity theory recognises that subtle and diverse individual characteristics influence each person's appraisal and perception of their relationship with their partners (Guerrero et al., 2005). Underpayment inequity triggers Adams' rage, while overpayment equity triggers his guilt (Spector, 2008), and whether hourly rate or salary, payment is the primary concern and thus the source of fairness or injustice in any organisation. The contributions of each participant to the relational trade are designated as inputs, and they are seen as entitling him or her to rewards or expenses. A participant's contributions to a relationship can be either asset – which entitles him or

her to benefits–or liabilities–which entitle him or her to expenditures. Each input has different entitlements to rewards or costs depending on the relational setting.

On the other hand, Outputs are described as the positive and dire repercussions that a participant is perceived to have experienced as a result of his or her interaction with another. When the ratio of inputs to outputs is near, the employee should be happy with his or her job. Both tangible and intangible outputs are possible.

Individuals with varying preferences react differently to seeking justice in the workplace. According to the Equity Sensitivity Construct, there are scales of preferences. To put it another way, the Benevolent prefers to be under-served. Equity Sensitive people desire their own input/output ratios to be the same as their relationship partners. In contrast, entitled people like their own input/output ratios to be higher than their partners. In other words, the entitled loves to be pampered excessively (Laura Anderson and Afifi, 2014).

The money paid, the advantages obtained, the waiting time and effort expended during the hospital stay, and the experience of past transactions can all influence whether a patient feels treated fairly. *Satisfaction* is defined by Otaka (2020) as "a mental condition of being appropriately or inadequately rewarded." *Satisfaction* is a subjective evaluation that considers both the qualities and benefits gained from a purchase or service and the expenditures and effort expended by the buyer to receive the service or product. The theory of social comparison, which explains how social comparisons influence the creation and evaluation of opinions, is related to equity. When a person believes the outcome-to-input rations are fair, they are satisfied. According to Asam et al. (2019), patients from marginalised (medically under-served) groups have more problems with medicines (i.e. non-adherence, side effects) and have poorer health outcomes, owing to inequitable access to healthcare (due to weak governance, cultural exclusion). According to Nabila (2017), administrators must reduce unhappiness caused by hygiene issues like co-worker relationships, compensation, and job security. Improve the satisfaction effect of motivational elements such as advancement, recognition, and job. It also backed up prior results that job satisfaction is a multi-dimensional, dynamic phenomenon (UK Essay, 2018).

2.28.3 Theoretical Synthesis

Synthesis of Social action and Consumer Satisfaction Equity theories help identify factors internal and external to individuals that influence human decisions. Social action theory provides an interpretive analysis of the causes and effects of taking actions. It explains the influence of society on an individual's decision to act in a particular way.

The main thrust of the theories is on how social expectations and cultural beliefs and practices surrounding interaction influence how the patients behave within the social context in a hospital pharmacy setting. Due to Max Weber ideology's complexity and social conservatism, the Consumer satisfaction equity theory is used here as a complementary theory to explain this work further.

It is assume that An "Ideal Patient" will trade off some activities and responsibilities and seek ways to improve his/ her health. Thus it is an obligation on the ideal patient to declare his/her state of health and seek treatment from qualified health personnel, including a pharmacist. On the other hand, a pharmacist adopts the best practice towards ensuring full recovery of the sick while complying with ethical principles. The two theories will allow for the conceptualisation of MTM and patient's satisfaction, which can provide a helpful tool for understanding and predicting MTM and patient's satisfaction.

On the other hand, the social action hypothesis tends to overlook larger social structures. There are also claims that research is skewed due to researcher subjectivity and that the conclusions are at least somewhat "fake" or "fictional" accounts. Because social action theory is often subjective, it does not appear to be as 'solid' as structuralism methods founded on facts. *Structuralism* is a deterministic, top-down approach that looks at how society as a whole fit together. Both functionalism and Marxism are structuralism viewpoints, in which human behaviour is seen as a by-product of social structure. Nonetheless, the social action theory helps us comprehend the behaviours that underpin human behaviour, whether they are "traditional," "affective," or "rational."

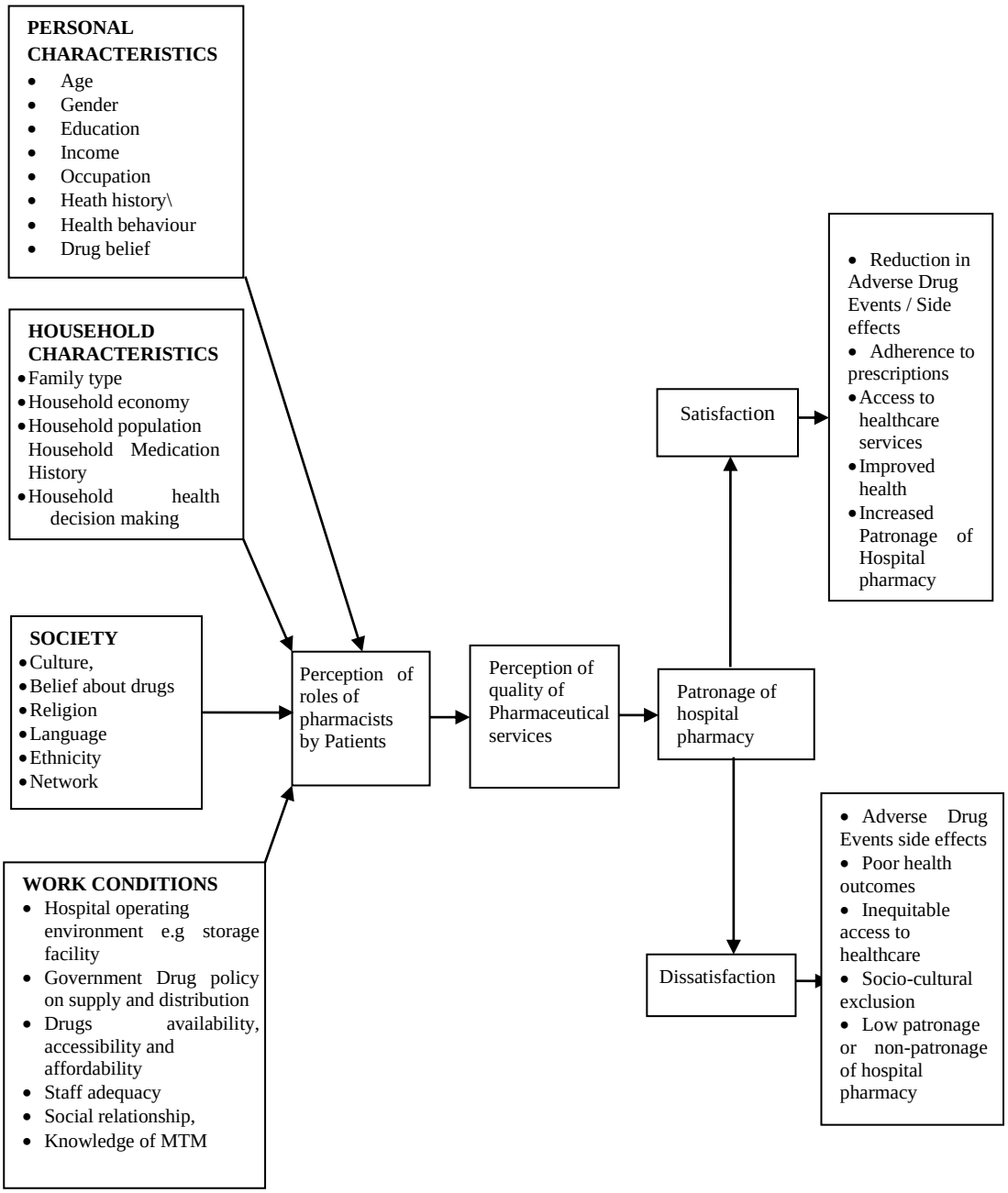
A review of some previous studies examining the effects of equity on customers' satisfaction reveals a moderate effect on customers' satisfaction and post-purchase

communication behaviour. The theory was questioned because scholars believed that various demographic and psychological factors influence people's judgments of fairness and interpersonal relationships. Furthermore, much of the research supporting the main assumptions of equity theory has been done in lab settings, making its applicability to real-world situations unclear (Abdelghafour and Faisal, 2012). Critics have also claimed that people may see beyond specific relations but look at equality and unfairness in the broader system that decides those inputs and outputs.

In a commercial setting, one may believe that his or her remuneration is fair when compared to that of other employees, yet the entire reward system may be considered unjust. According to social equity theory, individuals often compare their gains (what is left when they deduct their inputs from what they receive) with those of others, which is particularly pertinent to service satisfaction. Although the equity and attribution theories have been proposed as motivations for satisfaction, “They don't seem to have the same level of customer interest: happiness/satisfaction studies as the Expectancy Disconfirmation Paradigm." These flaws or imitations in equity theory have been addressed by combining it with social action theory, which emphasises the role of individual traits, particularly demography, in affecting perceptions.

The Comparison Level Theory, which asserts that customer' bases of comparison in satisfaction evaluations may be more than merely expectations, is akin to equity theory. Consumer models of equity satisfaction sometimes differ from other models in that satisfaction is measured concerning other parties (people) in a transaction, with the results of all parties enjoying the same experience taken into account (Stuart A, 2020). According to Atila (2008), Equity models can provide a significantly insight of consumer happiness in situations where traditional satisfaction models may not be able to capture. The conceptual model for Medication Therapy Management and Patient Satisfaction with Pharmaceutical Services in Oyo was created by combining these two theories: Max Weber's Social Action Theory and Consumer Satisfaction Equity Theory.

Figure 2.1 Conceptual Frameworks on Medication Therapy Management And Patients' Satisfaction



CHAPTER THREE

METHODOLOGY

This chapter presents the methods adopted for the research work. It explains the methods used to select study sites and the criteria used. The chapter further explains data collection procedures adopted at every stage and how the procedure was carried out. The chapter focuses on research design, description of study sites, method of data collection, sample size determination, sampling procedure, research instruments, data collection technique, data analysis and management, ethical consideration and limitation of the study.

3.1 Research Design

This study adopted a descriptive cross-sectional survey design of secondary health facilities in Oyo State. The design is appropriate to this study because it seeks to provide significant insight into the phenomenon of MTM and patient's satisfaction. Data were obtained from respondents with different socio-economic and demographic backgrounds who patronised pharmacies in public hospitals. The hospitals were selected from existing delineated health zones in the state. The study adopted a triangulation of both quantitative and qualitative data collection methods, analysis and discussion.

.3.2 Study Area

The study was conducted in Oyo State, Southwest geo-political zone of Nigeria. The State was chosen because it is house to the first college of medicine, University College Hospital, UCH. It has a large concentration of Pharmacists but a low pharmacist – Patients ratio due to the increasing population of those patronising the hospitals. This made it qualified for research focusing on people's assessment of a health facility and the quality of services provided by a healthcare professional like a pharmacist. It has

been reported that there are less than 60 Pharmacists in Oyo state civil service to a population of about 6 million people. Some rural hospitals were reported to have no pharmacists.

Oyo state occupies a land area of 27,148square kilometres Ibadan, the capital of Oyo State situated in the palm belt. The topography is one of the gentle rolling lowlands in the South; the majority of the State's people belong to the Yoruba ethnic group (MOH, 2018). The population census as of 2006 was 5,580,894 (NPC. 2006). The State is largely forest to the South and derived savannah to the northern part popularly called Okeogun. The State is divided into six administrative health zones of Ibadan, Ibarapa, Ogbomoso, Oyo, Lower Oke-Ogun and Upper Oke-Ogun. The six health zones are further merged into three senatorial areas: Oyo South, Oyo Central and Oyo North/Saki (MOH 2018) for ease of geo-political administration.

Though a homogenous group, the people's lifestyles slightly vary, based on the dialectical sub-ethnic groups with a different strain of Yoruba language. There is a strong cultural affinity amongst the different sub-ethnic dialectical groups in the State. For instance, the Ibarapa and Okeogun are historically and culturally linked. Oyo and Ogbomoso are similarly related, while Ibadan is a cultural mix of migrants from neighbouring Yoruba towns such as Ijebu, Iwo, Ife and Oyo. Their lifestyle is reflected in their dressing, settlement patterns and works. They are primarily agrarian and involved in crafts making and traditional textile weaving as practised among the Oyo and Iseyin people. Their health-seeking behaviour is affected by their beliefs. They are predominantly Muslims, Christians, and Africa's worshippers of Africa Traditional Religions like Ogun, Sango, Oya, Eegun, and Obatala. Such influenced their perceptions and definitions of illness and drugs. They have traditional herbal mixtures and concoctions, which are believed to be more effective in treating specific ailments like smallpox and chickenpox.

The State operates a pluralistic healthcare system that allows lateral and horizontal referrals from private hospitals to tertiary or state-owned specialist hospitals. The State is home to a federally owned tertiary health institution, University College Hospital,

UCH, and some other state-owned specialist healthcare institutions for unique maternal and children healthcare such as Jericho Nursing Home, Adeoyo Specialist Hospital. There are institutions mainly for training specific categories of healthcare professionals, including pharmacy technicians. These include the State College of Nursing and Midwifery, Eleyele, and College of Health Sciences and Technology, Ibadan.

The percentage of inhabitants having access to Health facilities is about 65.0%, and the State current expenditure on Health is less than 15.0% of her annual budget (MOH, 2018). The total number of Health facilities by local government areas rose from 491(1999) to 612(2005). This increase is about 20%, unevenly distributed across six (6) health zones of Ibadan, Ibarapa, Ogbomoso, Oyo, lower Okeogun and Upper Okeogun. The six zones are reclassified into three senatorial districts (Oyo North, Oyo South and Oyo Central). The Privately owned health facilities in the State increased from 718 to 770, an increase of 8%. In all, 1449 health facilities have been available in the State since 2009 with little or no increment up to date (MOH, 2018). The total number of personnel in Health facilities for both State and local Government-controlled facilities for over 5million people is 3217 (Medical Doctors: 200; Nurses and midwives: 1800 Pharmacists and Pharm.Technicians:120 and Community Health and Extension workers: 1097) SHMB 2019.

In Oyo state, the ratio of Pharmacists to patients is 1: 25,000 (Ayantoye, 2017), which is the lowest in South Western Nigeria and below the National average of 1:12,000 and the International recommendation 1:5,000 (Ekpenyong et al. 2018). Pharmacy distribution is not proportionate to the population in all three zones of the State, and it is skewed between rural and urban (Oseni, 2017). According to Odiri, 2019 seven rural Local governments lack secondary health care facilities in Oyo State (Ona Ara, Egbeda, Ogo-Oluwa, Ido, Saki East Iwajowa and Ibarapa North). Also, there is a decline in donor funding, resulting in poor sustainability of existing programmes and meeting SDGs goals 3. Oyo State, like Niger, Akwa-Ibom, Ebonyi, and Osun budgetary allocation to the health sector was below three per cent of their total budget, which is the lowest in Nigeria. In contrast, all states agreed on 15% (Odiri, 2019).

The State is constrained by scarce public funding and limited donor support, adding that out-of-pocket expenditure accounts for a large percentage of the State total health expenditure. Oyo State lacks interventional and long term funding for health and drug logistics. That is why Public-Private Partnership (PPP) was advocated to leverage new ideas and technology to unlock some of the potentialities in the State (Aig-Imoukhuede, 2019).

Oyo state has a drug policy on purchasing and distributing drugs and medical equipment to state-owned health institutions. It involves a partnership with the private sector – manufacturers of medical equipment, pharmaceutical companies, significant representatives of manufacturers, large scale pharmacy stores. This involves the classification of drugs into essential and general, and non-essentials. The essential drugs are supplied directly to the hospitals or patients for free. At the same time, those from private bodies are specialist drugs supplied and paid for at relatively lower prices than obtainable outside the hospital setting. The State has a Central Store for procurement and storage of drugs.

Oyo state, described as the pacesetter state, is one of the 36 states of the Federal Republic of Nigeria. It was carved out of the old western region in 1976. There are thirty-three Local Government Areas in the State grouped to form the Six- Health Zones. These are:

Ibadan Health zone, Lower Oke-Ogun, Upper Oke-Ogun, Oyo, Ogbomoso and Ibarapa Health zones were further merged into three senatorial areas: Oyo South, Oyo central and Oyo North according to Ministry of Health, MOH, (2018) for ease of geo-political administration. The study was carried out in all the senatorial health zones for fair representation of all communities in the State. The senatorial zones cover the five major dialectically identified sub-ethnic groups that make up the State, the Ibadan, Ibarapa, Ogbomoso, Okeogun and Oyo speaking Yoruba. The study was conducted amongst patients patronising six public hospitals in the State, two each from each zone selected through simple random. The following were the hospitals chosen and their zones: Oyo South senatorial health zone (State Hospital, Ring Road and Adeoyo Maternity Hospital,

Yemetu), Oyo North Senatorial Health Zone (State Hospital Saki and State hospital Ogbomoso), Oyo Central Senatorial health Zone (State Hospital Oyo and General Hospital,Moniya).

3.3 The Study Sites

i) Adeoyo Maternity Teaching Hospital known locally as AGBADAGBUDU is a public healthcare organisations in Ibadan, Oyo Nigeria. It was established in the year 1928. It was formally affliated to University College Hospital, Ibadan. The hospital provide maternal and child healthcare services (The Vanguard Retrieved 2016)

ii) Ring Road State of Hospital, Ibadan with facility code:30/12/1/1/1/0001is a public health care facility in Ibadan South West Local government, Challenge Ward.The hospital under Oyo State Hospitals management Board and is assumed to be the biggest owned by the State government. Locally, they addressed it as ADEOYO TUNTUN.

iii) Moniya General Hospital is a Public healthcare facilties located in Oyo Central Senatorial District of the state. The Hospital is under Oyo State Hospitals Management Board, It is located in Akinyele Local Government. It was established 5/8/1987 licensed number 30/02/1/1/1/0019. It has onsite pharmacy and it serves all the tribes especially Yoruba and Hausas community. Found in Long 3.9109, Lat 3.9109

1v) State Hospital Oyo located in Akesan Oyo East Local Government in Oyo Central Senatorial District of the State. It is National Health Insurance and State Health Insurance accredited with on site Pharmacy services.

v) State Hopital Ogbomoso located in admnstrative territory of Ogbomoso South in Oyo North Senatorial zone. The public healthcare facility with on site pharmacy services is located in Arowomole Latittude 8.1104694 and Longittude4.2331088 located in 210101 Oyo State

vi) State Hospital Saki in Oke Ogun of Oyo State is located in Kolawole area Sango Saki Oyo State. It is in Saki West Local Government of Oyo North Seeantorial District. It is now upgraded to 100bed hospital with 24hours pharmaceutical services.

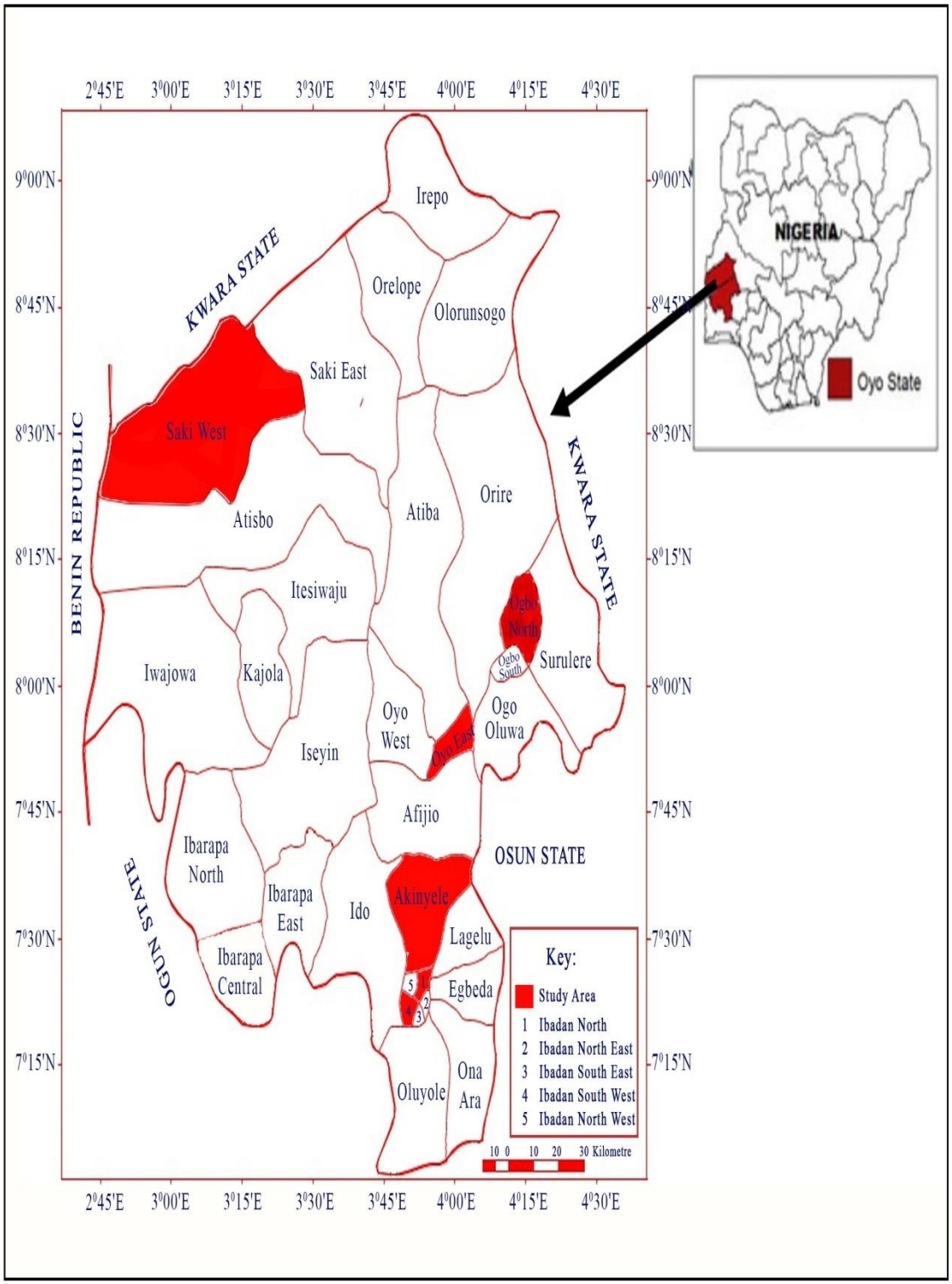


Figure 3.1 Map of Oyo State, Nigeria, showing the study area

3.4 Study Population

The study population included in/out-patients and their relatives that visit Pharmacy in public health institutions for medicine and medications fillings and refilling. In addition, data were elicited from hospital pharmacists working in the pharmacies in the public hospitals in Oyo state. In addition, senior-level and intermediate level civil servant Pharmacists working with the Oyo State government and involved in policy formulation and implementation at the Ministry of Health and Hospital Management Board were also interviewed on drug administration and staff deployment.

3.5 Selection Criteria

3.5.1 Inclusion Criteria

The determination of the inclusion and exclusion criteria was based primarily on the objectives of the study and similar works in the past, which focused on eliciting patients' satisfaction about a healthcare facility, process or professional. Since the focus of the study is on patients' satisfaction with the services of pharmacists concerning medication, information was obtained from:

1. State-owned hospitals, secondary healthcare facilities with pharmacies, and that are participating in the State drug policy and located within the health zones
2. Patients who visited the selected hospitals to seek medical attention
3. Relatives of sick persons who patronise pharmacies in selected hospitals to assist the sick relatives in purchasing prescribed drugs from the hospital pharmacy
4. Pharmacists with two years of post-graduate work experience and working in selected state-owned secondary healthcare facilities
5. Pharmacists in administrative positions in the state secretariat; Ministry of Health and State Hospital Management Board.

3.6 Sample Size Determination

The sample size determination for the study was based on Lemeshow et al. (1991) formula for estimating minimum sample size in descriptive health studies and findings from a previous study (IIiyasu et al. 2010) for a population survey with a 95% confidence interval.

This calculation was done using the formula below:

Where

n= sample size

z= standard normal score corresponding to 95% confidence level=1.96

P= the estimated proportion of the factor being studied (or P= the prevalence rate of Medical research studies) assumed 50%

E= Sampling error that could be tolerated 5% or 0.05

Note: Z= 1.96

P=0.5 or 50% (According to UNICEF/UNDP/WHO/World Bank 2004. Since the estimated proportion of the studied factor was unknown, we used 50% or 0.5 to obtain the minimum sample size. E= 0.05

Calculation: $n = \frac{Z2[P(1-P)]}{E2}$

$n = \frac{1.962[(0.5)(0.5)]}{(0.05)2}$

$n = \frac{(3.846)(0.25)}{0.0025}$

n= 384.16

The estimated minimum sample size assuming 50% maximum satisfaction response variability was 384 and using 2 as a correction factor to adjust the required sample size by assuming a Random Sample and then multiplied by factor 2 according to Heo et al. (2010), Kish (1965), Bland (2005), Alexander (2002) and Everitt, (2002).

A DEFF of 2 means the variance was twice as large as expected for simple random sampling (SRS), resulting in larger sample sizes (or wider confidence intervals). This thus gave 384.16 multiplied by 2 = 768.32.

Therefore n= 384.16 +384.16 = 768.32, and approximated to 769. This took care of any attrition since the figure was doubled.

The sample size calculated was 769, using the above formula.

3.7 Sampling Technique.

This is the procedure adopted to select the required samples from the population. This describes the systematic approach adopted to choose the hospitals and respondents from all the health care facilities in the state. It also involves procedures for selecting the respondents for the study who can provide the necessary information for this study. The patients and their relatives who patronised hospital pharmacies constituted the unit of analysis for this study.

Through KII, further information was obtained from hospital pharmacists and administrative pharmacists in the state ministry of health and hospital management board on the roles of pharmacists and factors influencing their roles and subsequent perceptions of patients about these roles. The researcher also designed a checklist for non-participatory observation on the activities of hospital pharmacists. A multistage sampling technique was adopted to select hospitals and respondents for the study. Oyo state has fifty General and Specialist Hospitals, out of which twenty can be classified as functioning. For hospitals to be classified as functioning, they have out-patients, special clinics, 24-hours services in pharmacy, laboratory and in-patients units well manned by different cadres of health workers.

The state was clustered into six health zones of Ibadan, Ibarapa, Ogbomoso, Oyo, Lower Oke-Ogun and Upper Oke-Ogun. The six health zones were further merged into three senatorial areas: Oyo South (Ibadan and Ibarapa), Oyo Central (Oyo and Ogbomoso) and Oyo North/Saki (MOH 2018) for ease of geo-political administration.

A multistage sampling procedure was adopted for sampling the respondents. The state was purposively selected because it has a history of being a pacesetter in establishing hospitals and training health workers. The state also has various Drug implementation policies, such as Drug Revolving Funds, Drug Credit Purchasing Scheme, Public-Private Partnership Scheme on Drug procurement, and State and National Health Insurance Schemes on Drugs policies.

Through simple random: two hospitals were selected from Oyo South, Oyo Central, Oyo North zones. The 769 respondents were proportionally allocated to the chosen Hospitals based on the patients' patronage to each hospital. The 769 respondents were selected from the out-patients through alternative picking of the patients.

Twelve IDIs complimented further information about patients' satisfaction for the patrons (patients' relatives and patients) and twenty KIIs for the hospital Pharmacists attending to patients, Directors in the Ministry of Health and State Hospitals Management Board, and Pharmacists political activists (Oyo South 12, Oyo Central 4 and Oyo North 4).

3.8 Multi-stage Sampling Technique

The stages of sampling techniques are presented in table 3.1:

Table 3.1 Stages in Multi-stage Sampling Technique

Stages	Action
Stage one	Purposive sampling of Oyo state with a low patients-pharmacists ratio
Stage two	Clustering of the state into three Senatorial health zones Oyo (South), Oyo (Central), Oyo (North)
Stage three	Convenient sampling technique to select hospitals from the three Senatorial Health zones based on data collected on a population of patients' patronage
Stage four	Every alternate patient or patron were recruited randomly to arrived at 769 Respondents

Table 3.2 Number of Functional and Non-Functional Hospitals in Oyo State

Senatorial/Health Zones	Number of Local Governments	Number of Functional Hospitals	Number of Selected Hospitals	Total allocated Respondents sample
Oyo(South)	9	12	2	410
Oyo (Central)	11	4	2	107
Oyo(North)	13	4	2	252
Total	**33**	**20**	**6**	**769**

Table 3.3 Sample Size for Quantitative Data

Zones	Hospitals	Population of out-patients					Total	Average	Sample Size Allocation
		2014	2015	2016	2017	2018			
Oyo South	Adeoyo Maternity Teaching Hospital	45387	52402	45193	50406	37210	230598	46120	211
	Ring Road State Hospital	43380	55661	39056	49317	29929	217343	43469	199
Oyo Central	State Hospital, Oyo	10639	13247	7655	14643	10505	56689	11338	53
	General Hospital, Moniya	12115	11662	10200	10088	15042	59107	11821	54
Oyo North	State Hospital, Ogbomoso	15635	28819	26195	47705	48490	166844	33369	153
	State Hospital, Saki	34967	18340	23405	15296	16121	108129	21626	99
TOTAL		**162,123**	**180,131**	**151,704**	**187,455**	**157,297**	**838,710**	**167,743**	**769**

Source: Oyo State Hospitals Management Board Department of Planning and Statistics 2019

The sample size determination was based on information obtained on five-year patients figure for the six selected hospitals in the three senatorial zones of Oyo state. This is presented in table 3.4

Table 3.4 Sample Size for Qualitative Data

Senatorial Health Zones	**Number of IDIs for patients and relatives**	**Number of Pharmacists for KII**	**Number of interviews for Directorate cadre**
Oyo (South)	12	4	3
Oyo (Central)	6	3	-
Oyo (North)	6	2	-
TOTAL	24	9	3

3.9 Research Instruments

This study is based on the triangulation of quantitative and qualitative data collection methods. Quantitative data were collected through a semi-structured questionnaire. In contrast, qualitative data was collected through Key-informant interview (KII) and in-depth interview (IDI) guides and Checklists for non-participatory observation of pharmacists. The research utilised a checklist for observing pharmacists, a set of questions used in previous studies on MTM and extracts from related studies on measuring patients' satisfaction with healthcare services.

The study adopted a sociological approach in the questionnaire design to ensure that behavioural issues affecting patients' understanding and appreciation of the roles of pharmacists in MTM are examined. The study attempted to create a link between sociology and social pharmacy. Questions asked sought to seek perceptions and personal judgement of respondents on the quality of pharmaceutical care received concerning the management of medication-related problems (MRP). The questions thus focus on the social model of health-related to pharmaceutical care. Such is the purview of social pharmacy

3.9.1 Questionnaire

The questionnaire was designed for and administered to patients and their relatives who were the clients of pharmacies in the selected hospitals. The semi-structured questionnaire was divided into sections based on the study's objectives. The questionnaire was designed to contain sections that obtained patients' demographic information, their level of awareness and knowledge of the perceived roles of pharmacists, their rate of patronage of pharmacies in public hospitals. Questions were asked several times each respondent visited the pharmacy in the interview year. In addition, questions were asked on what influenced their perceptions of the roles of hospitals.

The questionnaire further obtained Patients' perceptions about the working condition and the environments in which pharmacists operate. The questions sought to know about the adequacy of facilities and sufficiency of the workforce in the hospital pharmacies. The questionnaire sought to obtain their expectations and satisfaction level with the quality of services or roles performed by pharmacists. The questionnaire also contained a section that looked at the socio-cultural factors that influenced the satisfaction level of patients with the functions of pharmacists in the selected hospitals.

3.9.2 In-depth Interview (IDI) Guide

In-depth interviews were designed and conducted primarily for pharmacists who have direct contact to procure prescribed drugs from the hospital pharmacies. These were patients (In and Out-patients) and their relatives who visited the pharmacies on behalf of the sick. Therefore, there was the need to obtain their perceptions which are better expressed in words and postures and can only be obtained through a qualitative method to complement the quantitative data obtained. A total of twenty-four In-depth interviews (four per hospital) were conducted with patients and available patients' relatives, using an in-depth-interview guide purposively designed to elicit feelings or opinions not contained in the questionnaires. In addition, the IDI guide was used to assist interviewers without limiting their initiatives to obtain more information where necessary.

Interviews were conducted in an atmosphere devoid of any form of threat, and the participants were assured of non-disclosure of their identities. Interviews were conducted mainly in Yoruba and English, depending on participants' preferences. Interviews were recorded with the permission of interviewees. Questions were asked on each objective of the study. Further probing was done in the areas requiring more precise information without touching on sensitive areas to which interviewees might be unwilling to answer or respond.

3.9.3. Key Informant Interview (KII) Guide

Key informant interviews were conducted for participants who were critical to the study on medication. These were pharmacists and administrators responsible for medications therapy in the hospitals. Thus, key informant interviews were conducted on nine hospital pharmacists and three pharmacists in the directorate cadre in the state ministry of health and state hospitals management board (OYSHMB) responsible for the deployment of staff, distribution of drugs and medical equipment and other facilities to the hospitals.

The interviews focused on critical interpersonal communication, logistics, in-service training, compassion, responsible behaviour, information sharing, and their perception of satisfaction also, information on bottlenecks and bureaucracy regarding management information and logistic system. The interviews were conducted at a convenient time and place for the participants and conducted in English as preferred by the participants. And they were recorded with notes taken to compliment the recordings. The major challenge was getting the participants who were always busy. In some cases, they were also reluctant to volunteer information considered classified except through subtle probing.

3.9.4. Checklist for Non-Participatory Observation

A checklist to guide non-participatory observation of the activities of the staff of pharmacies in public hospitals was prepared (See appendix IX). The observation was conducted in an atmosphere devoid of any threat and as natural as possible to obtain firsthand information about the activities of the staff. Data was gathered through visual observations. It was done with a guiding checklist and involved direct observation in recording behaviour as they occurred, with no preconceived ideas of what would be seen or observed. This involved pre-determination of what to be observed, and a standardized checklist was used to record the frequency with which those behaviours were observed throughout the stay in the hospital. This lasted about two days of unannounced hospital visits. The observation approach was used to understand many aspects of the participants' behaviour which could not be contained in a series of questions.

Table 3.5 Matrix of Research Instruments for Data Collection and Study Objectives

S/N	Objectives	Questionnaire	IDI	KII	Observation Checklist
1	Determine patients' perception of the roles of pharmacists in Medication Therapy Management in secondary healthcare facilities in Oyo state	√	√	√	-
2	Identify factors influencing respondents' perceptions of the roles of pharmacists in Medication Therapy Management	√	√	√	-
3	Obtain knowledge of practising pharmacists about pharmaceutical practices in MTM;	-	-	√	√
4	Determine the level of respondents' satisfaction with services of Pharmacists in Medication Therapy Management	√	√	√	-
5	Identify sociocultural factors influencing patients' satisfaction with pharmaceutical care in Medication Therapy Management.	√	√	√	-

3.10 Study Variables

Clients' perceptions measure the quality of services by a healthcare professional in the health system. Likewise, the quality of services provided by pharmacists is measured by the perceptions of their roles in MTM by patients. The outcome of all activities to improve medication therapy and reduce the rate of reported cases of ADEs or MRPs depend on patients' perceptions, consequently influencing their level of satisfaction with the services rendered.

However, patients' satisfaction is influenced by many factors, such as socio-demographic characteristics of the patients, their rate of patronage, and their use of healthcare facilities or professionals. It is further affected by perceptions about the operating environment of the pharmacists, roles of pharmacists which influenced expectations, and socio-cultural factors that determined acceptance or rejection of medications. Thus, in this study, patients' satisfaction is a dependent variable and determined by the interaction of several factors which influenced their expectations. It is a measure of the quality of service and its acceptance.

Table 3.6 Problems Matrix – Measurement of Variables

Objective	Variables	Indicators	Analysis
1	Respondents' perception of the roles of pharmacists in Medication Therapy Management in secondary health care facilities;	Dispenser of drugs Appendage of physician An integral part of healthcare Expertise in medication Consulted on issues of ADEs and MRPs Provide drug education to patient Modify drug prescription Responsibility for ADEs Involved in MTM team Keep ADEs records	Descriptive statistics: Frequency, percentages and charts Classification of respondents' knowledge of roles of pharmacists Chi-square tests and multiple regression to determine relations between variables Thematic analysis of KIIs and IDIs
2	Factors influencing respondents' perceptions of the roles of pharmacists in Medication Therapy Management	Socio-demography Socio-economic Rate of patronage Operating environment Socio-cultural factors	Descriptive statistics: Frequency, percentages and charts Chi-square tests and multiple regression to determine relations between variables that affected the perception of MTM Thematic analysis of KIIs and IDIs
3	Knowledge of practising pharmacists about pharmaceutical practices in MTM	Roles of pharmacists in healthcare The relationship amongst healthcare professionals Drug supply policy Operating environment Mandatory compulsory training Level of Societal awareness of critical roles of pharmacists Socio-cultural factors affecting perceptions and performance Collaboration with other agencies like NAFDAC Roles of PSN and PCN	Thematic analysis of KIIs and Observation Checklist
4	Level of respondents' satisfaction with services of pharmacists in Medication Therapy Management	Punctuality at designated hours Friendly and enthusiastic disposition Follow-up on drugs dispensed for health outcomes Information to patients on drugs and ADEs Assessing adherence to prescriptions Operating environment Waiting or interaction time Privacy with patients Availability of drugs Payment system The overall quality of services etc Factors influencing satisfaction e.g. socio-demography, socio-economic, operating environment, rate of patronage, socio-cultural factors, perceived roles and expectations, etc	Descriptive statistics: Frequency, percentages and charts Classification of the level of satisfaction Chi-square tests and multiple regression to determine relations amongst the variable Thematic analysis of KIIs and IDIs
5	Socio-cultural factors influencing patients' satisfaction with pharmaceutical care in Medication Therapy Management.	Perception of definition for drugs Perception about the efficacy of hospital drugs Role of family relations Preference for pharmacists of same age grade, ethnicity Language in preference of pharmacists Food restrictions in drug therapy Taste, form, colour and shape of drugs Religion and drug therapy	Descriptive statistics: Frequency, percentages and charts Chi-square tests and multiple regression to determine relations between variables Thematic analysis of KIIs and IDIs

3.11 Validity of Research Instruments

The validity of the instruments showed that they measured what they were meant to measure and thus provided the required information relevant to the study. Content validity was adopted to authenticate that the instruments were able to measure the variables as designed and concerning the study's objectives. The tools were designed with the assistance of a professional biostatistician for face and content validity. The instruments were originally designed in the English language. When and where necessary, they were translated to the local language of the people for ease of understanding of the content. This was done with the assistance of someone very fluent in Yoruba, the local language of the people. All field assistants were trained to handle the translated instruments alongside the English version without loss of value and message so that the assessment of face, content, and construct validities were maintained.

3.12 Reliability of Research Instruments

The reliability of the questionnaire was an indicator of dependability and consistency. The reliability was determined using Cronbach's alpha estimator. An excellent measuring instrument must be reliable and produce consistent results through stability, internal consistency, and equivalence. The overall reliability coefficient of the instrument was 0.882, which showed that the instrument had a high proportion of internal consistency.

3.13 Pre-Test

The instruments were first tested in Jericho Specialist Hospital, Ibadan, amongst 80 patients who represented approximately ten per cent (10%) of the sample size to ensure adequate, quality, trustworthy, reliable, and relevant data. The respondents and location of the Pre-test shared similar characteristics with those used for the study. It was a replica of the final study locations. The experience of the pre-test assisted in redesigning the questionnaire for appropriateness and adequacy of questions to effectively and comprehensively measure what they were intended to measure.

The pre-test involved interviews for two (2) pharmacy department staff at Jericho Specialist Hospital and four (4) in-depth interviews for patients and their relatives who patronised the pharmacy. Each interview lasted between 45 minutes and one hour. This helped determine the duration of the interview and the appropriateness of some questions. It also assisted in grasping the techniques of interviewing without violating ethical issues.

The experience gained from the pre-test led to the redesigning questionnaire in terms of wordings, sequencing, options, additions and deletions of some items. Some responses were modified. The interview guides were also similarly reviewed. The pre-test also revealed the conditions that will enhance a better response rate regarding timing and place of interview. The pre-test ensures ways of observing ethical issues during the field were mastered.

3.13.1 Selection and Training of Field Staff

Field assistants were engaged and trained on techniques of carrying out a social survey, especially in sensitive areas as health, to achieve a high level of efficiency in fieldwork. The pre-test provided the opportunity to know the profile of the field staff required for the study and their training needs. It also helped to determine the number and deployment of the field staff to achieve optimal results,

The field staffs employed were members of the communities where the hospitals were located and familiar with the people's culture. They were also mainly students of some health training institutions who were on vacation and clearly understood fundamental health issues and the significance of the study. Some of them have had experience in data collection for academic works. They were, however, supported by supervisors who were more experienced in data collection.

A Series of training was organised for the field staff based on the outcome of the pre-test. The training series focused on probing methods to elicit the required information from respondents without infringing on the rules of ethics.

3.14 Data Collection Procedure

The field assistants employed and trained were allocated a specified number of questionnaires daily and reviewed for completion by the supervisor in each of the study sites. The researcher led the Qualitative data collection while note-takers were trained and employed to compare interviewers' responses and notes taken on critical issues after the interview, the interviews were after that transcribed. Interviews were conducted in both English and Yoruba Languages, depending on the preference of the respondents/interviewers.

The translated instruments were adopted for non-English speaking respondents and later translated to English during transcription for analysis. Each respondent/participant was briefed explicitly about the purpose of the interview. The consent of participants was obtained orally. The KIIs and IDIs were recorded on tapes and notes taken by field assistants specially trained on taking notes of key points, which will be developed after the interviews. Permission of participants was also sought before the commencement of interviews.

3.15 Data Management

Then the next stage was data cleaning to detect and remove errors and inconsistencies from data to improve data quality. Data collected were sorted based on study locations and later stored and archived in compact discs (CD). The safety of the content to avoid loss of vital information critical to the work was ensured. It ensured no information was lost in transit. The questionnaires were pre-numbered, and the record was kept in the sequence in which they had been numbered. Data were captured after screening the questionnaires for completion for validity and consistency checking. The information was entered into the database created using the adopted software of SPSS 22. Data were appropriately grouped in sequence (data combination and transformation and database organization) for ease of analysis. Then the next stage was data cleansing or scrubbing to detect and remove errors and inconsistencies from data to improve the quality of data.

3.16 Methods of Data Analysis

3.16.1 Quantitative Data Analysis

The data generated through quantitative techniques were coded before analysis. Quantitative data were analysed using Statistical Package for Social Sciences, SPSS (version 22) software. Descriptive and inferential statistics were used to analyse the univariate, bivariate, and multivariate data.

3.16.1.1 Univariate Analysis

The univariate analysis involves describing and examining respondents' background characteristics and distribution according to the socio-demographic characteristics. Frequency distribution, percentages, tables and charts were employed to highlight the respondents' responses according to individual characteristics. The analysis included the distribution of the information obtained on each of the objectives/themes of the study. These include respondents/ participants' level of awareness about pharmacists' roles in healthcare, perceptions about the roles of pharmacists in medication therapy management, factors influencing the perceptions. The analysis also comprised determining the rate of patronage of pharmacies and factors influencing the rate of patronage, levels of satisfaction with the roles of pharmacists in MTM and factors influencing the satisfaction levels, and social-cultural factors influencing respondents' satisfactions.

3.16.1.2 Bivariate Analysis

The bivariate analysis involved testing relationships between two variables taken together. They determine the association between dependent and independent variables. The test involved using the chi-square test through cross-tabulations to find out the significance of the associations at 0.05 (level of significance). These involved testing those factors that were significantly associated with the roles of pharmacists and how they determined patients' satisfaction with the roles of pharmacists in MTM. It included testing for the influence of such factors as socio-demographic and socio-economic characteristics of respondents, rate of patronage of pharmacies in public hospitals,

operating environment and work conditions of pharmacists in public hospitals, and socio-cultural factors on patients' satisfaction with the roles of pharmacists in Medication Therapy Management (MTM).

3.16.1.3 Multivariate Analysis

Many more variables were dealt with simultaneously; therefore parametric test using multiple regression analysis to test a relationship between more than two variables was necessary. The test was able to show the influence of the interplay of many factors at the same time in determining the strength and direction of relationships. Most respondents were influenced by one factor and a combination of many factors. And these factors could impact one another and thus made a hitherto not significant factor in bivariate analysis significant when other factors were considered. Multiple regression was done varying the constant factors making several others vary to ascertain the degree and direction of influence. This was used to determine the extent to which several of these factors combined to influence patients; perceptions of the roles of pharmacists and consequently combined to influence their expectations and thus satisfaction.

3.16.2 Qualitative Data

The qualitative data were collected through IDIs and KIIs and involved categorisation of responses into the study's objectives which they matched. The recorded responses were transcribed, and the content was analysed along with the themes/objectives of the study. The transcription was read and re-read severally to ensure that crucial information was not lost.

Open code content analysis was adopted to transcribe recordings, followed by examination and isolation of various responses according to the study's objective. Similar opinions across the IDIs and KIIs were identified and grouped based on the purpose and critical idea under review. This allowed the adoption of frequently occurring views or opinions to be synthesised. The compact disc (CD) or any other gadgets used in the recordings were kept and locked in a safe. The transcriptions were

saved in several reproduced files on the computer, and other safety gadgets or computer applications

3.17 Ethical considerations

This study was reviewed for adherence to the principles of behavioural science ethics. It was guided by ethical considerations. In addition, institutional ethics approval was sought and obtained from the Ministry of Health Oyo State, with approval number **AD/13/479/1389**, since the research was carried out in public healthcare facilities under the ministry's supervision. This was also in line with the state government's position on research on health. However, the study sought and obtained the oral consent of the people interviewed before their participation, and where necessary, prior notices were given. The study generally addressed the following ethical issues as indicated:

Confidentiality of Data: The survey instruments were designed in manners that protected the identity of respondents. Personal identification numbers were used only for analysis without containing the names, addresses, or telephone numbers that could be linked to the identity of participants. Participants were assured of protecting their identities during and after the interviews.

Voluntariness: None of the participants was forced, either by the researcher or any of the field assistants, to participate in the research. Participants were allowed to decide whether or not to participate, continue or discontinue participation.

Beneficence to participants*:* Participants were informed that there was no direct benefit or inducement for participating in the study. Members were informed that the exercise was purely academic. Still, that participation would only enhance the understanding of several factors that influenced patients' perceptions of the roles of pharmacists and how these perceptions shaped their levels of satisfaction.

Non-malfeasance to participants: No physical risks could be associated with participation in this study. In situations where some of the respondents became emotional, upset or felt insecure while responding to some of the questions, such

interviews were discontinued, and participants were advised to withdraw from the study.

3.18 Limitation of the Study

This study was multidisciplinary research that focused on social pharmacy using a sociological approach. It was not biomedical research. The study was based mainly on perceptions, and the results were subjective and judgemental. Satisfaction was entirely based on perceptions of the roles of pharmacists and thus determined expectations. Therefore, satisfaction was wholly based on respondents' perceived expectations, not on any professional evaluation. The satisfaction measurement was based on the period of assessment and not on others days. Thus other events or factors could affect the performances of staff on duty and opinions of patients patronising the pharmacy when interviews and observations took place.

CHAPTER FOUR

DATA ANALYSIS, INTERPRETATION AND DISCUSSION

This section presents the results of the field exercise from the combination of qualitative and quantitative data collection techniques.The results are presented based on the study's key objectives and specific objectives. The sections are divided into major sub-themes and objectives of the study, which include: Demography of the respondents, knowledge of the roles of pharmacists in secondary public health facilities, determinants of the perceived roles of pharmacists, classification of the level of satisfaction of respondents with pharmaceutical services under MTM and socio-cultural determinants of the level of satisfaction of respondents with Pharmaceutical services in public health institutions in Oyo State, Nigeria.

The study focused on 769 respondents who patronised the secondary public health institutions selected through survey and distributed across the six (6) health zones in Oyo State, which are: Ibadan, Ibarapa, Ogbomoso, Oyo, lower Okeogun and Upper Okeogun. The six zones were reclassified into three senatorial health districts/zones (Oyo South, Oyo North and Oyo Central). The study locations were: Oyo South (Adeoyo Maternity Hospital and State Hospital, Ring Road, both in Ibadan), Oyo North (State Hospital, Ogbomoso and State Hospital, Saki) and Oyo Central (State Hospital, Oyo and General Hospital, Moniya, Akinyele Local Government).

Interviews were conducted with Pharmacists, in-patients and relatives of patients who often visited the Pharmacies in the Public health institutions to purchase or collect prescribed drugs. In-depth interviews (IDIs) were conducted primarily for patients and their relatives, who often accompanied them to pharmacies and pharmacists who attended to patients in the selected public hospitals. A total of twelve key informant interviews (KII) and twenty-four in-depth interviews (IDI) were conducted. Responses

were thematically sorted and presented to complement the quantitative data obtained from the survey conducted.

4.1 Characteristics of Respondents and Participants

This section deals with the socio-demographic and socio-economic characteristics of respondents and participants from the selected secondary public health institutions in each of the health zones in Oyo state.

Table 4.1: Socio-Demographic Characteristics of Respondents

Characteristics	Frequency (N = 769)	Percentage (%)
Age group		
20 - 30 years	202	26.3
31 - 40 years	240	31.2
41- 50 years	123	16.0
51 - 60 years	105	13.7
Above 60 years	99	12.9
Religion		
Christianity	410	53.3
Islam	348	45.3
Traditional and others	11	1.4
Marital status		
Single	100	13.0
Married	619	80.5
Divorced	17	2.2
Widowed	33	4.3
Ethnic group		
Yoruba	718	93.4
Igbo	20	2.6
Hausa	17	2.2
Others	14	1.8
Zone		
Adeoyo Maternity	212	27.6
Moniya	54	7.0
Ogbomoso	153	19.9
Oyo	52	6.8
Ring Road	199	25.9
Saki	99	12.9

Source: Field Survey, 2019

Table 4.1 shows the age distribution of respondents, and the table reveals that more than half, 442(57.5%) of the respondents were youths between ages 20 – 40 years while the elderly above 60 years of age were 99(12.9%). Thus the respondents were most active and capable of understanding most questions and providing necessary responses. It also reflects the social and biological components of the health challenges associated with youths of reproductive ages. The age distribution is more graphically illustrated in figure 4.1:

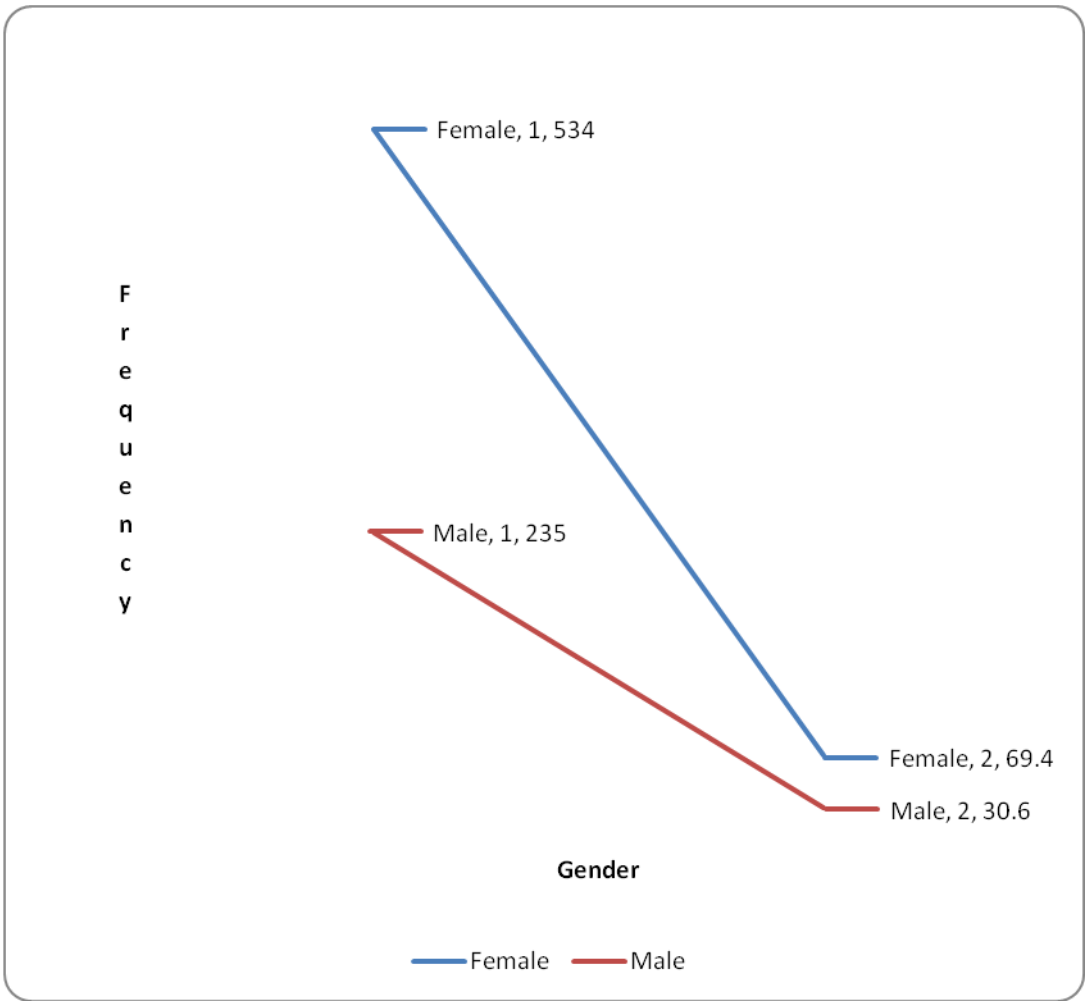


Figure 4.1: Gender Distribution of Respondents

Figure 4.1 further indicates the gender distribution of respondents, which revealed that women patronised pharmacies than men. The gender of individuals that responded to the questionnaire on public healthcare facilities in Oyo state indicated that females were about 70.0% while males were approximately 30.0%.

Table 4.1 further reveals the distribution of respondents along the religious line with 53.3% Christians, 45.0% Muslims and only 1.4% were African Traditional Religion worshippers. Religion is an essential factor in health decision making amongst the average Nigerian family. It influences adherence to prescriptions and thus may impact occurrences of medication problems. For instance, the Muslims believe in Prophetic medicine, a form of herbal preparation considered divine and more effective for all ailments. In contrast, some Christians believe in prayers and certain 'holy water or anointed oil' as medication for all diseases, especially chronic ones. Some of the participants corroborated this during interviews:

> Some of our women often seek other ways of caring for their children. Some visit the church for divine intervention through prayers, fasting and anointing oil. There exist some ailments that may defy modern medication, but with anointing oil, we can ward off the hands of the devil **(IDI/Female Patient/Adeoyo/December 2019)**

> Islam allows us to use medications that do not contain prohibited items like alcohol and stimulant in their raw form, which could cause more destruction to human systems. We as Muslims are more careful in our choice of health facility **(IDI/ Male Patient/Saki/December 2019)**

The marital status of the respondents revealed that most (80.5%) were married and cohabiting, with just 4.3% widowed, and only a few (2.2%) were divorcees or separated from their spouses. This indicated that most respondents had support from their spouses, affecting their socioeconomic status and health-seeking behaviours.

Since the research was conducted in both urban and rural communities in Oyo state, most (93.4%) respondents were Yoruba, with few others from major tribes like Igbo

(2.6%) and Hausa (2.2%). Other ethnic minorities like Ijaws and Igedes accounted for about 2.0% of the respondents. The table further shows the distribution of the respondents along different health zones in Oyo state selected for this research. The table indicates that the highest number of respondents (27.6%) was selected from Adeoyo Maternity, in Ibadan main city health zone. In contrast, the least (6.8%) respondents were selected from State Hospital Oyo town in Oyo Central Senatorial zone.

Table 4.2: Socio-Economic Characteristics of Respondents

Characteristics	Frequency (N=769)	Percentage (%)
Highest level of education		
No formal education	60	7.8
Primary	157	20.4
Secondary	302	39.3
Tertiary	250	32.5
Occupation		
Unemployed	72	9.4
Civil servant	447	58.1
Housewife	22	2.9
Self-employed	96	12.5
Traditional ruler/politician	4	0.5
Religious leader	7	0.9
Teaching/lecturing	70	9.1
Others	51	6.6
Respondents' estimated monthly income (₦)		
less than 20000	249	32.4
20001 – 40000	264	34.3
40001 – 60000	139	18.1
Above 60001	117	15.2
Spouse's estimated income per month (₦)		
less than 20000	112	14.6
20001 – 40000	209	27.2
40001 – 60000	221	28.7
Above 60001	227	29.5

Source: Field Survey, 2019

A larger percentage (71.8%) of those who patronised the pharmacies had secondary and tertiary education. In contrast, only about 8.0% had no formal education. This perhaps was because the research was conducted in hospital settings (hospital-based research). Some elderly illiterate patients were often accompanied to the pharmacies by their educated relatives to help them understand their prescriptions. This was justified by the explanation given by one of those interviewed:

> There is often the need to accompany mama to the pharmacy to grasp the prescription properly. This is better to avoid further complications which may arise from misuse of drugs, such as taking an overdose. And unfortunately, some of these people (pharmacists) are not always patient with the elderly because of the long people on the queue which they have to attend to **(IDI/Male Relative/Adeoyo/ December 2019)**

> *Hmm! Papa cannot even walk on his own and often requires assistance because of his sickness. He always requires some routines. His feeding has specific timing, and food type*
> **(IDI/Male Relative/Ogbomosho/ December 2019)**

Occupationally, most respondents who patronised the hospitals worked and thus had the economic capacity to pay for drugs. A little above average (58.1%) were civil servants, while only about 9.0% were unemployed, and very few (0.5%) were high profile politicians and traditional rulers. The estimated monthly income intervals of the respondents showed that about 85.0%, earned less than ₦60,000:00, in which the largest percentage of respondents, about 34.0%, earned between ₦20,000 and ₦40,000, while only a few, about 15.0%, earned above ₦60,000:00. The estimated earnings of respondents' spouses showed that only about 30.0% earned above ₦60,000:00 monthly. This influenced the households' financial status and purchasing power. It affected their health decisions as related to purchasing recommended drugs. These excerpts from IDIs corroborated this:

> *One of the attractions to a public health facility is the low cost of drugs. Most of our medications are subsidised. The cost of some drugs may be higher*
> *when purchased outside hospital pharmacy* **(IDI/Male Patient / Ring Road /December 2019)**

Thank God for my very supportive husband. The costs of mama's drug are somehow high. This may be due to the special nature of drugs. You know the medications required for managing HBP and diabetes together can be killing..... **(IDI/Female Patient/Saki/December 2019)**

Table 4.3 Social Characteristics of IDI and KII Participants

Characteristics	IDI	KII	Total
Gender			
Female	14	8	22
Male	10	4	14
Age group (in years)			
20-30	-	-	-
31-40	4	6	10
41-50	12	4	16
51-60	6	2	08
Above 60	2	-	2
Education			
No formal education	2	-	2
Primary	4	-	4
Secondary	10	-	10
Tertiary	08	12	20
Occupation			
Unemployed	2	-	2
Civil servant (including pharmacists)	6	16	22
Housewife	2	-	2
Self-employed/Artisan	10	-	10
Traditional Rulers	-	-	-
Religious leader	-	-	-
Teaching	4	-	4
Other	-	-	-
Religion			
Islam	10	5	15
Christianity	12	7	19
Traditional religion	2	-	2
Location/ Zone			
Adeoyo	6	2	8
Moniya	3	1	4
Ogbomoso	3	1	4
Oyo	3	1	4
Ring Road	6	2	8
Saki	3	1	4
Directors	Nil	4	4
Total Number of Participants	**24**	**12**	**36**

Source:FieldSurvey,2019

Table 4.3 shows the social characteristics of participants in interviews held with patients, their relatives and pharmacists. The selection of participants was made to reflect as much as possible gender balancing to be as representative as possible. In-depth interviews were held with patients and their relatives who assisted them in buying drugs at the hospital pharmacies. They were the direct clients to the pharmacies. The number of females interviewed as clients were still more than the males. This reflected the rate of patronage by gender as more (about 57.0%) women patronized the pharmacies more than men for various medications for themselves, their children or other family members.

The distribution still reflected similar results in the demography of respondents for quantitative data. Half (50.0%) of the participants were civil servants, which included pharmacists interviewed as Key informants since they attended to the patients and their relatives directly in medication/ dispensing of drugs. Most (about 95.0%) of the participants were within the age range of 31-60 years and capable of providing the needed information. The civil servants amongst them were still in active service.

The distribution of pharmacists interviewed was based on the availability of pharmacists in most hospitals selected. It was almost a total enumeration when the gender factor was considered in selecting pharmacists for KII in most hospitals. There was an even (50.0%) distribution of pharmacists selected with two pharmacists selected purposively from each of the selected hospitals, with gender balancing not to confer undue advantage on any location. Three pharmacists in the directorate cadre responsible for policy implementation were purposively selected. In all, a total of Thirty-six interviews were held, from which twenty-four IDIs were conducted and twelve KIIs were conducted

4.2 Respondents Patronage of Pharmaceutical Services

The study attempted to obtain information on the patronage of pharmacies in health institutions. Findings are presented in Table 4.4.

Table 4.4: Respondents Rate of Patronage of Pharmaceutical Services

Characteristics	Frequency (N=769)	Percentage (%)
Number of Visits to Pharmacy in the Previous Year		
1 -2	200	26.0
3 – 4	385	50.1
5 – 6	119	15.5
Above 6	65	8.5
Health Facility Patronised		
Government hospital	649	84.4
Private clinic	96	12.5
Traditional hospital	7	0.9
Combination	17	2.2
Regularity of use of Pharmacy Units in Public Health Institutions		
Very often	138	17.9
Often	322	41.9
Sometimes	244	31.7
Occasional	55	7.2
Not at all	10	1.3

Source: Field Survey, 2019

Table 4.4 reveals the number of times respondents visited hospital pharmacies in the previous year before the commencement of this research, the majority (76.1%) of the respondents claimed that they had patronised the Pharmacies between 1 and 4 times while only a few (8.5%) respondents claimed to have visited the pharmacy more than six times during the previous year. Thus most of the respondents only visited the pharmacies an average of once in a quarter of the year.

The Table further reveals that most (84.4%) of the respondents patronised government hospitals, primarily civil servants. In comparison, only a few (12.5%) used private healthcare facilities, with very few (2.2%) combining patronage of different health facilities.

The regularity of use of government hospitals' pharmacies, as presented table 4.4, further shows that patronage of public health institutions was often by about 42.0% of the respondents. In contrast, only a few, just 7.2%, claimed to use public health pharmacies occasionally**,** and very few (3.8%) stated that they did not patronise public hospitals' pharmacies at all in the previous year. Patients adduced various reasons on why they visited public health institutions. Some of these reasons were economic and based on perceptions of efficiency and effectiveness. The opinions of some of those interviewed affirmed these motivating factors to patronise public hospitals:

> I am often attracted to public hospitals because of all types of professionals, most of who cannot be found in private hospitals. The hospitals also have some specialised medical equipment and facilities to treat some chronic diseases. The cost of drugs available in the pharmacy is relatively cheaper when compared to those in the private clinics **(IDI/Male Relative/Adeoyo/December 2019)**
>
> Another user of public health facility talked about proximity and influence of family economic status: I visit the public hospital as regularly as the need arises. This is because of its nearness to my house. It is just a stone throw. And I am also

> familiar with most of the workers there **(IDI/Female Patient/Adeoyo/December 2019)**

> As for me, the hospital is the only major health facility that can effectively handle my mother's health challenges at the least cost possible. The family cannot afford the high cost of medication elsewhere. So we prefer to buy our drugs from the hospital for mama **(IDI/Female Relative/Saki/ December 2019)**

However, amongst those who refused to patronise public hospitals, there were complaints amongst which are presented here:

> Honestly, I won't go to that hospital if I have my way. The workers are very unfriendly and are not always friendly. Sometimes the prescribed drugs are said not to be available, especially some strong antibiotics and specialised drugs **(IDI/Female Patient/Ogbomoso/ December 2019)**

4.2.1 Respondents' Characteristics and Patronage of Pharmaceutical Services in Public Hospitals

The study attempted to examine the influence of socio-demographic characteristics of respondents like age, gender, marital status and religion on the rate of patronage of pharmacies in public hospitals. The impact of socio-economic characteristics of respondents such as level of education, occupation, earned income and income of spouse on the rate of patronage of public hospitals was also examined. These serve as means of determining the social and financial status of respondents. The socio-economic characteristics determine the disposable income available for healthcare, especially to take care of the cost of medication.

Table 4.5: Relationship between Age and Religion of Respondents and Patronage of Pharmacies in Public Hospital

Characteristics	Age (N=769)						
Number of visits to a pharmacy in the previous year	**20-30**	**31-40**	**41-50**	**51-60**	**61-70**	**70 and above**	**Total**
1 – 2	66(33.0)	59(29.5)	30(15.0)	23(11.5)	16(8.0)	6(3.0)	200(26.0)
3 – 4	98(25.5)	133(34.5)	58(15.1)	53(13.8)	33(8.6)	10(2.6)	385(50.1)
5 – 6	28(23.5)	34(28.6)	24(6.2)	16(13.4)	13(10.9)	4(3.4)	119(15.5)
Above 6	10(15.4)	14(21.5)	11(16.9)	13(20.0)	8(12.3)	9(13.8)	65(8.5)
Chi-Square Value (X^2) =35.683 P-Value =0.002*							
Health Facility patronised							
Government hospital	164(25.3)	204(31.4)	102(15.7)	91(14.0)	62(9.6)	26(4.0)	649(84.4)
private clinic	31(3.2)	28(29.2)	16(16.7)	13(13.5)	6(6.3)	2(2.1)	96(12.5)
Traditional hospital	2(28.6)	2(28.6)	2(28.6)	0(0.0)	1(14.3)	0(0.0)	7(0.9)
Combination	5(29.4)	6(35.3)	3(17.6)	1(5.9)	1(5.9)	1(5.9)	17(2.2)
Chi-Square Value (X^2) =7.137 P-Value =0.954							
Rate of use of Public Health Institutions							
Very often	31(22.5)	41(29.7)	24(17.4)	21(15.2)	16(11.6)	5(3.6)	138(17.9)
Often	83(25.8)	110(34.2)	110(34.2)	39(12.1)	28(8.7)	12(3.7)	322(41.9)
Sometimes	70(28.7)	71(29.1)	71(29.1)	36(14.8)	20(8.2)	10(4.1)	244(31.7)
Occasional	16(29.1)	13(23.6)	13(23.6)	7(12.7)	5(45.5)	2(3.6)	55(7.2)
Not at all	2(20.0)	5(50.0)	0(0.0)	2(20.0)	1(10.0)	0(0.0)	10(1.3)
Chi-Square Value (X^2) =11.264 P-Value =0.939							

	Religion (N=769)				
Number of visits in the previous year	**Christianity**	**Islam**	**Traditional**	**Other**	**Total**
1 – 2	113(56.5)	86(43.0)	1(0.5)	0(0.0)	200(26.0)
3 – 4	203(52.7)	176(45.7)	5(1.3)	1(0.3)	385(50.1)
5 – 6	64(53.8)	51(42.9)	2(1.7)	2(1.7)	119(15.5)
Above 6	30(46.2)	35(53.8)	0(0.0)	0(0.0)	65(8.5)
Chi-Square Value (X^2) =10.725, P-Value =0.029*					
Health Facility patronised					
Government hospital	356(54.9)	286(44.1)	5(0.8)	2(0.3)	649(84.4)
private clinic	39(40.6)	55(57.3)	2(2.1)	0(0.0)	96(12.5)
Traditional hospital	2(28.6)	4(57.1)	0(0.0)	1(14.3)	7(0.9)
Combination	13(76.5)	3(17.6)	1(5.9)	0(0.0)	17(2.2)
Chi-Square Value (X^2) =52.620, P-Value =0.000*					
Rate of use of Public Health Institutions					
Very often	69(50.0)	67(48.6)	1(0.7)	1(0.7)	138(17.9)
Often	177(55.0)	141(43.8)	4(1.2)	0(0.0)	322(41.9)
Sometimes	118(48.4)	123(50.4)	1(0.4)	2(0.8)	244(31.7)
Occasional	38(69.1)	15(27.3)	2(3.6)	0(0.0)	55(7.2)
Not at all	8(80.0)	2(20.0)	0(0.0)	0(0.0)	10(1.3)
Chi-Square Value (X^2) =20.650, P-Value =0.056					

Source: Field Survey, 2019 *Significant

Table 4.5 reveals that age and religion significantly influenced the number of visits, with most people aged 20-40 being the ones that patronised the pharmacies between 1-4 times in the previous year before the research. The table further reveals that religion affected the number of visits and the type of healthcare facility that respondents patronised. This is understandable as religion influences people's ways of life.

The influence of age and religion on the number of visits to pharmacy showed the impact of cultural practice in household health decisions. The effect of age perhaps pointed that the respondents were more active and exposed to modern knowledge of drugs therapy. The young ones seemed to prefer the use of modern drugs, as explained here:

> I don't think one should engage in self-medication anymore these days. We hear every time that some diseases can present similar symptoms and yet have different levels of fatality. For instance, the symptoms of Lassa fever, I learnt, are not different from that of malaria at the early stage. So isn't it better to visit the hospital and be treated by doctors and collect drugs from pharmacists for the actual disease **(IDI/Male Patient/Adeoyo/December 2019)**

Another young man opined that:

> In these days of complex diseases and fake drugs, I think it is better to be attended to by qualified personnel and buy your medications from hospital pharmacies, which are not motivated only by profit-making from sales of drugs **(IDI/Male Patient/Ring Road/December 2019)**

Most people that visited hospitals regularly (very often and often)were somehow influenced by their religious beliefs as stated here:

> In some cases when you have a particular type of ailment it is better to combine visits to a modern health facility with the use of herbal concoctions. This will allow for a complete and more effective healing process. I also believe in taking holy water as I am a member of a white garment church **(IDI/Female Patient/Ogbomoso/December 2019)**

Table 4.6: Relationship between Gender, Marital Status of Respondents and Patronage of Pharmacies in Public Hospitals

Characteristics	Gender (N=769)		
Number visits to Pharmacy in the previous year	**Female**	**Male**	**Total**
1 – 2	143(71.5)	57(28.5)	200(26.0)
3- 4	258(67.0)	127(33.0)	385(50.1)
5– 6	89(74.8)	30(25.2)	119(15.5)
Above 6	44(67.7)	21(32.3)	65(8.5)
Chi-Square Value (X^2) =3.167, P-Value =0.036			
Health Facility patronised			
Government hospital	452(69.6)	197(30.4)	649(84.4)
private clinic	68(70.8)	28(29.2)	96(12.5)
Traditional hospital	3(42.9)	4(57.1)	7(0.9)
Combination	11(64.7)	6(35.3)	17(2.2)
Chi-Square Value (X^2) =2.611, P-Value =0.456			
Rate of use of Public Health Institutions			
Very often	96(69.6)	42((30.4)	138(17.9)
Often	231(71.7)	91(28.3)	322(41.9)
Sometimes	171(70.1)	73(29.9)	244(31.7)
Occasional	29(52.7)	26(47.3)	55(7.2)
Not at all	7(70.0)	3(30.0)	10(1.3)
Chi-Square Value (X^2) =8.091, P-Value =0.088			

	Marital status (N=769)							
Number visits to Pharmacy in the previous year	**S**	**C**	**M**	**SE**	**D**	**Widow**	**WE**	**Total**
1 – 2	36(18.0)	2(1.0)	150(75.0)	3(1.5)	0(0.0)	9(4.5)	0(0.0)	200(26.0)
3- 4	41(10.6)	4(1.0)	318(82.6)	9(2.3)	1(0.3)	11(2.9)	1(0.3)	385(50.1)
5– 6	14(11.8)	2(1.7)	95(79.8)	2(1.7)	0(0.0)	6(5.0)	0(0.0)	119(15.5)
Above 6	9(13.8)	1(1.5)	47(72.3)	2(3.1)	0(0.0)	4(6.2)	2(3.1)	65(8.5)
Chi-Square Value (X^2) =25.289, P-Value =0.011*								
Health Facility patronised								
Government hospital	79(12.2)	8(1.2)	523(80.6)	11(1.7)	0(0.0)	25(3.9)	3(0.5)	649(84.4)
private clinic	17(17.7)	1(1.0)	71(74.0)	3(3.1)	0(0.0)	4(4.2)	0(0.0)	96(12.5)
Traditional hospital	2(28.6)	0(0.0)	5(71.4)	0(0.0)	0(0.0)	0(0.0)	0(0.0)	7(0.9)
Combination	2(11.8)	0(0.0)	11(64.7)	2(11.8)	1(5.9)	1(5.9)	0(0.0)	17(2.2)
Chi-Square Value (X^2) =58.642, P-Value =0.000*								
Rate of use of Public Health Institutions								
Very often	21(15.2)	1(0.7)	107(77.5)	3(2.2)	0(0.0)	6(4.4)	0(0.0)	138(17.9)
Often	31(9.6)	7(2.2)	261(81.1)	6(1.9)	0(0.0)	14(4.3)	3(0.9)	322(41.9)
Sometimes	33(13.5)	1(0.4)	199(81.6)	5(2.1)	0(0.0)	6(2.5)	0(0.0)	244(31.7)
Occasional	13(23.6)	0(0.0)	36(65.5)	2(3.6)	1(1.8)	3(5.5)	0(0.0)	55(7.2)
Not at all	2(20.0)	0(0.0)	7(70.0)	0(0.0)	0(0.0)	1(10.0)	0(0.0)	10(1.3)
Chi-Square Value (X^2) =36.202, P-Value =0.05*								

Source: Field Survey, 2019 ***Significant**

Table 4.6 shows that respondents' gender and marital status influenced the number of times they visited hospital pharmacies. However, only marital status significantly influenced the choice of healthcare facility and rate of use public health facility. The marital status of respondents largely influenced all indicators of patronage. This reveals the influence of the roles of significant others in decision making. It was an indication that household decisions are often jointly determined through consultations.

These findings also confirmed the position of one of those interviewed who attested to the household decision-making process. The husband often takes most decisions, especially on major issues like health and education. One such view is presented here:

> Ha! My husband decides on where we go to seek healthcare. He is responsible for financing the cost of medication when we are billed at the hospital. He is also responsible for paying the school fees of the children. I also support it if it is within my capacity (laughs). The man is the head of the home **(IDI/Female Patient/Ring Road/December 2019)**

A different explanation was offered by another female patient:

> As a married woman with children, if you do not patronise the hospital for your health problem, you will go there to care for your children. As a woman, I have my reproductive health challenges too. Men can always stay away from the hospital unless the situation is critical (**IDI/Female Patient/Ring Road/December 2019)**

Table 4.7 Relationship between Level of Education of Respondents and Patronage of Pharmacies in Public Hospitals

Characteristics	Highest Level of Education (N=769)					
Number of visits to Pharmacy in the previous year	**NE**	**Pry**	**Sec**	**Ter**	**Others**	**Total**
1 – 2	13(6.5)	45(22.5)	61(30.5)	75(37.5)	6(3.0)	200(26.0)
3- 4	25(6.5)	79(20.5)	145(37.7)	128(33.2)	8(2.1)	385(50.1)
5– 6	10(8.4)	25(21.0)	53(44.5)	29(24.4)	2(1.7)	119(15.5)
Above 6	12(18.5)	8(12.3)	27(41.5)	18(27.7)	0(0.0)	65(8.5)
Chi-Square Value (X^2) =24,572, P-Value =0.017*						
Health Facility patronised						
Government hospital	53(8.2)	139(21.4)	204(31.4)	240(37.0)	13(2.0)	649(84.4)
private clinic	6(6.3)	14(14.6)	38(39.6)	37(38.5)	1(1.0)	96(12.5)
Traditional hospital	1(14.3)	1(14.3)	3(42.9)	2(28.6)	0(0.0)	7(0.9)
Combination	0(0.0)	3(17.7)	5(29.4)	7(41.2)	2(11.7)	17(2.2)
Chi-Square Value (X^2) = 14.804, P-Value =0.252						
Rate of use of Public Health Institutions						
Very often	11(8.0)	45(32.6)	43(31.2)	37(26.8)	2(1.4)	138(17.9)
Often	26(8.1)	62(19.3)	93(28.9)	135(41.9)	6(1.9)	322(41.9)
Sometimes	20(8.2)	38(15.6)	95(38.9)	85(34.8)	6(2.5)	244(31.7)
Occasional	2(3.6)	10(18.2)	16(29.1)	25(45.5)	2(3.6)	55(7.2)
Not at all	1(10.0)	2(20.0)	3(30.0)	4(40.0)	0(0.0)	10(1.3)
Chi-Square Value (X^2) = 27.951, P-Value = 0.032*						

Source: Field Survey 2019

Key: NE - No Formal Education, Pry - Primary, Sec - Secondary, Ter - Tertiary,

Table 4.7 reveals that education significantly influenced the rate of patronage, precisely the number of visits and rate of use of Public health institutions. This confirms that most educated people value their health and often see the need to patronise public health institutions that are accessible and affordable.

According to some of those interviewed, most educated people patronised hospitals mainly because of their knowledge of health education. Some of such opinions are presented here:

> The educated elites have no excuse for not patronising hospitals. Moreover, some of them even have doctors as friends. They know more about the consequences of not patronising hospitals with well-trained healthcare professionals. They also have the money to pay for the bills **(IDI/Male Relative/Adeoyo/December 2019)**

Another person stated thus:

> As an educated person, I do not play with my health. I have learnt that health is wealth over a long period. I always have a monthly budget for health, just like I do for food and education. I know a healthy man is the one that works and creates wealth. And the public hospital has the facilities needed for good healthcare **(IDI/Male Patient/Ogbomoso/December 2019)**

Table 4.8: Relationship between Occupation of Respondents and Patronage of Pharmacies in Public Hospital

Characteristics	Occupation (N=769)								
Number of visits to Pharmacy in the previous year	**U**	**C**	**F**	**S**	**T**	**R**	**TL**	**O**	**Total**
1 – 2	27(13.5)	131(65.5)	3(1.5)	15(7.5)	0(0.0)	1(0.5)	18(9.0)	5(2.5)	200(26.0)
3 – 4	32(8.3)	219(56.9)	8(2.1)	53(13.8)	2(0.5)	3(0.8)	35(9.1)	33(8.6)	385(50.1)
5 – 6	9(7.6)	66(55.5)	8(6.7)	16(13.4)	2(1.7)	2(1.7)	9(7.6)	7(5.9)	119(15.5)
Above 6	4(6.2)	31(47.7)	3(4.6)	12(18.5)	0(0.0)	1(1.5)	8(12.3)	6(9.2)	65(8.5)
Chi-Square Value (X^2) =39.131, P-Value =0.009*									
Health Facility patronised									
Government hospital	65{10.0)	82(12.6)	18(2.8)	376(57.9)	4(0.6)	4(0.6)	63(9.7)	37(5.7)	649(84.4)
private clinic	7{7.3)	11(11.5)	3(3.1)	57(59.4)	0(0.0)	3(3.1)	6(6.2)	9(9.3)	96(12.5)
Traditional hospital	0(0.0)	1(14.3)	1(14.3)	4(57.1)	0(0.0)	0(0.0)	0(0.0)	1(14.3)	7(0.9)
Combination	0(0.0)	2(11.8)	0(0.0)	10(58.8)	0(0.0)	0(0.0)	1(5.9)	4(23.5)	17(2.2)
Chi-Square Value (X^2) = 25.424, P-Value =0.229									
Rate of use of Public Health Institutions									
Very often	11(8.0)	18(13.0)	6(4.3)	88(63.8)	1(0.7)	1(0.7)	5(3.5)	8(5.8}	138(17.9)
Often	40(12.4)	54(16.8)	8(2.5)	158(49.1)	2(0.6)	3(0.9)	33(10.2)	24(7.5)	322(41.9)
Sometimes	12(4.9)	18(7.4)	8(3.3)	164(67.2)	1(0.4)	2(0.8)	28(11.5)	11(4.5)	244(31.7)
Occasional	7(12.7)	5(9.1)	0(0.0)	34(61.8)	0(0.0)	1(1.8)	3(5.5)	5(9.1)	55(7.2)
Not at all	2(20.0)	1(10.0)	0(0.0)	3(30.0)	0(0.0)	0(0.0)	1(10.0)	3(30.0)	10(1.3)
Chi-Square Value (X^2) = 53.885, P-Value = 0.002*									

Source: Field Survey 2019*

Key: U - Unemployed, C - Civil Servant, F - Full-Time/Housewife, S - Self-Employed, T - Traditional ruler/Politician, R - Religious Leader, TL- **Teaching/Lecturing, O –Others**

According to Table 4.8, Patients' occupation is significantly related to the number of visits and use rate of public health institutions. This confirmed that occupation affected the inflow of income and thus available funds for procurement of drugs.

An opinion on the possible reason for the influence of occupation on the patronage of the public hospital was offered by the response to an interview with a relative of one of the patients who accompanied his father to the hospital revealed that:

> People employed in paid jobs often patronise hospitals regularly, especially civil servants. They are influenced by the people with whom they relate. Most self-employed people are always reluctant because of the waiting time, which they think will affect their businesses or trades **(IDI/Male Relative/Adeoyo/December 2019)**

Table 4.9: Relationship between Income of Respondents and their Spouses, and Patronage of Pharmacies in Public Hospitals

Characteristics	Respondents' Income of Respondents (N=769						
Number of visits to hospitals in the previous year	**A**	**B**	**C**	**D**	**E**	**F**	**Total**
1 – 2	60(30.0)	70(35.0)	41(20.5)	16(8.0)	3(1.5)	10(5.0)	200(26.0)
3- 4	121(31.4)	138(35.8)	68(17.7)	40(10.4)	11(2.9)	7(1.8)	385(50.1)
5– 6	46(38.7)	35(29.4)	18(15.1)	10(8.4)	7(5.9)	3(2.52)	119(15.5)
Above 6	22(33.9)	21(32.3)	12(18.5)	3(4.6)	4(6.2)	3(4.6)	65(8.5)
Chi-Square Value (X^2) =18.323, P-Value =0.024							
Health Facility patronised							
Government hospital	217(33.4)	214(33.0)	120(18.5)	60(9.2)	17(2.6)	21(3.2)	649(84.4)
private clinic	24(25.0)	42(43.8)	15(15.6)	8(8.3)	5(5.2)	2(2.1)	96(12.5)
Traditional hospital	5(71.4)	0(0.0)	1(14.3)	0(0.0)	1(14.3)	0(0.0)	7(0.9)
Combination	3(17.6)	8(47.1)	3(17.6)	1(5.9)	2(11.8)	0(0.0)	17(2.2)
Chi-Square Value (X^2) =23.105, P-Value =0.082							
Rate of use of Public Hospitals							
Very often	33(23.9)	46(33.3)	37(26.8)	14(10.1)	3(2.2)	5(3.6)	138(17.9)
Often	122(37.9)	95(29.5)	55(17.1)	29(9.0)	14(4.3)	7(2.2)	322(41.9)
Sometimes	75(30.7)	94(38.5)	40(16.4)	20(8.2)	7(2.9)	8(3.3)	244(31.7)
Occasional	15(27.3)	23(41.8)	7(12.7)	6(10.9)	1(1.8)	3(5.5)	55(7.2)
Not at all	4(40.0)	6(60.0)	0(0.0)	0(0.0)	0(0.0)	0(0.0)	10(1.3)
Chi-Square Value (X^2) =28.609, P-Value = 0.096							

Number of visits to hospitals in the previous year	Spouse's Income (N=769)							
	A	**B**	**C**	**D**	**E**	**F**	**G**	**Total**
1 – 2 times	24(12.0)	67(33.5)	53(26.5)	9(4.5)	2(1.0)	8(4.0)	37(18.5)	200(26.0)
3 – 4 times	61(15.8)	95(24.7)	114(29.6)	23(6.0)	15(4.0)	8(2.1)	69(17.9)	385(50.1)
5 – 6 times	17(14.3)	34(28.6)	38(31.9)	9(7.6)	5(4.2)	4(3.4)	12(10.1)	119(15.5)
Above 6 times	10(15.4)	13(20.0)	16(24.6)	4(6.2)	2(3.1)	2(3.1)	18(27.7)	65(8.5)
Chi-Square Value (X^2) =22.588, P-Value =0.020								
Rate of use of Public Hospitals								
Government hospital	99(15.3)	172(26.5)	184(28.3)	35(5.4)	18(2.8)	18(2.8)	123(18.9)	649(84.4)
private clinic	10(10.4)	31(32.3)	33(34.4)	7(7.3)	4(4.2)	3(3.1)	8(8.3)	96(12.5)
Traditional hospital	1(14.3)	2(28.6)	1(14.3)	1(14.3)	0(0.0)	0(0.0)	2(28.6)	7(0.9)
Combination	2(11.8)	4(23.5)	3(17.6)	2(11.8)	2(11.8)	1(5.9)	3(17.6)	17(2.2)
Chi-Square Value (X^2) = 18.795, P-Value =0.040								
Rate of use of Public Hospitals								
Very often	22(15.9)	39(28.3)	41(29.7)	8(5.8)	3(2.2)	2(1.5)	23(16.7)	138(17.9)
Often	55(17.1)	84(26.1)	88(27.3)	15(4.7)	11(3.4)	9(2.8)	60(18.6)	322(41.9)
Sometimes	28(11.5)	68(27.9)	74(30.3)	17(7.0)	7(2.9)	8(3.3)	42(17.2)	244(31.7)
Occasional	5(9.1)	16(29.1)	15(27.3)	4(7.3)	2(3.6)	3(5.5)	10(18.2)	55(7.2)
Not at all	2(20.0)	2(20.0)	3(30.0)	1(10.0)	1(10.0)	0(0.0)	1(10.0)	10(1.3)
Chi-Square Value (X^2) = 12.746, P-Value = 0.097								

Source: Field Survey, 2019

Key: A - Less than ₦20000, B - ₦20001- ₦40000, C - ₦40001-₦60000, D - ₦60001-₦80000, E - N80001-₦100000, F - ₦100000 above, G - I Don't Know

However, further analysis of the influence of income on patronage reveals that respondents' income only significantly affected the number of hospital visits. The table further reveals that spousal income added to the financial strength of the patients and thus was significant in determining the patronage of hospitals in terms of visits to pharmacies and choice of health facility. An expression justified this by one of those who were interviewed concerning patronage of the healthcare facility as thus:

> Since Yoruba will say, 'good cook requires sufficient fund', the sources through which one gets money to pay the cost of medication in a pharmacy is essential. People who have other people assisting them will patronise the hospitals because they can quickly pay their bills. Those who have no one to assist them will often look for where they can get cheap treatment or patronise drugs' vendors **(IDI/Female Patient/Saki/December 2019)**

> Single mothers and widows who always pay their bills alone will look for other means of healthcare such as buying over the counter drugs and using herbal mixtures since they have no one to assist in the cost of medication. Most married women can rely on their husbands' income which will guarantee them access to good healthcare **(IDI/Female Patient/Ogbomoso/ December 2019)**

4.3 Respondents' Awareness of the Roles of Pharmacists in Medication Therapy Management

The research obtained information on awarness of roles of pharmacies by patients (in-patients and out-patients) who have been patronising pharmacies in public health institutions in Oyo state. Respondents were asked if they were aware that pharmacists

played significant roles in MTM and how they became aware. All the respondents were aware that pharmacists played some roles in medication therapy. However, their level of awareness varied. These responses are presented in figure 4.2

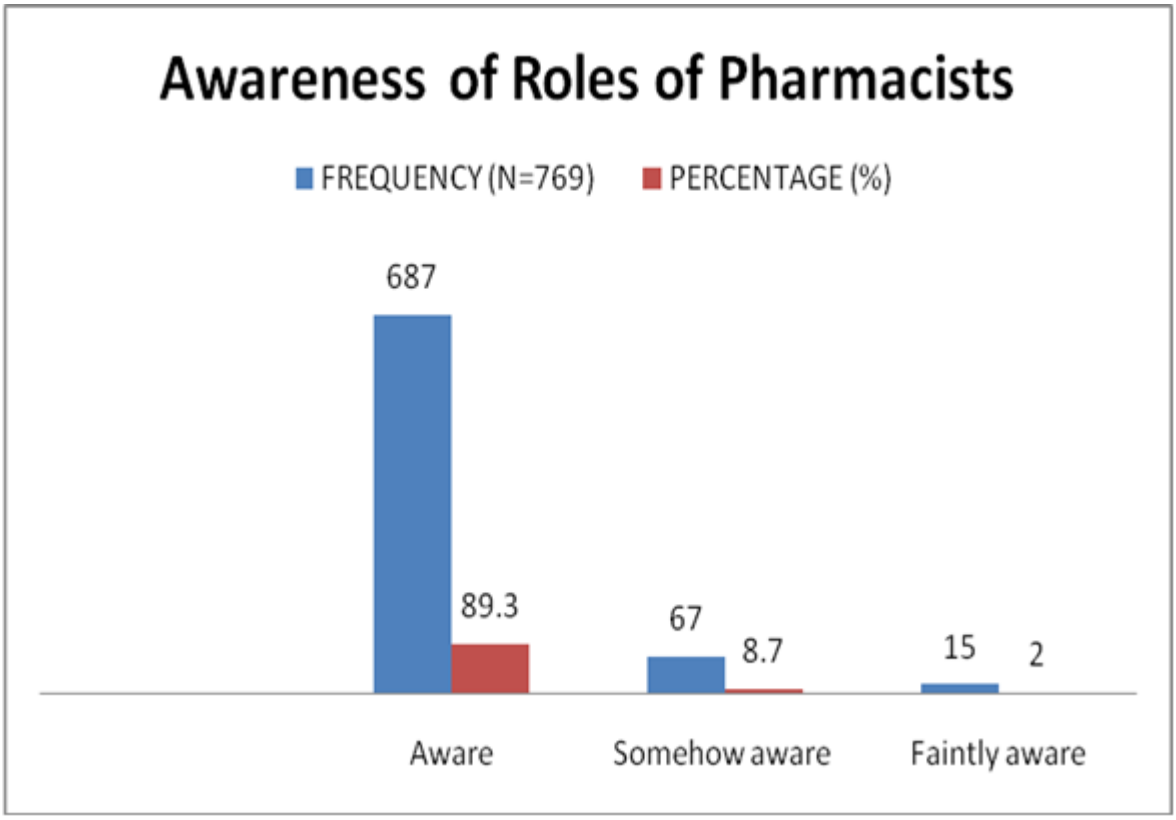


Figure 4.2: Level of Awareness of the Roles of Pharmacists

Figure 4.2 shows the level of awareness of the roles of pharmacists in secondary public hospitals, with most (89.3%) respondents being intensely aware of the existence of pharmacy units in most hospitals they patronise to purchase drugs. Only a few (about 2.0%) claimed to be faintly aware of the location of pharmacies and the roles of pharmacists in public hospitals. Moreover, these were likely those whose prescriptions were purchased on their behalf by third parties.

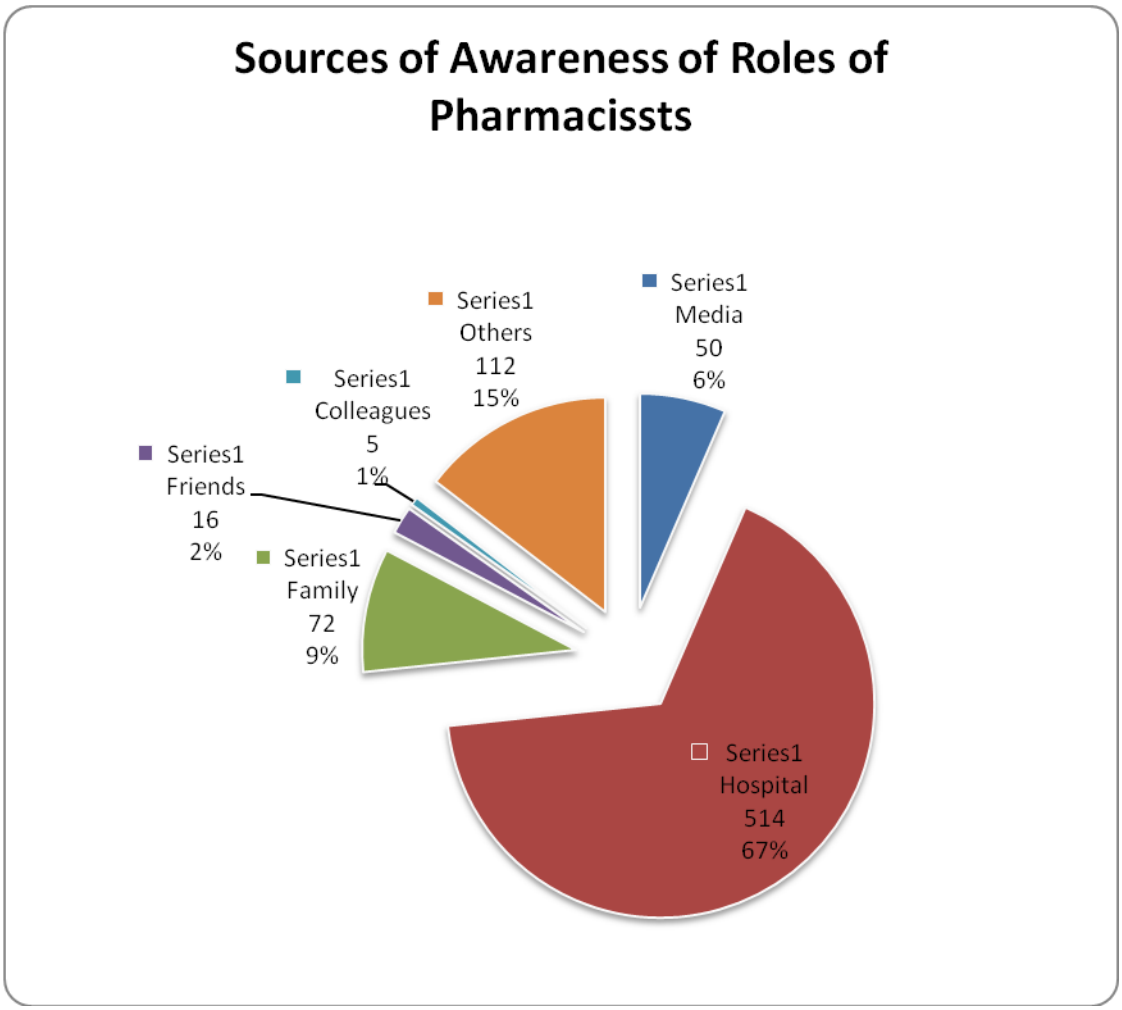


Figure 4.3: Sources of Awareness of the roles of Pharmacists in Medication Therapy Management

The study further identified the primary source through which the respondents became aware of the roles played by pharmacists in medication therapy. This is presented as a form of a pie chart in figure 4.3, where most, about 67.0%, respondents claimed to know about the roles of pharmacists only when they started patronising the hospitals for medical attention. Friends and colleagues were responsible for the awareness of a few, about 2.0% and 1.0% respectively. These categories of respondents claimed to have followed their friends and colleagues to the pharmacy units in the hospitals.

Colleagues' opinions influenced a few others while some others, about 15.0%, learnt from other sources such as neighbours and Non-Governmental Organisations involved in public health education.

4.4 Perceptions of Roles of Pharmacists in Public Hospitals

Perceptions of respondents who attended the Pharmacy units in public hospitals on the criticality of the roles played by pharmacists in the healthcare delivery system were obtained using structured questions on the Likert scale. The perceptions were considered necessary since they were the end-users of prescribed medications. Patients are critical to assessing the efficiency of the Medication Therapy Management team. They determine the health outcomes of MTM. The perceptions are presented in table 4.10

Table 4.10: Respondents' Perception of Roles of Pharmacists in Medication Therapy Management in Secondary Health Care Facilities.

Perception indicators	Knowledge (N=769)		
	Low	Average	High
1. Pharmacists merely dispense drugs	322(41.9)	76(9.9)	371(48.2)
2. Pharmacists are mere appendages of physician	237(30.8)	127(16.5)	405(52.7)
3. Pharmacists are experts on drugs	23(3.0)	28(3.6)	718(93.4)
4. Pharmacists are an integral part of the health system	27(3.5)	28(3.6)	714(92.8)
5. Pharmacists are well trained to meet medication needs	54(7.0)	41(5.3)	674(87.7)
1. Pharmacists are always consulted before a final decision on patients' medication	664(86.3)	58(7.5)	47(6.1)
7. Pharmacists provide information to patients on drugs' use	38(4.9)	32(4.2)	699(91.0)
8. As an expert, pharmacists often answer most drug-related question	366(47.6)	32(4.2)	371(48.2)
9. Pharmacists review drugs' prescriptions before dispensing	699(90.9)	30(3.9)	40(5.2)
10. Pharmacists provide drugs education before dispensing	664(86.3)	33(4.3)	72(9.3)
11. Pharmacist check prescription for appropriateness of dose, regimens and compatibility	94(12.2)	98(12.7)	577(75.0)
12. Pharmacists modify prescribed drugs	593(77.1)	57(7.4)	119(15.5)
13. Pharmacists are responsible for medication errors	410(53.4)	70(9.1)	289(27.6)
14. Pharmacists keep records of patients' ADEs/MRP	657(85.4)	19(2.5)	93(12.1)
15. Pharmacists provide information to patients on drugs' application to chronic diseases	40(5.2)	48(6.2)	681(88.6)
16. Pharmacists have access to or keep patients medication records, especially chronic ailments	631(82.1)	58(7.5)	80(10.4)
17. Pharmacists often have access to laboratory data of patients	416(54.1)	122(15.9)	231(30.0)
18. Pharmacists should always be part of a multidisciplinary team on Medication Therapy Management (MTM)	36(4.8)	63(8.2)	670(87.1)
19. Involvement of Pharmacists in MTM will enhance improved health outcomes for patients	38(4.9)	65(8.5)	666(86.6)
20. Involvement of pharmacists in MTM will reduce incidents of ADEs/MRP	46(6.0)	144(18.8)	579(75.3)

Source: Field Survey, 2019

Table 4.10 shows respondents' perception of the roles of pharmacists in medication therapy management in secondary health care facilities, using a 20-items Likert scale. The indicators focused on the public opinion of the roles of pharmacists, relationship with physicians, sufficiency, involvement in Medication Therapy teams, roles in prevention and management of Adverse Drugs' Reactions, access to medical files of patients, their roles in the provision of health education to patients on medication and possible effects on overall health outcomes.

Respondents' perception of the roles of pharmacists in medication therapy management showed that almost half (48.2%) of those interviewed perceived the pharmacists as mere dispensers of drugs. Pharmacists were not well respected as experts in medication. About an average (52.7%) of the respondents believed that pharmacists were mere appendages of physicians. Though most (93.4%) of the respondents acknowledged that pharmacists had the expertise in the management of drugs, the majority, 664(86.3%), of the respondents opined that there was no need for the pharmacists to be consulted by the physicians who often took sole-decisions on patients' medication needs. Only a few (5.2%) of the respondents believed that pharmacists reviewed prescriptions before dispensing, as many people still saw that as the exclusive function of medical doctors.

There was insufficient knowledge (10.4%) of whether pharmacists could keep patients' medication records, while only 30.0% of the respondents agreed on the need for pharmacists to keep laboratory records. However, the majority (87.1%) of the respondents agreed that pharmacists are well trained to meet patients' medication needs and should be part of MTM, believing it would enhance health outcomes. In comparison, the majority (75.3%) agreed that it would ensure medication safety by reducing cases of ADEs.

A patient interviewed at the General hospital Moniya on whether pharmacist can alter prescription stated thus:

> If there is a problem with the use of drugs, e.g. side effects, they (pharmacist) ask us to go back to the doctor to complain to change the drugs to another one. They will not change the drugs

> unless the doctor changes them and signs. They sometimes follow to discuss with the doctor **(IDI/Male Patient/Moniya/December 2019)**

On medication education, a more significant proportion of the respondents, 664(86.3%), affirmed that pharmacists guided the patients on drugs use before dispensing. However, the respondents did not hold the Pharmacists responsible for Adverse Drugs Effects. Thus a Majority (86.30%) did not accept that pharmacists educate the patients more about drugs before dispensing to reduce the incidence of ADEs.

Some varying opinions presented on the roles of pharmacists in educating patients are captured in a few of the responses presented here:

> Do the pharmacists provide other services other than dispensing drugs? They show love and explain how to use drugs to patients. The doctors only hand over the prescriptions for you to take to the pharmacy **(IDI/Male Relative/Saki/December 2019)**

However, a patient disagreed on the depth of medication education provided by the pharmacists.

> (Hissed) Which education? They count the pills into the nylon and draw the lines to show the number of times you need to take the drug and explain one. And if you don't hear once, they hardly explain again. Hen! On the misuse of drugs, they will only say, 'Mama, don't misuse the drugs oo! It is dangerous o! **(IDI/ Female Patient/Saki /December 2019)**

The perceptions of patients on the roles of Pharmacists are succinctly put by some of the responses of those interviewed.

> They (pharmacists) help to know the original and right drugs, and within the hospital, there is an advantage to us because it saves us from going outside the hospital to purchase drugs. Their primary role is (that) they make sure that we get well. They are responsible and behave well. And the drugs they sell are at moderate prices. While dispensing drugs, they show love

> and explain how to use medicines **(IDI/Male Patient/Moniya/December 2019)**

Another patient in Saki stated thus on her perceptions of the functions of pharmacists:

> They are selling drugs, and they explain how to use the drugs. They are experts in medicines but are not the ones prescribing the drugs. The Doctors prescribe the medications for pharmacists to dispense **(IDI/Male Patient/Saki/December 2019)**

On drugs prescriptions and health education, the patient stated that:

> It is pharmacists that explain the usage of Drugs and give proper direction. The doctors prescribe. Doctors play vital roles, and they can assist pharmacists. I believe Doctors are important **(IDI/Male Patient/ Saki/December 2019)**

Some others gave different opinions some of which are presented here:

> Ha!!! (Shouted). They are semi-gods on drugs. They are lifesavers. Nevertheless, they should not wait for us to ask questions before explaining to us. Sometimes they scribble the marks and tell you to follow the instructions as marked **(IDI/Male Patient/Moniya/December 2019)**

On fake drugs, inappropriate dispensing of drugs, and other medication errors, some of those interviewed stated that:

> They (the pharmacists) are expected to tell patients how to use the drugs as prescribed and the likely side effects. Then the consequences of not using the drugs as prescribed **(IDI/Female Patient/Ring Road/ December 2019)**

> Some of the pharmacists don't review the prescriptions. They dispense as if in a hurry. And when they disagree with the doctors, they behave as if they are arrogant to go and discuss with the doctors. They take their internal 'wahala' on the patients **(IDI/Female Patient/Moniya/ December 2019)**

> *...help us in identifying fake and original drugs. Our stress is reduced. The drugs are easily accessible. They sell cheaper and good drugs* ***(IDI/Female Patient/Saki/December 2019)***

However, some well-educated patients stated thus:

> Medical doctors should always listen to the opinions of pharmacists. There are instances when certain drugs have been found to have drug-drug interactions and thus shouldn't have been combined. The doctors often feel like 'lords' in the hospital **(IDI/Male Patient/Ring Road/ December 2019)**

> They (the pharmacists) should tell patients how to use the drugs as prescribed and the likely side effects. Then the consequences of not using the drugs as prescribed **(IDI/Female Patient/Ring Road/December 2019)**

On records keeping in respect of ADEs/MRPs, pharmacists were reported to have acted differently, as revealed by some interviewees:

> *Most records and treatments regarding side effects of drugs are reported to Doctors. Sometimes the Doctors will call the attention of pharmacists to this* ***(IDI/Female/Patient/Adeoyo/December 2019)***

> I once complained that my Dad was experiencing tiredness due to the drugs prescribed. I reported this at the pharmacy, and the pharmacist directed me back to the doctor. He even followed me and recommended another drug for Daddy, which turned out to be better **(IDI/Male Relative/Ring Road/December 2019)**

4.4.1: General Classification of Perceptions of Roles of Pharmacists in MTM

The study attempted to use the various responses by respondents to classify the pereceptions of patients about the roles of pharmacists in medication therapy in public health institutions. The perceptions of respondents on the roles of pharmacists were classified by adding the scores of the 20 items scale in the questionnaire which focused on perceived roles of pharmacists in MTM. Average scores obtained were used to

categorise patients'perceptions (knowledge) of pharmaceutical care services being performed. A percentage score <50.0% was categorised as lowperceived knowledge, 50–69% as moderate perceived knowledgeand a perceptions score >70% as high knowledge.

The distribution is presented in pictorial form to show the different levels of knowledge of the roles of pharmacists as perceived by the respondents. This is illustrated in figure 4.4

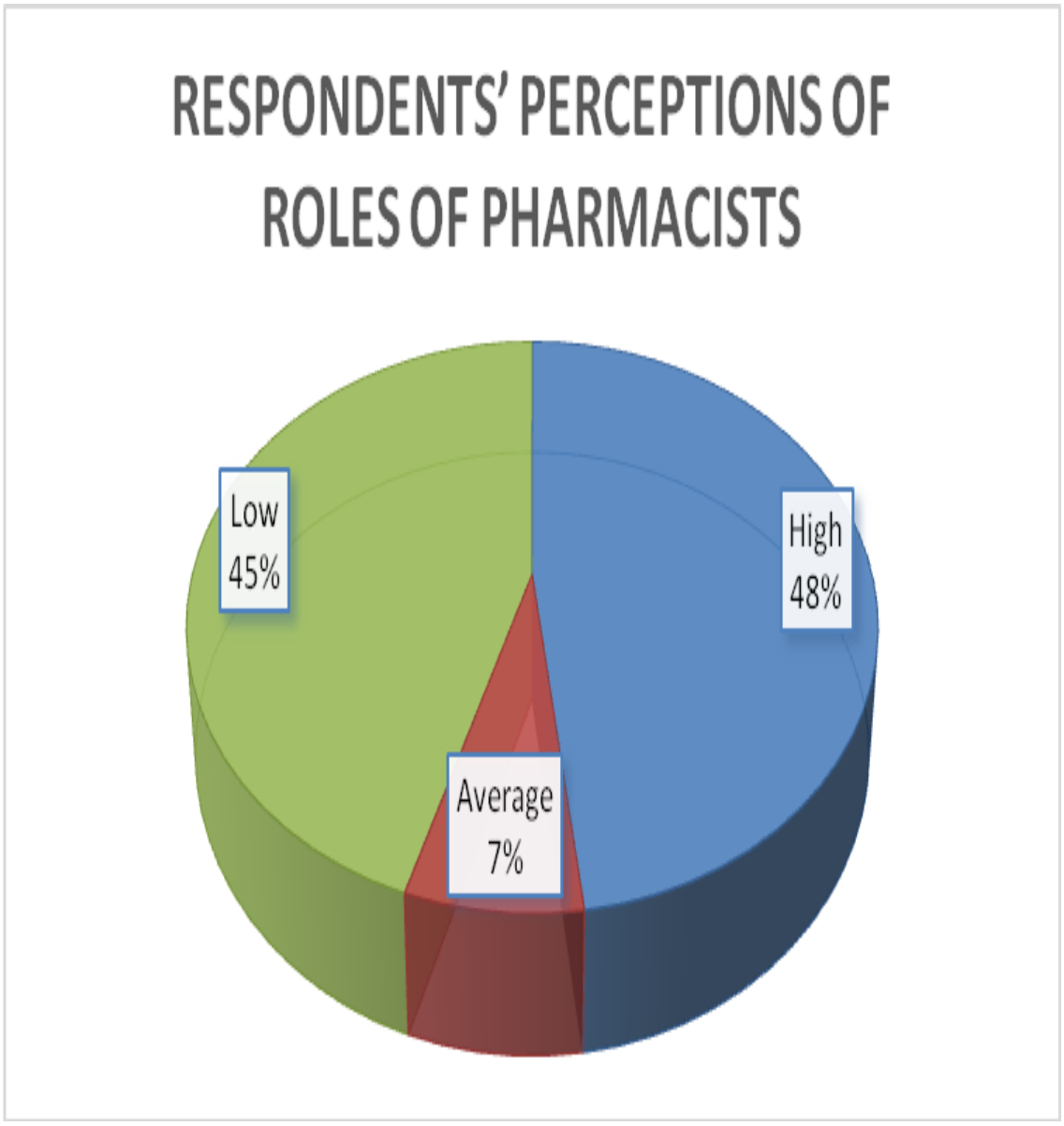


Figure 4.4: Distribution of Respondents' Perception of the Roles Pharmacists

The classification of respondents' general perceptions showed that almost half (about 48.0%) were highly knowledgeable, about 45% exhibited insufficient knowledge of the roles of pharmacists in MTM. In comparison, only about 7.0% showed average knowledge.

This indicated that less than half of the respondents could be described as highly knowledgeable of the critical roles of pharmacists in medication safety. This classification is socially constructed based on perceptions of the roles respondents expected pharmacists to play or felt they played.

4.4.2 Factors influencing the Perceptions of Roles of Pharmacists in Medication Therapy Management

Perceptions of the roles of pharmacists are often socially constructed. The study further explored the possible factors that influenced respondents' perceptions of the roles of pharmacists. The study shows how socio-demographic and socio-economic characteristics of respondents and the rate of patronage of hospitals influenced their perceptions of the roles of pharmacists. These are presented in tables 4.12, 4.13 and 4.14

Table 4.11 Relationship between Social Characteristics of Respondents and Perceptions of the Roles of Pharmacists

Characteristics	Perceptions of Roles of Pharmacists			
	Low	Average	High	Total
Age				
20 - 29 years	89(44.1)	16(7.4)	97(48.5)	202 (26.3)
30 - 39 years	97(40.4)	17(7.1)	126(52.5)	240(31.2)
40- 49 years	49(39.8)	7(5.7)	67(54.5)	123(16.0)
50 - 59 years	55(52.4)	7(6.7)	43(40.9)	105(13.7)
60 years and Above	55(55.6)	11(11.1)	33(33.3)	99(12.9)
TOTAL	**345(44.9)**	**58(7.5)**	**366(47.6)**	**769(100.0)**
Chi-Square Value =15.715 , P-value = 0.047*				
Gender				
Female	231(43.3)	46(8.6)	257(48.1)	534(69.4)
Male	114(48.5)	12(5.1)	109(46.4)	235(30.6)
TOTAL	**345(44.9)**	**58(7.5)**	**366(47.6)**	**769(100.0)**
Chi-Square Value = 3.770 , P-value = 0.152				
Marital Status				
Single	56(56.0)	5(5.0)	39(39.0)	100(13.0)
Married	267(43.1)	48(7.8)	304(49.1)	619(80.5)
Divorced	7(41.2)	0(0.0)	10(58.8)	17(2.2)
Widowed	15(45.5)	5(15.2)	13(39.4)	33(4.3)
TOTAL	**345(44.9)**	**58(7.5)**	**366(47.6)**	**769(100.0)**
Chi-Square Value =10.709 , P-value =0.098				
Religion				
Christianity	207(50.5)	28(6.8)	175(42.7)	410(53.3)
Islam	133(38.2)	30(8.6)	185(53.2)	348(45.3)
Traditional	5(45.5)	0(0.0)	6(54.5)	11(1.4)
TOTAL	**345(44.9)**	**58(7.5)**	**366(47.6)**	**769(100.0)**
Chi-Square Value = 12.415, P-value = 0.015*				
Ethnicity				
Yoruba	54(7.5)	288(40.1)	376(52.4)	718 (93.4)
Igbo	5(25.0)	8(40.0)	7(35.0)	20(2.6)
Hausa	1(5.9)	4(23.5)	12(70.6)	17(2.2)
Others	1(7.1)	8(57.1)	5(35.7)	14(1.8)
TOTAL	61(7.9)	308(40.1)	400(52.0)	769(100.0)
Chi-Square Value =12.752, P-value = 0.047*				

Source: Field Survey, 2019 *Significant

Table 4.11 reveals that age, religion and ethnicity significantly affected respondents' perceptions of the roles of pharmacists in the health delivery system. The statistical test showed that these demographic variables significantly related to the perception of roles of Pharmacists at $p \leq 0.05$.

Some responses to interviews conducted with patients patronising government hospitals wherein they claimed their choice of facilities was influenced by religious beliefs and culture. There were age-long beliefs on the roles of pharmacists as evidenced in the various local names given to pharmacists.

There were cultural differences in perceptions of roles of pharmacists in Medication Therapy Management, MTM. The perceptions of Yoruba respondents patronising public hospitals differ from those of other ethnic groups. This is evidenced in the chi-square test result as presented in table 4.11. An interviewee corroborated this position during an in-depth interview:

> Islam allows us to use medications that do not contain prohibited items like alcohol and stimulant in their raw form, which could cause more destruction to human systems. We, as Muslims, are more careful in our choice of health facility **(IDI/Male Patient/Saki/ December 2019).**

> As Yoruba, we sometimes equate the Pharmacists to herbalists and only describe them as '*Onisegun Oyinbo*' (modern medicine vendors) because of their training. And this determines how we view some of their drugs, especially the malaria drugs, which we believe must be bitter. This is because most of our malaria herbal medicines are always also bitter. **(IDI/Male Patient/Moniya)**

Though the study showed that statistically, gender and marital status did not significantly influence knowledge of roles, some respondents showed that some other factors influenced the household decision making and thus the health behaviour of household members. The excerpt presented here corroborates this:

> My husband's friend is a pharmacist. That is how I know the roles of pharmacists. I thought they were only to dispense drugs and advise doctors on drugs usage, but my husband's friend enlightened me more about their roles **(IDI/Female Patient/Ogbomoso/December 2019)**

To another female patient

> It is my husband who often decides that we should patronise hospital pharmacies. He was the one that educated me more about the benefits of patronising hospital pharmacy, and also told me more about other roles of pharmacists, especially when I had a drug reaction, and he insisted we should see the pharmacists for advice **(IDI/Female Patient/Ring Road/December 2019)**

The opinions of their spouses sometimes influence most married people as significant others. Their perceptions may also be influenced by their family size, affecting the number of visits to health institutions and patronage of pharmacies.

Table 4.12: Relationship between Socio-Economic Characteristics of Respondents and Perceptions of the Roles of Pharmacists

Characteristics	Perceptions of Roles of Pharmacists			
	Low	Average	High	Total
Education				
No formal education	29(48.3)	7(11.7)	24(40.0)	60(7.8)
Primary	53(33.8)	11(7.0)	93(59.2)	157(20.4)
Secondary	107(40.2)	25(9.4)	134(50.4)	266(34.6)
Tertiary	156(54.5)	15(5.3)	115(40.2)	286(37.1)
Chi-Square Value =25.265, P-value =0.000*				
Occupation				
Unemployed	29(40.3)	4(5.6)	39(54.2)	72(9.4)
Civil servant	193(43.2)	41(9.2)	213(47.7)	447(58.1)
Housewife	6(27.3)	0(0.0)	16(72.7)	22(2.9)
Self-employed	49(51.0)	2(2.1)	45(46.9)	96(12.5)
Traditional ruler	3(75.0)	0(0.0)	1(25.0)	4(0.5)
Religious leader	4(57.1)	2(28.6)	1(14.3)	7(0.9)
Teaching/lecturing	42(60.0)	7(10.0)	21(30.0)	70(9.1)
Others	19(37.3)	2(3.9)	30(58.8)	51(6.6)
Chi-Square Value =33.039, P-value =0.003*				
Respondents' Estimated Monthly income				
less than 20000	104(41.8)	22(8.8)	123(49.4)	249(32.4)
20001 – 40000	130(49.2)	24(9.1)	110(41.7)	264(34.3)
40001 – 60000	55(39.6)	7(5.0)	77(55.4)	139(18.1)
Above 60000	56(47.9)	5(4.2)	56(47.9)	117(15.2)
TOTAL	**345(44.9)**	**58(7.5)**	**366(47.6)**	**769(100.0)**
Chi-Square Value =10.869, P-value =0.093*				

Source: Field Survey, 2019 ***Significant**

The study further examined the influence of socio-economic factors on respondents' perceptions of the roles of pharmacists was analysed. The study examined the impact of education, occupation and income of respondents on the perceived roles of pharmacists in Public health institutions. As presented in Table 4.12, the chi-square test results reveal that all the socio-economic variables significantly influenced the perceived roles of pharmacists at $p \leq 0.05$.

Responses from qualitative responses obtained corroborated some of the results obtained while varied a little as presented here:

> I know a great deal of the roles of pharmacists. I have a friend who is a pharmacist. And during my undergraduate days, one of my roommates was a pharmacy student. I know pharmacists' roles in preventing and reducing the prevalence of medication-related problems. I also trust the hospital pharmacy to have well trained and qualified pharmacists in their employment. This assures me of the genuineness of the drugs I am buying and the confidence of being handled by an expert **(IDI/Male/Patient/Ring Road/December 2019).**

The significance of education in understanding medical prescriptions and assessing services was provided by this interviewee**:**

> There is often the need to accompany mama to the pharmacy to grasp the prescription correctly. This is better to avoid further complications which may arise from misuse of drugs, such as taking an overdose. And unfortunately, some of these people (pharmacists) are not always patient with the elderly because of the long people on the queue which they have to attend to **(IDI/Male Relative/Adeoyo/ December 2019)**

And the influence of household economic status is presented in the following submissions:

> *We patronise public hospitals because the drugs are often cheaper than medicine stores. And they are somehow more genuine **(IDI/Male Patient/Ring Road/ December 2019)***

However, the study further analysed the relationship between patronage of public hospitals' pharmacies and perceptions of the respondents on the roles of pharmacists. The statistical tests examined the influence of the number of visits to the pharmacy, the type of health facility patronised and rate of patronage of public health facilities on the perceptions of the roles of Pharmacists. The results of the tests are presented in table 4.13:

On the relationship between education and occupation, the table showed that a larger percentage (72.7%) of house wives and 59.2% of those with primary education have high perceptions of the roles of pharmacists. This could probably due to the fact that most howusewives and people of low education patronise the public health facilities due to their socio-econmic statuses. For instance the house wife has more time for children and will regualarly visit the hospitals for children healthcare or accompany the elder ones to the pharmacy in the hospitals.

Table 4.13: Relationship between Rate of Patronage of Hospitals and Perceptions of the Roles of Pharmacists

Characteristics	Perceptions of Roles (N=769)			
Number visits to Pharmacy in the previous year	**Low**	**Average**	**High**	**Total**
1 – 2	16 (8.0)	71 (35.5)	113(56.5)	200 (26.0)
3– 4	29(7.5)	168(43.6)	188(48.8)	385(50.1)
5 – 6	11(9.2)	47(39.5)	61(51.4)	119(15.5)
Above 6	5(7.7)	22(33.8)	38(58.5)	65(8.5)
Chi-Square Value =5.301 , P-value =0.006				
Type of health facilities patronised				
Government hospital	52(8.0)	264(40.7)	333(51.3)	649(84.4)
Private clinic	8(8.3)	34(35.4)	54(56.3)	96(12.5)
Traditional hospital	1(14.3)	3(42.9)	3(42.9)	7(0.9)
Combination	0(0.0)	7(41.2)	10(58.8)	17(2.2)
Very often	11(8.0)	50(36.2)	77(55.8)	138(17.9)
Chi-Square Value =2.984 , P-value =0.011				
Rate of use of public health pharmacies				
Often	26(8.1)	143(44.4)	153(47.5)	322(41.9)
Sometimes	17(7.0)	92(37.7)	135(55.3)	244(31.7)
Occasional	5(9.1)	17(30.9)	33(60.0)	55(7.2)
Not at all	2(20.0)	6(60.0)	2(20.0)	10(1.3)
Chi-Square Value =11.523, P-value =0.174				

Source: Field Survey, 2019 *Significant

As presented in Table 4.13, the results show that the number of visits to pharmacy and the type of health facility patronised significantly influenced respondents' perceptions about the roles of pharmacists. Regular visits to pharmacy possibly led to an improved relationship between the pharmacists and patients and thus influenced their perceptions. This may also increase knowledge and understanding of the roles of Pharmacists.

The results further showed that perceptions of roles of Pharmacists could be influenced by the type of health institution/facility patronised—the opinions of those who patronised public and private health facilities varied. However, the rate of use of public hospitals did not significantly influence their views. This perhaps showed that opinions were formed not only by the number of times hospitals were generally visited but the number of times the pharmacy units/sections/departments were patronised for pharmaceutical services. This confirmed the differences in the people's experience at different sections in public hospitals.

4.5 Operating Work Environment and Condition

The study examined the operating work environment of Pharmacists in Public healthcare facilities. The study adopted 9-key items as indicators with various options to obtain respondents perceptions of the work environment and how these perceptions affect their perceptions of the roles of the pharmacists. The operating environment was measured by examining the opinions of respondents on the sufficiency of pharmacists and support staff like pharmacy technicians, factors influencing staff adequacy, drugs availability in the pharmacies, the space provided for operations, facilities provided at the pharmacy units, Size of the stores for medication, conduciveness of work environment and relationship with other health workers.

Since an organisation is populated by people and structures which they use to perform their assigned roles, the study attempted an analysis of the operating environment on respondents' perception of the roles of pharmacists. The respondents' perceptions of how the operating environment affects the roles' of pharmacists are presented in table 4.15.

Table 4.14: Relationship between Operating Work Environment and Respondents' Perceptions of the Roles of Pharmacists in MTM

S/N	Factors	Perceptions of roles of Pharmacists			
		Low	Average	High	Total
1.	**Pharmacists' sufficiency**				
	Adequate	98(57.3)	8(4.7)	65(38.0)	171 (22.2)
	Inadequate	247(41.3)	50(8.4)	301(50.3)	598 (77.8)
	Chi-Square Value = 14.227, P-value =0.001*				
2.	**Perceived determinants of the adequacy of pharmacists**				
	Only a few are needed	44(47.8)	9(9.8)	39(42.4)	92(12.0)
	They are not needed	19(54.3)	0(0.0)	16(45.7)	35(14.6)
	Others can perform their roles	3(33.3)	0(0.0)	6(66.7)	9(1.2)
	Their roles are unknown	10(76.9)	0(0.0	3(23.1)	13(1.7)
	Perform insignificant roles	13(86.7)	1(6.7)	1(6.7)	15(2.0)
	They have not been employed	243(42.6)	46(8.1)	281(49.3)	570(74.1)
	Others	13(37.1)	2(5.7)	20(57.1)	35(4.4)
	Chi-Square Value = 25.527, P-value =0.013*				
3.	**Adequacy of Pharmacy supporting staff**				
	Adequate	119(43.9)	38(14.0)	114(42.1)	271(35.3)
	Inadequate	226(45.4)	20(4.0)	252(50.6)	498(64.7)
	Chi-Square Value = 0.971, P-value = 0.615				
4.	**Drugs availability in public hospitals?**				
	Very Sufficient	133(42.4)	28(8.9)	153(48.7)	314(40.8)
	Fairly Enough	35(34.7)	4(4.0)	62(61.4)	101(13.1)
	Not Enough	172(50.0)	26(7.6)	146(42.4)	344(44.7)
	Don't know	5(50.0)	0(0.0)	5(50.0)	10(1.4)
	Chi-Square Value =14.180, P-value =0.028*				
5.	**Adequacy of space provided by the pharmacists**				
	Very Adequate	17(34.0)	0(0.0)	33(66.6)	50(6.5)
	Fairly Adequate	123(43.0)	21(7.3)	142(49.6)	286(37.2)
	Not Adequate	02(47.1)	37(8.6)	190(44.3)	429(55.8)
	Don't know	3(75.0)	0(0.0)	1(25.0)	4(0.6)
	Chi-Square Value =12.837, P-value =0.046*				
6.	**Adequacy of facilities in the pharmaceutical unit, e.g. Refrigerator, tables, chairs etc?**				
	Very Adequate	23(38.3)	1(1.7)	26(43.3)	60(7.8)
	Fairly adequate	142(48.5)	22(7.5)	129(44.0)	293(38.1)
	Not adequate	172(46.7)	33(9.0)	163(44.3)	368(47.9)
	Don't know	8(16.7)	2(4.2)	38(79.2)	48(6.2)
	Chi-Square Value = 28.294, P-value =0.000				
7.	**Size of Pharmaceutical store in hospitals**				
	Very Spacious	30(60.0)	2(4.0)	18(36.0)	50(6.5)
	Fairly Spacious	142(49.7)	22(7.7)	122(42.6)	286(37.2)
	Not Spacious	173(40.3)	34(7.9)	222(51.7)	429(55.8)
	Others	0(0.0)	0(0.0)	4(100.0)	4(0.6)
	Chi-Square Value = 15.743, P-value =0.015*				
8.	**Conduciveness of the environment of the pharmacy**				
	Very Conducive	16(39.0)	0(0.0)	25(61.0)	41(5.3)
	Fairly Conducive	124(44.6)	20(7.2)	134(48.2)	278(36.2)
	Not Conducive	197(44.7)	38(8.6)	206(46.7)	441(57.3)
	Others	8(88.9)	0(0.0)	1(11.1)	9(1.2)
	Chi-Square Value = 12.852, P-value =0.045*				
9.	**Working relationship with other health workers in the hospital**				
	Very Cordial	128(44.1)	20(7.0)	142(49.0)	290(37.7)
	Cordial	191(45.2)	38(9.0)	194(45.8)	423(55.0)
	Not Cordial	15(41.7)	0(0.0)	21(58.3)	36(4.7)
	Others	11(55.5)	0(0.0)	9(45.0)	20(2.6)
	Chi-Square Value= 7.412, P-value = 0.284				
	TOTAL	**345(44.9)**	**58(7.5)**	**366(47.6)**	**769(100.0)**

Source: Field Survey, 2019 *Significant relationship

Findings from the field presented in Table 4.14 showed the people's perceptions of hospital pharmacists' working conditions and environment. The majority (77.8%) of the respondents stated insufficient pharmacists to handle the growing population patronising the pharmacies. Similarly, the majority (67.1%) of the respondents stated inadequate supporting staff like pharmacy technicians in most public hospitals. It was primarily agreed by a large number (74.1%) of the respondents that the government was yet to employ more staff for health institutions, including pharmacists and technicians. This is reflected in the comments of almost all participants during the IDIs conducted, some of which are presented here:

> There is not enough staff in the pharmacy. For instance, in the pharmacy where there is only one professional pharmacist. The situation is better in the city but not sufficient too **(IDI/ Male Patient/Moniya/December 2019)**

> Sometimes the queue is long, and thus time is wasted at the pharmacy. You can even become weaker while standing to collect your prescription. Though there is more than one pharmacist here, the number is still not sufficient since this is the main hospital located in the heart of the city with an upsurge in patronage **(IDI/Male Relative/Adeoyo/ December 2019)**

On drugs availability in public hospitals, findings from respondents who visited pharmacies revealed that most (53.9%) of the respondents felt the drugs were enough. About 41.0% of the respondents stated that the availability of the drug was very sufficient. However, a significant (44.7%) population of the respondents were not satisfied with the availability of the drug in the hospital pharmacies. There were complaints about the non-availability of particular drugs as a note by some of the interviewees presented here:

> I learnt that the hospital operates two types of drugs supply. There are essential drugs supplied and supplemented by the government. They cover common ailments while other medications are managed through a partnership between government and private sectors. The common medicines are often available, while those particular drugs for uncommon ailments are rarely found or sometimes costly **(IDI/ Patient's Relative/Ring Road/December 2019)**

A patient, however, volunteered to share her experience:

> There is improvement in the state hospital here. Pharmacists, especially in this hospital, give out drugs for an emergency even before collecting money and starting the patient's treatment, compared to UCH that you will have to pay before you can collect medicines which may affect or delay the patient's treatment, at times patients may even die before the availability drugs **(IDI/Female/Patient/Adeoyo/December 2019)**

> On the adequacy of space and facilities available to pharmacists, the majority, 429(55.8%), of the respondents stated that there were no adequate spaces for pharmacists to operate effectively. In contrast, only a few, 50(6.5%), thought the spaces were sufficient. Almost half, 368(47.9%), of the respondents, felt that essential facilities like refrigerators, furniture, thermometers were not adequately supplied to pharmacies to aid in the storage of drugs at the right temperature and conditions. Some of the patients interviewed corroborated these data, one of which was aptly put as presented here: Pharmacists with long experience will know better than young doctors. But it is not like that. Arrogance is the order of the day. The relationship is terrible and affects patients' confidence **(IDI/Female Patient/Adeoyo/December 2019)**

> In some cases, the hospital store is shared for use other than for storing drugs. Some pharmacists even keep their items like soda drinks, beverages and baby foods in the store. This may even affect the quality of medicines in terms of taste and odour. They also run the risk of contamination of their food and the stored drugs **(IDI/Male Relative/Moniya/ December 2019)**

Findings, as presented in Table 4.14, also revealed that most (57.3%) of the respondents felt that the operating environment of pharmacists was not conducive enough to facilitate the effective delivery of pharmaceutical care to patients. However, most (55.0%) of the respondents believed that pharmacists maintained cordial relationships with other health professionals, especially medical doctors. However, a few (4.7%) still

believed there was a need for the relationship to improve to save patients from the consequences of wrong medication therapy, which conflicts amongst healthcare professionals may cause. This excerpt from qualitative information corroborated this:

> There should be love, unity and support among the professionals in the hospital, Doctors, Nurses, Pharmacists and each person should know their job and perform it. The way they attend to us in the hospital now is better and in order compared to before now **(IDI/Female Patient/ Ring Road/December 2019)**

Another patient talked about a possible conflict in terms of supremacy:

Table 4.14 further reveals that five of the items on the operating environment and condition of pharmacists in the selected hospitals significantly influenced respondents' perceptions about the roles of pharmacists. Certain factors could affect the effective delivery of pharmaceutical services concerning MTM. Sufficiency of pharmacists and supporting staff such as pharmacy technicians, adequacy of space and size of the store for keeping drugs and other medicaments, the conduciveness of work environment and relationship with other team members in MTM significantly associated with respondents' perceptions of roles of pharmacists were noted.

The table shows that respondents believed that pharmacists' practices in MTM would significantly be affected by these factors.

4.6 Perceptions of MTM by Pharmacists

The study adopted a qualitative approach to obtain the opinions of practising pharmacists on their roles in Medication Therapy Management (MTM) in public hospitals. The interview sessions attempted to elicit pharmacists' views on the public perceptions of their roles, their knowledge and level of participation in MTM committees at the hospital levels, challenges facing the practice of pharmacy in government hospitals. Their suggestions on how pharmacists can effectively function in MTM programmes to deliver satisfactory services that will help reduce the incidence of ADEs/MRPs amongst patients were also noted.

Pharmacists were interviewed on their opinions about pharmacists' critical roles in managing medication-related problems amongst both in-patients and out-patients. The views of practising pharmacists such as hospital pharmacists, policymakers, and implementers at the directorate levels on MTM were obtained through KIIs. Views were obtained on such core areas as the professional roles of pharmacists in medication therapy, the relationship with other healthcare professionals involved in MTM, pharmaceutical care, drugs management in Oyo state, resource availability, knowledge of the job, mandatory continuous education, work environment, other challenges facing pharmaceutical services in the state and suggestions on improvement of pharmaceutical services concerning MTM. Excerpts of some of the responses are thematically presented in this section.

4.6.1. Pharmacists' Perceptions of MTM of their Roles

On the roles of pharmacists in healthcare services concerning drug management, excerpts of the submissions of pharmacist are presented as follow:

> A Pharmacist is a key member of the health sector. If you talk of health care without the main component, the drug, healthcare is in shamble. The pharmacist is an expert on drugs. He knows what determines the fate of drugs in the body in terms of what will impair the performance of the medicines **(KII/Hospital Pharmacist/Ibadan/December 2019)**

> After diagnosing and pinpointing a patient's actual problems, a doctor prescribes drugs after assessing the disease conditions of the patient, which is brought to the pharmacists. After the prescription, the pharmacist can review the prescription to look at factors like age, is it in order, is it legally prescribed, disease-condition, I the patient is qualified to take the drug, and may liaise with the doctor for better therapeutic outcomes, because if you prescribe a drug with other co-morbid diseases may affect the health outcomes of medication. He will look to ascertain if the prescription is overdose, underdose, potential drug-drug interaction etc. You look out for probable diseases that may affect the fate of those drugs in the system **(KII/Director of**

Pharmaceutical Services/ Secretariat, Ibadan/December 2019)

Since pharmacists deal with drugs, their understanding of the composition of drugs and factors that could impede their efficacies are better known to them as presented here:

> Drugs are chemicals, and if two or three chemicals are taken together, some reactions could occur. There is what we call Adverse Drugs Reactions. It could also result. There is what we call Pharmacovigilance which focuses on determining reactions to drugs, whether new or an increase in already known reactions. Pharmacists must ensure that these reactions are appropriately documented for reporting to relevant agencies like NAFDAC through the yellow form. Pharmacists must record ADES. **(KII/Director of Pharmaceutical Services/ Secretariat, Ibadan/December 2019)**

The role of a regulatory body like the National Agency for Food and Drug Administration and Control (NAFDAC) in medication therapy and creating awareness on ADEs was also emphasised by some pharmacists to prevent ADEs. Some of the opinions are presented in these excerpts:

> Under the former DG, NAFDAC was so enthusiastic about prescription before dispensing. It goes a long way to guide against irrational use of medication. In the advanced country, you can't buy ordinary Paracetamol without prescription by qualified personnel **(KII/Deputy Director of Pharmaceutical Services/ Secretariat, Ibadan/December 2019)**

> Pharmacists interact with one another and create awareness amongst the populace about medications. There are efforts to create awareness through sensitisation on the need to follow up on the policy for better therapeutic outcomes for the drugs **(KII/Hospital Pharmacist/Ring Road/December 2019)**

4.6.1.1 Pharmacists' Perceptions on Drug Prescription before Dispensing

It was opined that most people in the society are not aware of the need for pharmacists on the criticality of prescriptions before dispensing. On the level of awareness by the society on prescription-before dispensing policy, a director of the pharmacy stated thus:

> Hen! You see, yes, as with new things, we are at the teething stage. The awareness is not as we expect it to be, but we are not where we used to be. To some extent, if you ask some people, they are now aware, but it is not 'Uhuru' yet. We are not there because a lot still needs to be done. The success of this thing depends on the society takes. They are the ones we are trying to safeguard. If they don't key in into it, the thing may not succeed. They need to know they need the services of pharmacists; they need to generate prescriptions through the doctor for the pharmacists to review to ensure rational use of drugs **(KII/Director of Pharmaceutical Services / Secretariat /Ibadan)**

On the role of pharmacists to review or alter prescriptions, most people seemed to be unaware as presented by a deputy director here:

> The pharmacists know the intricacies. Each professional knows his roles, responsibilities and boundaries. The role of a Pharmacist does not include prescription. Doctors, by assessing patients come up with like diseases and like drugs that may be used to treat the diseases. The issue of drugs is in the purview of pharmacists. Pharmacists can alter prescription if he discovers the drugs can be underdose or overdose by consulting the prescriber, though maybe unknown to patients, to avoid threatening the patient's confidence in the prescriber, affecting healthcare outcomes. It is an inter-cadre collaboration which we were thought to discuss professional to prevent tension in the System **(KII/Deputy Director of Pharmaceutical Services /Ibadan/December 2019)**

4.6.1.2 Pharmacists' Perceptions of Adverse Drug Events / Reactions

Most of the pharmacists interviewed shared their knowledge of how On ADRs/ ADEs are treated and reported within the hospital settings

> Despite suspecting that a particular drug could have caused a problem, a holistic review of all drugs (co-administered drugs) within that period, even if there were herbal drugs and foods taken when an ADE occurred, will be recorded. They are then taken for analysis to determine the actual drug that possibly caused the problem. Adverse drug event is reported by filling a pharmacovigilance form to submit it to NAFDAC Zonal office **(KII/Hospital Pharmacist/ Adeoyo Ibadan/December 2019)**

Reporting on adverse drug events, ADEs

> Any health official can report the side effects of drugs or Medication-Related Problems (MRP). The healthcare professional will only direct the patient appropriately to the right authority. There is always a desk officer for keeping records of ADEs. And this is where the MTM Committee in hospitals comes in. **(KII/Hospital Pharmacist/Ring Road/December 2019)**

4.6.1.3 Pharmacists' Perceptions of Medication Therapy Management

Pharmacists' opinions on the composition, headship and roles of the MTM committee in state hospitals revealed some of the constraints to the effectiveness of the MTM committee in curtailing cases of ADEs. The views of some of the pharmacists are presented in these excerpts:

> There is supposed to be an MTM committee in which the Head Medical Doctor is Chairman of the committee while a pharmacist is supposed to be the secretary. And they (will) review ADEs' cases regularly to solve the problems. Pharmacists are involved in Drugs therapeutic committee (two pharmacists).

> The committee is constrained by the challenge of getting the right drugs at reasonable prices for patients' benefits **(KII/ Deputy Director/Ibadan/December 2019)**

> *HIV/AIDS enjoy MTM. The OPD patients are with a prescription and go with the papers. However, Referral is limited (**KII/Hospital Pharmacist/ Ring Road/December 2019)***

However, a senior pharmacist opened up and stated thus:

> We are not conversant with the concept of MTM though we know we have to follow all the items in the MTM. All the same shortages of staff and space are our problems **(KII/Hospital Pharmacist/Moniya/December 2019)**

On the functionality of the MTM committee in the hospitals

> The problem is that of the personnel everywhere, where you have only one doctor and one pharmacy. I am aware it is functional in big hospitals. It exists in all hospitals but may not have a full complement **(KII/Hospital Pharmacist / Ogbomoso /December 2019)**

Some of the pharmacists identified some barriers to MTM, one of whose opinion is presented here:

> Patients are impatient. They want to go home, language and religion-barriers are noticed when one is advising some religious people like the proper use of antibiotics, hypertensive and anti-diabetic medications **(KII/Hospital Pharmacist/Ring Road/ December 2019)**

> Negative attitude due to lack of remuneration, no time, poor knowledge, all pharmacists here have the expertise but are not well tapped. Some Pharmacists are not ready to work in a busy hospital. They believe they are superior **(KII/Hospital Pharmacist/ Adeoyo Ibadan/December 2019)**

And on handling ADEs, the view of a hospital pharmacist was sought and presented thus:

ADE is reported filling in a pharmacovigilance form to make it submitted to the NAFDAC zonal office ***(KII/Hospital Pharmacist/ Adeoyo/December 2019)***

4.6.1.4 Efficiency of Pharmacists in the State Hospitals

The opinions of the Director of Pharmaceutical Services (DPS) in the state were further sought on some other critical issues to the efficiency of pharmacists in the state hospitals in respect of MTM, and excerpts are presented here. On drugs administration in hospitals, the DPS stated that:

> We have two drugs services- free essential drugs and fee-paying drugs under the public-private partnership. The drug world is a large one. Government procure about 135-150 drugs. The Dug Advisory Committee in hospitals generates a list of certain medications they need, and the government will now agree with the private sector to supply those drugs. The fee-paying drugs are provided directly by manufacturers or their appointed representatives and are thus obtainable at relatively low and affordable prices. The essence is to make available genuine drugs in the hospitals and reduce time wasted in search of drugs **(KII/Deputy Director/Ibadan/December 2019)**

On the distribution of pharmacists, he opined that:

> In terms of qualification, we have qualified professional pharmacists in the state. I can say it anywhere. As with other health professionals in the state, that's the problem in terms of quantity. For instance, if you look at the WHO standard, it gives the number of pharmacists globally, talkless of hospital wise. If you look at the number of all the pharmacists in the state, they are not up to sixty. Maybe they there about 60 or thereabout, and we have about 52 health institutions in the state. Some stations are one-person stations with only one pharmacist, and some rural areas have only pharmacist technicians without pharmacists. The distribution is not even. It is skewed towards the urban areas at the expense of the rural areas. The government hopefully will bridge that gap with massive employment of pharmacists very soon **(KII/Director of**

Pharmaceutical Services/ Secretariat, Ibadan/December 2019)

On mandatory professional continue education for pharmacists:

> There is always a need for continued education. The drug world is vast, and there are new drugs almost every day. And as pharmacists, you need to be abreast of this development. Otherwise, they become expired like the drugs they are carrying around. Before you recertify every three years, you must carry 30 units up to modul14 by next year, you won't be certified, and your licence for practice as a pharmacist will not be renewed **(KII/Director of Pharmaceutical Services/ Secretariat, Ibadan/December 2019)**

On pharmacists working conditions and environment:

> It is our society that does not value pharmacists. Pharmacists are rated next to the clergies in advanced countries because they know and value our roles. For instance, when a pharmacist reviews a prescription, he saves money. In developed countries, it was reported that millions of dollars had been saved through the prescription review that prevents ADEs. The way we treat our professionals here is not the best.
>
> The physical structure is not tailored for modern patient's services. There are complaints due to the high prices of drugs compared to community pharmacies outside. The products are bought on credit Sale on Return (SOR) which makes them expensive **(KII/ Deputy Director/ Secretariat, Ibadan / December 2019)**

On further roles of pharmacists in pharmaceutical care

> (Cuts in) Pharmaceutical Care is patient-oriented rather than product-centred. The focus of pharmacists is to ensure patients get the best in terms of medication. When a prescription is made, you look at the drugs that best give the best health outcome from the analysis and to be able to afford the cost of the medication. There is no point in providing a drug that patients cannot afford. Pharmacists then look at pharmaco-

> economy. I don't know if I can use some terms (paused waiting for a go-ahead). You look at pharmaco-kinetics, pharmaco-dynamics of how the drugs act in the system and how the drugs will affect the approach to mitigate or minimise side effects. You want to give an effective drug at an affordable price and most negligible side effects since there is no drug without side effects but vary in degree **(KII/Director of Pharmaceutical Services/ Secretariat, Ibadan/December 2019)**

Thus one could conclude that the state hospitals have qualified personnel who were well trained but inadequate for the numbers of hospitals in the state. Most of the personnel require further training. The available infrastructure was also insufficient for efficient service delivery in the pharmacies.

4.6.1.5 Pharmacists Perceptions of the Socio-Cultural Factors Affecting MTM in the State Hospitals

On socio-cultural factors affecting drugs management under MTM in the state hospitals, religion, language, and gender were identified as critical factors affecting MTM in the state hospitals. This is evidenced in the submissions of a deputy director of pharmaceutical services in the state who stated thus:

> Yes, religion. When discussing your drug therapy with your patient, you must factor in religion. For example, to a Muslim, during Ramadan, if there is a need for you to give him a drug he must take every 6 hours, he will not take it. You must instead look for one he will take twice a day. That will key into his compliance to get the best compliance and the required health outcomes **(KII/ Deputy Director/ Secretariat, Ibadan/December 2019)**

A young pharmacist buttressed the position of the Deputy Director thus:

> Do you know in this town we have had to change the resumption of time in the hospitals not to disturb the market days? We open at certain hours when the people are willing to come to the hospital to buy their drugs. They won’t visit the

> pharmacy at certain hours unless it becomes an emergency **(KII/Hospital Pharmacist/Saki/ December 2019)**

On what government should do to assist the pharmacists

> When dealing with drugs, the quality of drugs is essential. And several factors may determine this. The major one is the issue of storage. An improperly stored drug may become a poison to the patient. We are appealing to the government to help improve our storage facility so that we can be sure of the quality of what we are giving to patients **(KII/Hospital Pharmacist/Ring Road/ December 2019)**

Another pharmacist corroborated on most issues regarding the adequacy of facilities, control of fake drugs and management of incidents of ADEs:

> The store is inadequate, too small to contain needed drugs and without functional facilities like refrigerators and shelves. The Essential Drug lists are not well followed. Another suggestion is that if you want to curb about 90% of fake drugs. We are advocating that government should streamline the sources of drugs. Govt is working on this. Each state must have their channels of distribution to eliminate sources of fake products so that people get value for their money and improved health outcomes **(KII/ Deputy Director/ Ibadan/December 2019)**

> Pharmacist intervention in cases of ADEs should be encouraged and appreciated. There should be regular sponsored Conference, Seminar while ward round should always be done, and not only when there are issues **(KII/Hospital Pharmacist / Ogbomoso / December 2019)**

Some other pharmacists also emphasised the need for improved storage facilities and space:

> In some hospitals, Pharmacists are not fully in charge of the store. The storage facility is not appropriate, as it is being shared. It is only the Head of the department, HoD that has a separate office (KII/Hospital Pharmacist/Oyo / **December 2019)**

> Imagine in this digital age, and there is no computer for works. Records are still being manually kept, and thus retrieval of information on patient's medication history is a little cumbersome (**KII/Hospital Pharmacist/Saki/December 2019)**

Some other factors affecting the effective discharge of pharmaceutical services under MTM are further espoused here:

> The temperature in the pharmacy is not normal. The stores are not adequate. We quarantine expired drugs in a corner. Non-pharmacists are allowed to handle drugs because of the fund manager and private practice partnership (**KII/Hospital Pharmacist/Moniya/December 2019)**

On relationship with other health professionals

> The doctors' responses to pharmacists" participation inwards round are always cold. Their excuses are always the same; the order must come from the secretariat, the rivalry is glaring; nevertheless, we are doing well on drug monitoring in the ward. Only high-calibre clients or patients with special care can interact with pharmacists. Regardless, only the pharmacists dispense in my facility **(KII/ Deputy Director of Pharmacy /Ring Road, Ibadan/ December 2019)**

On patients' satisfaction

> Our patients may not get the best and, as a result of not fully experiencing complete services of pharmacists. This is because their relatives and wards/maids usually come for the purchase of drugs in the pharmacy, and most of the time, the nurses who do assume pharmacist roles are not competent and not trained for that. Patients are short-changed in pharmacy at times, and also Nurses exploit their ignorance **((KII/Hospital Pharmacist / Adeoyo /December 2019)**

In general, a deputy director of pharmacy in the state summarised some of the major obstacles to effective adoption of MTM for improved services to patients as:

> Significant barriers to MTM can be briefly listed to include the following: -Long waiting time due to shortage of staff and lack of adequate space for patients to wait while drugs are being packaged. Patients are impatient sometimes due to the pains of their ailments. In contrast, the relationship with colleagues is not cordial leading to unethical conduct and intra-professional conflicts. According to Oyo state civil service scheme, other hindrances include making payments for drugs. PPP is in charge; our influence is limited on Drugs selection and procurement. Again nobody is interested in giving time to patients, coupled with Poor documentation as a result of lack of computer for electronic documentation **(KII/ Deputy Director of Pharmacy /Adeoyo, Ibadan/December 2019)**

In collaboration with relevant agencies on drugs management (which is part of MTM)

> NAFDAC is charged with the particular issue of ensuring that the policy is implemented. They network with other agencies like Ministry of Information, National Orientation Agency, Pharmaceutical Society of Nigeria, Association of Hospital Pharmacists, Nigeria Medical Association, National Association of Nurses and Midwives, and other professional bodies **(KII/Director of Pharmaceutical Services/ Secretariat, Ibadan/ December 2019)**

4.6.1.6 Pharmacists' Perceptions of Online Medication Therapy Management

On Online Medication Therapy, especially during an epidemic or a pandemic like the current Covid-19 pandemic, responses from most pharmacists revealed a low level of utilisation based on several factors, including poor infrastructures and awareness level of the people. Their positions are captured by the following excerpts from interviews conducted with Pharmacists:

> In my hospital, I have not been using it since most of the time, we hardly have access to the patient's complete information but on a personal level between friends and family. I use it when the

need arises **(KII/Hospital Pharmacists/Ring Road/ December 2019)**

I work with a government health facility. The limiting factors to online medication therapy include (i) Erratic power supply (ii) Inability to host a web, that is, we don't have a web page, (iii) Unavailability of enough computer system (iv) Unavailability of the fund to manage or buy data for the modems. The few modems we have in the facility are ones provided by individuals. The government does not fund even the ones we have for internet access **(KII/Hospital Pharmacists/Adeoyo/ December 2019)**

4.7 Patients' Level of Satisfaction with Roles of Pharmacists in Medication Therapy

One of the study's objectives focused on examining the levels of patients' satisfaction with the roles of pharmacists in Medication Therapy Management. This was based on the perceptions of the respondents and those interviewed on the quality of pharmaceutical care pharmaceutical services classified into Low, Moderate, and High satisfaction. Indicators of assessment focused on patients' centeredness of services, interactions with patients, pre-dispensing and post-dispensing activities, and hospital pharmacy settings. Opinions were sought about the mannerism of delivery of services, essential information on drugs, and drug education to patients.

The study adopted a five-point Likert Scale (1-5). Patients' satisfaction with MTM was determined by responses to 20-items developed from the previous researches on MTM, which cover the listed areas. Findings from the field are presented in Table 4.15

Table 4.15: Patient's Level of Satisfaction with Roles of Pharmacists in MTM

Roles	Perceived Level of satisfaction			
	Low	Moderate	High	Total
1. Availability of pharmacist at the designated hour	47(6.1)	101(13.1)	621(80.8)	769(100.0)
2. Analysis of treatment and therapeutic regimen	45(5.9)	423(55.0)	301(39.1)	769(100.0)
3. Regular discussion of drugs' prescriptions before dispensing	59(7.7)	357(46.4)	353(45.9)	769(100.0)
4. Cordial relationship with physicians as a team	75(9.8)	364(47.3)	330(42.9)	769(100.0)
5. Follow-up with patients after dispensing drugs to monitor health outcomes	323(42.0)	223(29.0)	223(29.0)	769(100.0)
6. Delivery of non-pharmacological medication education to patients	358(46.6)	205(26.7)	206(26.7)	769(100.0)
7. Provision of information to patients on chronic diseases and application of special medications	99(12.9)	333(43.3)	337(43.8)	769(100.0)
8. Educating Patients on how drugs work	362(47.1)	261(33.9)	146(19.0)	769(100.0)
9. Educating patients on Adverse Drugs Events and their prevention	91 (11.8)	330(42.9)	348(45.3)	769(100.0)
10. Assessing Patients' adherence to Medication	278(36.1)	342(44.5)	149(19.4)	769(100.0)
11. Counselling Patients on adherence to medication	287(37.4)	324(42.1)	158(20.6)	769(100.0)
12. Warm reception into the pharmacy unit/department	81(10.6)	314(40.8)	374(48.6)	769(100.0)
13. Pharmacy environment especial drug storage condition	84(11.0)	317(41.2)	368(47.9)	769(100.0)
14. Patients' privacy with Pharmacists	327(42.5)	275(35.8)	167(21.8)	769(100.0)
15. Availability of prescribed drugs at the hospital pharmacy	342(44.5)	262(34.0)	165(21.5)	769(100.0)
16. Pharmacists communicate with Patients on medication	360(46.8)	259(33.7)	150(19.5)	769(100.0)
17. Level of satisfaction with total interaction time	90(11.7)	301(39.2)	378(49.2)	769(100.0)
18. Method of payment for medication charges in the hospital	331(43.0)	244(31.7)	194(25.2)	769(100.0)
19. Patients willingness to re-visit the Pharmacy to purchase drugs	30(3.9)	497(64.6)	242(31.5)	769(100.0)
20. Overall satisfaction with pharmaceutical services under MTM	41(5.3)	491(63.9)	237(30.8)	769(100.0)

Source: Field Survey, 2019

Findings further showed that the Majority (80.7%) of the respondents were delighted with the punctuality of pharmacists at their duty posts, and the satisfaction level as perceived by about half (51.2%) was low concerning the discussion of drugs prescriptions with patients to make them avoid misuse.

On the discussion of prescription when dispensing drugs, one of those interviewed stated thus:

> Pharmacists should, after dispensing drugs, advise patients to use their medications as prescribed. There are too many patients to attend to, so they cannot still call to follow up after dispensing. It is the patient that should comply with the use of the drugs as advised **(IDI/Female Patient/Moniya/ December 2019)**

The respondents' perceptions were moderate, with some 364(47.3%) respondents describing the relationship between physicians and pharmacists in drug management as just fair. Some of those interviewed observed a superiority conflict amongst health professionals, as stated here:

> I am not satisfied with Doctor/Pharmacist. I have witnessed a rift between the pharmacist in the hospital and the doctor. Doctors have taken over the work of pharmacists and nurses. They don't respect the other health professionals **(IDI/ Female Relative/ Ogbomoso/ December 2019)**

The level of satisfaction was low with pharmacists' ability to follow-up after dispensing drugs to patients, with a few (42.0%) of the respondents expressing low satisfaction. Only a few (29.1%) of the respondents seemed highly satisfied. The respondents stated that this was rarely done. This was corroborated by one of the participants during IDI:

> Any pharmacist has never contacted me since I came here for myself or any of my children. They don't even ask you questions about the efficacy of previous drugs you collected on the same ailments unless you tell them. The doctors are the ones who constantly ask **(IDI/Female Patient Oyo/December 2019)**

However, another patient gave a conditional and contrasting opinion:

> I know the pharmacist here. He lives near my house and will stop by on his way from work to ask about my health and whether the drugs are effective. He will ask if there is any side effect from taking the pills **(IDI/Female Patient Saki/ December 2019)**

The level of satisfaction with the delivery of non-pharmacological medication education to patients was low, with only a few (26.7%) respondents being delighted. This was not surprising as only a few (43.8%) respondents expressed satisfaction with the pharmacists' willingness to provide critical information to patients on chronic diseases. The pharmacists were perceived as not doing enough in the education of patients on the relationship between adherence to drugs' prescriptions and incidence of ADEs/MRPs.

On assessing patients' adherence to medication, most (77.5%) of the respondents were not satisfied with the pharmacists' roles in this regard. A majority (75.3%) were also not satisfied with the role of pharmacists in counselling patients' adherence to medication. This is not unconnected with their roles in follow-up after dispensing drugs.

Most (48.6) respondents expressed a high level of satisfaction with the attitude of pharmacists in MTM. They acknowledged the warmth reception of patients and friendly disposition in the discharge of their duties, as presented in this excerpt from an IDI:

> Despite the pressure resulting from the shortage of workforce, the staffs in the pharmacy unit in this hospital have still been able to discharge their duties enthusiastically. They have been trying their best. They hardly shout at the patients, who are primarily women with their impatience (laugh) (IDI/Male Relative/Oyo / **December 2019)**

However, a patient felt otherwise:

> They sometimes are stressed and will hand over your drugs to you with a stern look. Sometimes they are reluctant to attend to

> you, especially in the afternoons. They don't even care that there are not enough seats for you to sit on. They need more hands **(IDI/Female Patient/Moniya/ December 2019)**

Further findings revealed that a few (47.9%) of the respondents still expressed high satisfaction with the environment of the pharmacy units in the hospitals with regards to the condition of storage which makes some drugs not to be available. The rest were either not satisfied or chose to express moderate opinions. This was supported by the comment of one of those interviewed:

> It was as if they didn't even think of the pharmacy. The head of the pharmacy unit has a small office despite the size of the hospital. The waiting place is too small for a hospital of this size. The facilities here are inadequate. And the pharmacists appear to be few here. I learnt in the rural area. It is even worst **(IDI/ Male Relative/Adeoyo/ December 2019)**

Respondents were largely not satisfied with the level of privacy with the pharmacists. Only very few (21.8%) were very satisfied with the level of confidentiality with the pharmacists. This was corroborated by one of the patients who actually would have loved privacy while drugs were dispensed:

> You know that some ailments require privacy in the dispensing of their drugs. People know the nature of your sickness once they see the pharmacist just pushing the drug to you through the pigeonhole and shouting the usage. For instance, as a young lady with a vaginal infection, imagine how you feel when sometimes these young pharmacists start shouting how to apply a particular medication on that part (laughs) **(IDI/ Female Patient/Adeoyo/December 2019)**

On drugs availability, the respondents were not satisfied with the level of availability of prescribed drugs. A significant percentage (44.5%) expressed a low level of satisfaction, while a few (21.5%) respondents were satisfied. Drugs availability: The respondents

were not satisfied with the availability of prescribed drugs. Some of the interviewees corroborated this during IDIs:

> In the hospitals, there are no sufficient specialised drugs. Some of these drugs are said not to be on the subsidised list of the government. Their prices are therefore very high **(IDI/Male Relative/Ring Road/December 2019)**

> Those of us in the rural areas are often cheated. In some cases, they say the government is not supplying adequate drugs except common ones for Malaria. You need to take prescriptions to medicine stores outside to buy. And those can be fake or expensive **(IDI/Male Patient/Saki/ December 2019)**

On-time spent at the pharmacy, less than half (49.2%) of the respondents expressed high satisfaction with the total interaction time while many complained about time spent on payment for drugs and the cumbersomeness of the methods of payment in which only a few (25.3%) of the respondents expressed high satisfaction with the technique. The consequence of the perceptions of pharmacists' services about MTM was that only a few (31.4%) of the respondents were delighted and willing to revisit the pharmacies. In comparison, a few (30.8%) expressed high satisfaction with the overall pharmaceutical services under MTM.

On waiting time at the pharmacies, one of the patients interviewed complained that:

> They (referring to the pharmacists) should show more love, attend to the patient quickly. They should not be using their handset (phone) when patients are to be attended to. They should check the prescription very well and make sure they did not dispense the wrong drug **(IDI/Male Patient/Saki/December 2019)**

> There is the problem of space. The space available for the patient to wait is always minimal. And this often results in a long queue and waiting time **(IDI/Male Patient/Oyo/December 2019)**

Overall satisfaction with pharmaceutical services under MTM, some of those interviewed who were not satisfied stated:

> How can I be satisfied with a place when I hardly get my regular drugs? They have medications for common ailments like malaria, whereas you hardly get medicines for diabetes. Haba! And they don't even feel for you. I can see that they need more government support to staff the place and supply specialised drugs, not only for children but also for the elderly. One is afraid of buying fake drugs in this community **(IDI/Male Patient/Moniya/ December 2019)**

> Some pharmacists get annoyed abnormally. And we sometimes experience carried over of aggression. Some of them are troubled at home and still bring this to their workplace, especially women **(IDI/Female Patient/Oyo/ December 2019)**

> Attitude matters a lot in Government Hospitals. Some young pharmacists need to be well trained and guided to behave well. They don't give the right health talk on parenting, especially to fresh (young) mothers **(IDI/Female Patient/Saki/December 2019)**

There were a few allegations of corruption in the sales of drugs some of which are presented here:

> They don't usually return the money deposited to buy drugs if needed again. They will ask the patient or relatives to use it to buy something else because it has been paid into a government account and cannot be refunded **(IDI/Female Patient/Adeoyo/ December 2019)**

> Sometimes they tell you that the drugs were not supplied from the central store in Ibadan and direct you to (a named) pharmacy shop in town. And what choice do you have? **(IDI/Female Patient/Ogbomoso/December, 2019)**

Amongst a few of the respondents who were satisfied, one of them stated that:

> I am okay with the service here of a lady pharmacist here. She is friendly; she makes me feel comfortable. She is wonderful. My

> two children were born here, and she handled my entire medications professional with smiles, no matter the pressure. I wish all pharmacists are like her **(IDI/Female Patient/Ring Road/December 2019**)

Some other patients acknowledged the roles of pharmacists and satisfaction with their roles in MTM as follow:

> Pharmacists are competent. They tell us the right things about drugs compared to non-pharmacist selling drugs outside the hospital, selling (Alakapo) mixing of different medicines, which can cause complications and even cause more problems. In case there is a problem with my drugs because I don't go to quacks, I consult a qualified pharmacist **(IDI/Female Patient/ Adeoyo/December 2019)**

> They provide drugs needed as early as possible compared to going outside the hospital, which may complicate the treatment of pt before coming back or sometimes lead to death. They are competent. In case there is a problem with the use of drugs, I don't have a problem with my medication, I trust my pharmacist **(IDI/Female Patient/ Ogbomoso/December 2019)**

4.7.1 Classification of Patients' Level of Satisfaction with the Roles of Pharmacists in MTM

Perceptions of the roles of pharmacists are capable of determining the level of satisfaction with roles of Pharmacists in reducing the incidence rate of medication-related problems (MRPs) or adverse drug events (ADEs). The perception of pharmacist services often determines adherence to drugs prescriptions and confidence in repeating visits to the pharmacies, which will possibly prevent patronage of quacks. Perceived levels of satisfaction will affect patronage of pharmacy units. It is most likely to affect the overall health outcomes of patients also.

Kibikiwa (2010) model of Students' satisfaction was adopted to classify measures of satisfaction as:

(i) Low patients' satisfaction

(ii) Moderate patients' satisfaction

(iii) High patients' satisfaction

The scoring system considered the maximum and minimum scores used for finding the levels of satisfaction of the patient. The highest total marks (maximum scored) obtainable, using the Likert scale was 100, while the minimum score attainable was 20 based on the following grading:

(i) Very High Satisfaction- 5

(ii) High Satisfaction – 4

(iii) Low Satisfaction – 3

(iv) Very Low Satisfaction – 2

(v) No Satisfaction -1

The range was calculated as follows, finding the average for a total of 12-item Likert scale,

The highest total marks **(maximum) obtainable** was = 100 on the Likert scale

While the **minimum = 20**

The following range was adopted to find the average score and classify them: Low = score ≤ 50, Moderate = above 50-69 and High = Scores ≥70. The classification has been presented. The results of the analysis are shown pictorially in figure 4.5.

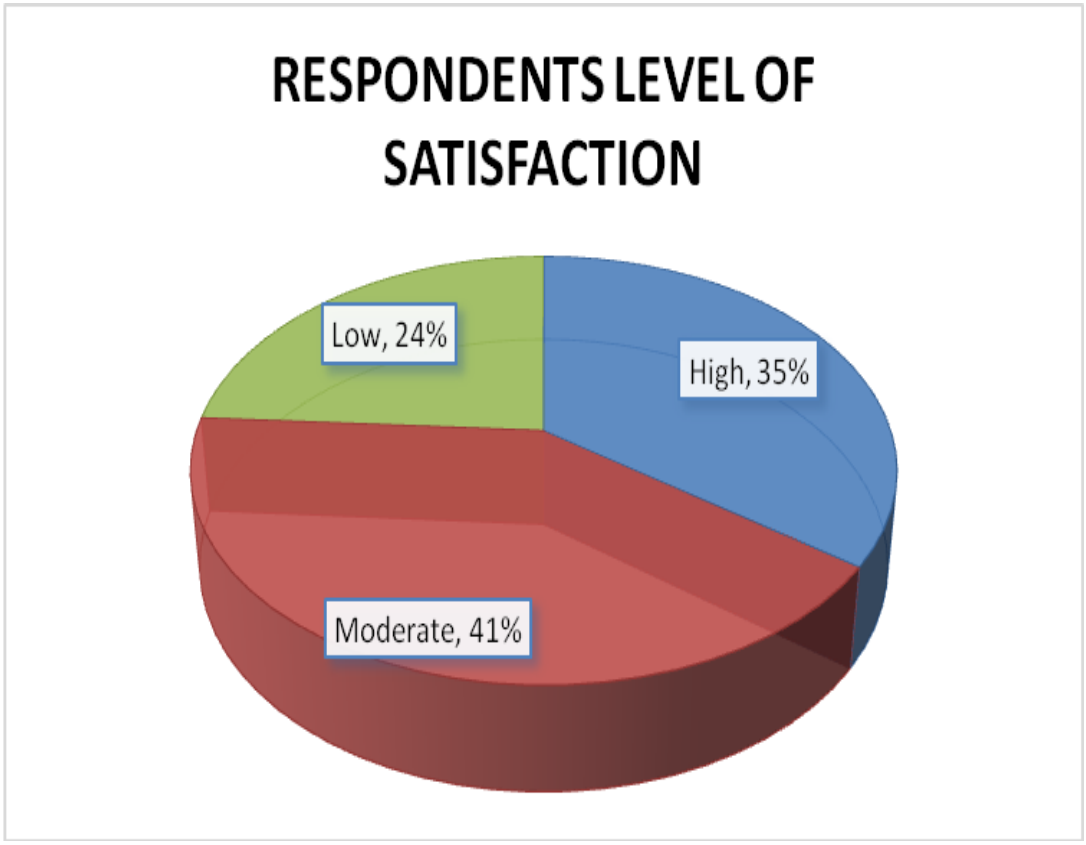


Figure 4.5: Classification of Respondents' Satisfaction with Pharmaceutical Care

The findings presented in figure 6 shows that the majority, about 41%, of the respondents were moderately satisfied with the roles of pharmacists in medication therapy management, which prevents ADEs and results in effective drug therapy. In comparison, about 24% expressed low satisfaction with the pharmaceutical services they received. Only about 35% were delighted with the roles of pharmacists in MTM in the selected hospitals.

4.8 Factors influencing Patients' Satisfaction with Pharmaceutical Care in Medication Therapy Management

This section presents the results on factors that influenced the perceived patients' satisfaction levels with pharmaceutical services regarding mediation therapy. The study examined the impacts of such factors as the respondents' demography, operating environments, perceptions of roles of pharmacists, cultural factors like language, ethnicity, religion, interpersonal relationships etc., on perceived levels of satisfaction with pharmaceutical services.

Table 4.16: Socio-Demographic Characteristics of Respondents and Level of Satisfaction with Pharmaceutical Services in Public hospitals

Characteristics	Perceived Level of Satisfaction			
	Low	Moderate	High	Total
				Age (in years)
20 - 29 years	53(26.2)	83(41.1)	66(32.7%)	202 (26.3)
30 - 39 years	60(25.0)	109(45.4)	71(29.6)	240(31.2)
40 - 49 years	29(23.6)	56(45.5)	38(30.9)	123(16.0)
50 - 59 years	23(21.9)	37(35.2)	45(42.9)	105(13.7)
60 above years	21(21.2)	26(26.3)	52(52.5)	99(12.9)
Chi-Square Value =22.211, P-value = 0.005				
Gender				
Female	143(26.8)	213(39.9)	178(33.3)	534(69.4)
Male	43(18.3)	98(41.7)	94(40.0)	235(30.6)
Chi-Square Value = 7.036 , P-value =0.030*				
Religion				
Christianity	95(23.2)	147(35.9)	168(41.0)	410(53.3)
Islam	89(23.2)	158(45.4)	101(29.0)	348(45.3)
Traditional	2(18.2)	6(54.5)	3(27.3)	11(1.4)
Chi-Square Value = 13.218, P-value = 0.010*				
Marital Status				
Single	12(12.0)	38(38.0)	50(50.0)	100(13.0)
Married	166(26.8)	252(40.7)	201(32.5)	619(80.5)
Divorced	1(5.9)	10(58.8)	6(35.3)	17(2.2)
Widowed	7(21.2)	11(33.3)	15(45.5)	33(4.3)
Chi-Square Value = 20.828 , P-value = 0.002*				
Ethnicity				
Yoruba	179(24.9)	295(41.1)	244(34.0)	718(93.4)
Igbo	0(0.0%)	6(30.0)	14(70.0)	20(2.6)
Hausa	7(41.2)	8(47.1)	2(11.8)	17(2.2)
Others	0(0.0)	2(14.3)	12(85.7)	14(1.8)
Chi-Square Value = 33.463, P-value = 0.000*				
TOTAL	**186(24.2)**	**311(40.4)**	**272 (35.4)**	**769(100.0)**

Source: Field Survey, 2019 ***Significant**

Table 4.16 shows that religion significantly influences people's level of satisfaction with the services of pharmacists. The results show that most Muslims (45.4%) were moderately satisfied while Christians (41.0%) were highly satisfied with the services of pharmacists in the public hospitas. This could be related to the roles of the religious leaders and institutions in creating awareness on roles of hospitals pharmists in the reduction of prevalence of advere drug events. Most (70.0%) of the few Igbos who participated in ths study were highly satisfied with services they received in the hospital pharmacies because of their level of education. There were fewer aprtcipants from other ethnic groups because the study locations and sites are in Yoruba lnad and populated majorly by the Yrouba.

The results of the chi-square analysis at $p \leq 0.05$ showed that all the socio-demographic variables significantly related to the perceived level of satisfaction of respondents with pharmaceutical care concerning medication therapy in secondary public health institutions in Oyo State. This position shows the influence of demographic variables such as age, gender, religion and marital status on the perceptions and expectations of the people. It also affirms the sensitive nature of gender, women in particular, to services rendered in the health institutions as more women patronised the hospitals than men. This position was reiterated by some comments from some of the women interviewed:

> You know, child-bearing women are those patronising the hospitals more. If not for our maternal health, it will be for our children. And we are more sensitive to the treatment of our children, even more than ours. If you treat my children well, I will like you **(IDI/Female Patient/ Moniya/December 2019)**

> I love to go to public hospitals because they have always been having drugs to treat childhood diseases. The pharmacist sometimes helps to mix the suspension for my children **(IDI/Female Patient/ Oyo/December 2019)**

Table 4.17: Relationship between Socio-economic Characteristics of Respondents and Level of Satisfaction with MTM in Pharmaceutical Care

Characteristics	Perceived Level of Satisfaction			
	Low	Moderate	High	Total
Education				
No formal education	14(23.3)	21(35.0)	25(41.7)	60(7.8)
Primary	34(21.7)	80(50.9)	43(27.4)	157(20.4)
Secondary	73(25.5)	93(32.5)	120(42.0)	286(37.2)
Tertiary	65(24.4)	117(44.0)	84(31.6)	266(32.5)
Chi-Square Value =18.740, P-value =0.005*				
Occupation				
Unemployed	11(11.7)	53(56.4)	30(31.9)	94(12.2)
Civil servant	124(27.7)	173(38.7)	150(33.6)	447(58.1)
Self-employed	21(21.9)	37(38.5)	38(39.6)	96(12.5)
Traditional ruler	1(25.0)	1(25.0)	2(50.0)	4(0.5)
Religious leader	2(28.6)	1(14.3)	4(57.1)	7(0.9)
Teaching/lecturing	21(30.0)	17(24.3)	32(45.7)	70(9.1)
Others	6(11.8)	29(56.9)	16(31.4)	51(6.6)
Chi-Square Value = 36.998, P-value = 0.001*				
Respondents' Estimated Monthly income				
less than ₦20000	55(22.1)	112(44.9)	82(33.0)	249(32.4)
₦20001 – ₦39999	64(24.2)	95(36.0)	105(39.8)	264(34.3)
₦40001 – ₦59999	39(28.1)	61(43.9)	39(28.0)	139(18.1)
₦60000 and Above	28(23.9)	43(36.8)	46(39.3)	117(15.2)
Chi-Square Value = 9.166, P-value = 0.164				
Estimated Respondents' spouses' Monthly Income				
less than ₦20000	33(29.5)	64(57.1)	15(13.4)	112(14.6)
₦20001 – ₦39999	43(20.6)	101(48.3)	65(31.1)	209(27.2)
₦40001 – ₦59999	51(23.1)	94(42.5)	76(34.4)	221(28.7)
₦60000 and Above	59(26.0)	52(22.9)	116(51.1)	227(29.5)
Chi-Square Value = 63.582, P-value =0.000*				
TOTAL	**186(24.2)**	**311(40.4)**	**272(35.4)**	**769(100.0)**

Source: Field Survey, 2019 ***Significant**

The results showed that respondents' level of education and estimated income of spouses were found to be significantly associated with the level of satisfaction. This shows the influence of significant others on satisfaction because, in some instances, family members are often involved in managing members' health, including the cost of medication. This was supported by some of the comments of those interviewed, some of which are presented here:

> In this family, health decisions are taken jointly because of the cost of medication. We are lucky as salary earners. Government has a special health insurance scheme for workers which take care of my expenses. My husband pays for the rest of the family. This is why I attend public hospitals **(IDI/Female Patient/ Adeoyo/ December 2019)**

> I allow my husband to take most decisions because he is more educated than me. And he is the head of the family. And he is the 'olowo ori' (payer of my bride price) and should be able to primarily pay for the family healthcare (laughs). I pray God to always bless him for that. However, I also add some when necessary **(IDI/Female Patient/ Oyo/ December 2019)**

Some of those interviewed opened up on why some people may not be satisfied with the services of pharmacists in the hospitals. The excerpts are presented here:

> In some cases, the prices of drugs in the hospital are more than the prices of the drugs bought from outside the hospital. This can force people to buy from outside and then expose them to risks of buying fake drugs and death **(IDI/ Male Patient/ Saki/December 2019)**

The study further examined the relationship between patronage of public pharmacy and patients' satisfaction on the results is presented in Table 4.18

Table 4.18: Relationship between Rate of Patronage of Hospitals and Level of Satisfaction with Services of Pharmacists in MTM

Characteristics	Perceived Level of Satisfaction			
Number of Visits in a year	**Low**	**Moderate**	**High**	**Total**
1	45(22.5)	67(33.5)	88(44.0)	200(26.0)
2 – 3	114(29.6)	154(40.0)	117(30.4)	385(50.1)
4 – 5	18(15.1)	64(53.8)	37(31.1)	119(15.5)
6 – 10	9(13.8)	26(40.0)	30(46.2)	65(8.5)
Chi-Square Value = 29.135, P-value =0.000*				
Health Facility patronised				
Government hospital	158(24.3)	255(39.3)	236(36.4)	649(84.4)
Private clinic	25(26.0)	42(43.8)	29(30.2)	96(12.5)
Traditional hospital	1(14.3)	3(42.9)	3(42.9)	7(0.9)
Combination	2(11.8)	11(64.7)	4(23.5)	17(2.2)
Chi-Square Value = 6.158 , P-value =0.406				
Rate of use of Pharmacy in Public Health Institutions				
Very often	27(19.6)	68(49.3)	43(31.1)	138(17.9)
Often	76(23.6)	154(47.8)	92(28.6)	322(41.9)
Sometimes	72(29.5)	73(29.9)	99(40.6)	244(31.7)
Occasional	10(18.2)	15(27.3)	30(54.5)	55(7.2)
Not at all	1(10.0)	1(10.0)	8(80.0)	10(1.3)
Chi-Square Value = 42.225, P-value =0.000*				
TOTAL	**186(24.2)**	**311(40.4)**	**272(35.4)**	**769(100.0)**

Source: Field Survey, 2019 ***Significant**

It was established that the level of satisfaction was significantly influenced by the patronage of public hospitals. It was established that the number of times respondents visited the hospitals and the rate of use of the services at the pharmacies influenced their opinions and thus level of satisfaction. This explains the influence of social interaction on perceptions of quality of services and thus level of satisfaction. The average visits to the hospitals and regularity of patronage to the pharmacy can indicate the level of intimacy and intensity of social interaction and acculturation, which therefore have a higher tendency for the realization of expectations. This subjectively evaluates the extent to which healthcare services expectations have been realized or achieved (IIiyasu 2010). This was supported by the comments of some respondents during IDI that gives credence to this position relating to the patients' expectations:

> As for me, I rarely attend the hospital. I go there sometimes once or twice a year. And once treated, I just went away. My wife can talk more about the quality of services in that place. Like now, I am forced to accompany her because my younger sister is not around **(IDI/Male Relative/Ring Road/December 2019)**

> If you visit the hospital regularly, you will know whether their service is improving or not. Those of us who always bring our children to the hospital and buy drugs from the pharmacy can tell you it has been enhanced though there are still some little challenges **(IDI/Female Patient/Adeoyo/ December 2019)**

4.8.1 Operating Work Environment of Pharmacists and Respondents' Level of Satisfaction

Human and material factors are essential in assessing the quality of services provided by pharmacists concerning dispensing appropriate medications in line with prescriptions. The study helped elaborate more on the influence of these factors in determining the level of satisfaction with pharmacists and their roles in MTM. This is presented in Table 4.20

Table 4.19: Relationship between Operating Work Environment of Pharmacists and Respondents' Level of Satisfaction

S/N	Factors	Level of Satisfaction			
		Low	Moderate	High	Total
1.	Pharmacists' sufficiency				
	Adequate	30(17.5)	58(33.9)	83(48.5)	171(77.8)
	Inadequate	156(26.1)	253(42.3)	189(31.6)	598(22.2)
	Chi-Square Value =17.106, P-value =0.000*				
2.	Perceived determinants of sufficiency				
	Only a few are needed	15(16.3)	3740.2)	40(43.5)	92(12.0)
	They are not needed	2(5.7)	15(42.9)	18(51.4)	35(4.6)
	Others can perform their roles	1(11.1)	6(66.7)	2(22.2)	9(1.2)
	Their roles are unknown	1(7.7)	3(23.1)	9(69.2)	13(1.7)
	Perform insignificant roles	4(26.7)	1(6.7)	10(66.6)	15(2.0)
	They have not been employed	149(26.1)	234(41.1)	187(32.8)	570(74.1)
	Others	14(40.0)	15(42.9)	6(17.1)	35(4.4)
	Chi-Square Value = 38.257, P-value =0.000*				
3.	Adequacy of Pharmacy supporting staff				
	Adequate	67(26.5)	81(32.0)	105(41.5)	253(32.9)
	Inadequate	119(23.1)	230(44.6)	167(32.4)	516(67.1)
	Chi-Square Value = 11.448,P-value =0.003*				
4.	Drugs availability in public hospitals?				
	Very Sufficient	79(25.2)	123(39.2)	112(35.7)	314(40.8)
	Not Enough	97(28.2)	123(35.8)	124(36.0)	344(44.7)
	Fairly Enough	9(8.9)	60(59.4)	32(31.7)	101(13.1)
	Don't know	1(10.0)	5(50.0)	4(40.0)	10(1.4)
	Chi-Square Value = 24.689, P-value =0.000*				
5.	Adequacy of space for the pharmacists				
	Very Adequate	4(8.0)	32(64.0)	14(28.0)	50(6.5)
	Fairly Adequate	118(27.5)	165(38.5)	146(34.0)	429(55.8)
	Not Adequate	64(22.4)	113(39.5)	109(38.1)	286(37.2)
	Don't know	0(0.0)	1(25.0)	3(75.0)	4(0.6)
	Chi-Square Value =19.668, P-value =0.003*				
6.	Adequacy of facilities in the pharmacy, e.g. Refrigerator, tables and chairs?				
	Very Adequate	8(13.3)	32(53.3)	20(33.3)	60(7.8)
	Fairly adequate	66(22.5)	106(36.2)	121(41.3)	293(38.1)
	Not adequate	101(27.4)	141(38.3)	126(34.2)	368(47.9)
	Don't know	11(23.0)	32(66.7)	5(10.4)	48(6.2)
	Chi-Square Value =28.825, P-value =0.000*				
7.	Pharmaceutical store in hospitals				
	Very Spacious	12(24.0)	17(34.0)	21(42.0)	50(6.5)
	Fairly Spacious	71(24.8)	91(31.8)	124(43.4)	286(37.2)
	Not Spacious	103(24.0)	199(46.4)	127(29.6)	429(55.8)
	Others	0(0.0)	4(100.0)	0(0.0)	4(0.6)
	Chi-Square Value = 25.278, P-value =0.000*				
8.	The work environment of the pharmacy				
	Very Conducive	6(14.6)	23(56.1)	12(29.3)	41(5.3)
	Fairly Conducive	55(19.8)	109(39.2)	114(41.0)	278(36.2)
	Not Conducive	124(28.1)	179(40.6)	138(30.3)	441(57.3)
	Others	1(11.1)	0(0.0)	8(88.9)	9(1.2)
	Chi-Square Value =25.750, P-value = 0.000*				
9.	Working relationship with other health workers				
	Very Cordial				
	Cordial	65(22.4)	115(39.7)	110(37.9	290(37.7)
	Not Cordial	117(27.7)	167(39.5)	139(32.9)	423(55.0)
	Others	2(5.6)	21(58.3)	13(36.1)	36(4.7)
	Chi-Square Value = 14.815 ,P-value =0.022*	2(10.0)	8(40.0)	10(50.0)	20(2.6)
	TOTAL	**186(24.2)**	**311(40.4)**	**272(35.4)**	**769(100.0)**

Source: Field Survey, 2019 **Key: H – High, M- Moderate and L-Low, T- Total**

Table 4.19 reveals the significance of the work environment in which pharmacists work in determining patients' perceptions and thus the level of satisfaction of respondents with the pharmaceutical care received from pharmacists and confidence about medication safety. The study revealed that patients' satisfaction with the roles of pharmacists could be significantly associated with their perceptions of the adequacy of drugs, conduciveness of environment sufficiency of available pharmacists in public hospitals, drugs availability and relationship with health workers MTM. One of the areas of concern was presented in an IDI presented thus:

> I do not like the hospital pharmacy because the waiting time is long and the space provided for patients to sit is inadequate. You end up spending more time, and your condition worsened when you should have taken one dose of your drugs **(IDI/Male Patient/Oyo/December 2019)**

Table 4.20: Relationship between Perceptions of the Roles of Pharmacists and Level of Respondents; Satisfaction with Pharmaceutical Services in Public Hospitals

Knowledge	Level of Satisfaction				Chi-Square value	Significant Value
	Low	Moderate	High	Total	828.552	0.001*
Low	73(39.2)	55(29.6)	58(31.2)	186(24.2)		
Moderate	55(17.7)	152(48.9)	104(33.4)	311(40.4)		
High	58(21.3)	104(38.2)	110(40.4)	272(35.4)		
TOTAL	186(31.6)	311(40.4)	272(35.4)	769(100.0)		

*** Significant**

Table 4.20 further reveals other factors that influence patients' level of satisfaction. The study analysed the relationship between the respondents' perceptions of the roles of pharmacists and levels of satisfaction. The people's perceptions of the roles of pharmacists are a measure of their expectations and thus significantly associated with their perceived level of satisfaction. The chi-square analysis at $p \leq 0.05$ showed that.

People's expectations are often based on what roles they expect pharmacists to play in MTM. It is a self-rating instrument by beneficiaries of the services provided by health workers, including pharmacists, for assessing the quality of their services. It is necessary to evaluate the impact of pharmacists' involvement in the MTM on the patients. It focuses on socio-pharmacy, which emphasises interactions and people participation in drug management to reduce the incidence of ADEs and improve the societal perception of pharmacists and pharmaceutical services.

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One of the participants during IDI stated that:

> It depends on the age and years in the profession, but the way pharmacists will attend to the patient is always better compared to Non-pharmacists, especially if there any side effect with drugs that one used **(IDI/Male Patient/Ogbomoso/December 2019)**

Another one expressed satisfaction with sales of drugs stating:

> *They sell authentic drugs, give advice, show empathy and are very nice. They generally care for you not to have medication problems* ***(IDI/Female Patient/Saki/December 2019)***

However, some of the participants expressed dissatisfaction with pharmacists' services concerning drug therapy. Some of their reservations are here presented:

> *They give drugs, no follow up. They never give advice. Drug reactions are often reported to Doctors because they write it, and we assume they know better* ***(IDI/ Female Patient/ Oyo/December 2019)***

Another patient complained about their attitude:

> *They need to improve their attitude. Their prices are not consistent; they are not considerate* ***(IDI/Female Patient/ Ring Road/December 2019)***

Some of the patients even alleged corruption in the system:

> Some of them divert the drugs to their shops. They hide some special drugs from the public and direct you to their shops in town or
> those owned by their friends or family **(IDI/Male Patient Relati ve/Moniya/December 2019)**

Some even complained about the insignificance of the pharmacy in medication therapy:

> Doctors have already taken the position of pharmacists in our system. They are the first line of contact. Doctors are seen more than Pharmacists. And this made some people not to be satisfied with the general healthcare **(IDI/ Female Patient/ Ring Road/December 2019)**

Complaints on the need for follow-up on medications were documented as expressed here:

> *'Follow wetin?' They don't bother to know what happens to you after collecting their own money. The follow up is poor. They don't seem to see it as necessary* ***(IDI/Female/Patient/Saki/ December 2019)***

Another person stated thus:

> They are human beings; at times, they are stressed and misbehaved. Understanding matters a lot. They sell drugs, but some are seen selling clothing materials at work (laugh). Pharmacists can be following up on medication but not in Nigeria. It is money that matters **(IDI/ Male Patient/ Moniya/December 2019)**

4.8.2 Socio-cultural Factors Influencing Patients' Satisfaction with Pharmaceutical Care in Medication Therapy Management

Culture as a way of life influences household decisions, including health decisions. Socio-cultural factors relate to the influence of culture and interactions on patients' perceptions of medications, which may affect patients' satisfaction levels. The study examined patients' perceptions on the influence of socio-cultural factors that may influence their levels of satisfaction with pharmaceutical services concerning medication therapy. These include factors like ethnicity, language, religion, affinity, family relations, age grade and drug characteristics like taste, colour, size, smell, food choice concerning medications and many others grouped into 12-item scale with responses reading Strongly Disagreed (SD)-1, Disagreed (D)-2, Neutral (N)-3, Agreed (A)-4, and Strongly Agreed (SA)-5, which were later re-coded into three-item scale reflecting: Agreed (A)-1, Neutral (N)-2, Disagreed (D)-3

Table 4.21 Socio-Cultural Factors Influencing Medication Therapy Management and Patients' Satisfactions

Socio-Cultural factors	Level of Satisfaction (N=769)		
	Low	Neutral	High
1. Modern medicament management is more efficacious and better than traditional medicine.	168(21.8)	36(4.7)	565(73.5)
2. Medication from hospital pharmacies will give desired results to health problems.	321(41.7)	19(2.5)	429(55.8)
3. Medication is more beneficial to the young ones than the elderly.	393(51.1)	130(17.0)	246(32.0)
4. Men ensure adherence to drug prescriptions than women.	252(33.5)	124(16.1)	387(50.3)
5. Family relations often assist more in ensuring adherence to drugs'	349(45.4)	36(4.7)	384(49.9)
6. There is a preference for age mates or contemporary in age dispensing drugs to patients	549(71.4)	84(10.9)	136(17.7)
7. There is gender preference in dispensing and discussing medication which involves sensitive body parts	201(26.1)	37(4.8)	531(69.1)
8. Adequate comprehension of health education ensures repeat visit	325(42.3)	26(3.4)	418(54.3)
9. Courtesy and promptness of pharmacists will encourage patronage and enhance satisfaction	144(17.8)	202(26.3)	423(55.0)
10. Denial of assessing to knowledge on the content of prescription discourages patronage of pharmacy	294(38.2)	147(19.1)	328(42.7)
11. Time spent in pharmacy is part of the treatment process to be accepted	252(32.8)	31(4.0)	486(63.2)
12. Food restrictions often affect adherence to the use of medication prescriptions	313(40.7)	19(2.5)	437(56.8)
13. Confidence of good pharmacist-patient interaction guarantees satisfaction with	249(33.0)	110(14.3)	405(52.7)
14. Familiarity with a pharmacist contributes to medication adherence.	195(35.4)	33(4.3)	541(70.3)
15. There is a preference for pharmacists of the same ethnic group as that patients	154(20.0)	38(4.9)	577(75.0)
16. The language of communication of drugs prescription is important in understanding the use of drugs by patients	173(22.5)	53(6.9)	543(70.6)
17. Colour, size and taste affect the acceptability of medication	188(24.4)	48(6.3)	533(69.3)
18. Patients love to be attended to by someone of the same religion	234(30.4)	48(6.2)	487(63.4)
19. Religious restriction to drugs made from forbidden drinks and food items is crucial to effective medication in MTM	436(56.7)	27(3.5)	306(39.9)
20. Drugs regime during special religious obligations is a crucial factor to the efficacy of drugs e.g. fasting period	306(39.8)	43(5.6)	420(54.6)

Source: Field Survey, 2019

The majority, about 74.0%, of the respondents agreed that the modern methods of managing medications were better and more effective in preventing adverse side effects than the traditional method, which they considered to lack any organised scientific management methods. Some of those interviewed during IDIs corroborated this:

> I get better whenever I take the pills, though I sometimes have a problem swallowing them. And they act very fast. They also have regular doses to be taken. And are odourless compared to some of the 'agbo' (herbal mixture) we take **(IDI/ Female Patient/Saki/December 2019)**

> Modern drugs are prepared in clean environments and specifications based on scientific methods. The active elements are combined in proportions that will not be dangerous to the body **(IDI/Male Patient/ Ring Road/ December 2019)**

On the categories of those who possibly would benefit from medication therapy by pharmacists, almost half (51.1%) of the respondents were not satisfied with the notion that children would benefit more. About half (50.3%) of the respondents agreed that men would religiously ensure adherence to prescriptions and that family members often assisted in ensuring compliance. Many, about 71.0%, did not think that the age of pharmacists mattered in relating to the patients. However, a more significant percentage (69.1%) felt people would be highly satisfied when persons of the same gender handled their special medications for health challenges related to their private parts. Most (about 70.0%) of the respondents were satisfied with the level of familiarity with pharmacists and thus believed that it contributed to adherence to medication prescription and thus enhanced MTM. It is noteworthy that courtesy and promptness of pharmacists helped to attract more patients to the pharmacies as more people, about 55.0%, believed it would encourage patronage and enhance satisfaction.

Cultural factors influenced patients' expectations and assessments of the quality of services rendered by pharmacists. These included the religion and language of the pharmacists. The majority (about 75.0%) of the respondents agreed that they could be highly influenced by the ethnicity of the pharmacists attending to their medication needs. They felt highly satisfied being attended to by a pharmacist of the same ethnic

group, while about 71% felt safer when attended to by anyone who could communicate their drugs prescription to them in their local language or dialect. A more significant number, about 63.0%, of respondents and patients loved to be attended to by persons of the same religion, though about half, 55.0%, still felt that drugs usage and efficacy could be affected by special religious obligations like fasting and their perceptions of quality of services rendered by the pharmacist. It was opined that such a pharmacist would help them find ways to use their drugs during fasting or other special occasions or prescribe different forms of medications that will not disrupt their religious obligations.

On the influence of religion, ethnicity, language and familiarity, some of those interviewed expressed their opinions on how these factors could affect their perceptions of the quality of services of pharmacists. For instance, the following excerpts from the various IDIs held affirmed the impact of these factors on a satisfactory level with pharmaceutical care:

> I am always willing to come to the pharmacy here. They speak our language, Yoruba, and are very accommodating and welcoming. They interact with you and call you by your first name as if they have always known you **(IDI/ Female Patient/Moniya/December 2019)**

Another respondent stated thus:

> They respect my religion, especially dealing with women in purdah. Sometimes, they even ask if one is not fasting to determine the drugs to be dispensed. They communicate very well when supplying the medications. They respect the elderly and play with their age mates as friends. **(IDI/ Female Patient/ Saki/December, 2019)**

4.9 Report on Non-Participatory Observation for Pharmacists

A checklist for the roles pharmacists was drawn to guide non-participant observers. This further revealed the activities of pharmacists in the selected hospitals concerning MTM. The checklist was a 12-items guide used to assess the performances of hospital pharmacists in the selected hospitals in Oyo state (see appendix IX). The researcher led

a team of two other assistants in observing activities in each of the hospitals daily for an average of three hours. Summary of observation result is presented thus:

On professional dressing, it was observed that pharmacists in almost all the selected hospitals dressed professionally by putting on laboratory coats and discharged their duties with much enthusiasm and culturally sensitivity in their handling patients' complaints on drugs. They were described as very diligent. However, in one of the hospitals, the pharmacists were alleged not to display their identity for ease of identification by patients

In all the hospitals visited, the pharmacists were reported to communicate well with patients. In one of the hospitals, it was observed that patients were counselled on the uses of drugs. There was a cordial relationship amongst the health professionals in the hospitals visited. In all the hospitals, communication was done in Yoruba except in a few cases where non-Yoruba patients had to be addressed in Pidgin English.

On dosage of drugs to meet specific disease state, most hospitals visited always carried out further tests before dispensing special medications prescribed for some diseases. For instance, pharmacists in one of the hospitals ensured that patients with renal or hepatic diseases were guided against the use of certain contraindicated drugs. In another hospital, the pharmacist insisted on doing liver and kidney tests for certain patients before placing them on ARVs (Zidovudine/Lamivudine/Neurapine). Polypharmacy, as well as inappropriate dosage, were questioned and clarified with the physician.

On compounding and reconstitution of powder drugs, there were observed differences in pharmacists' attitudes to this. In half of the hospitals selected for observation, pharmacists were not doing these themselves. In some cases, the drugs were said to be in the required form, like syrup (suspension). Instructions were, however, given to patients or their relatives on reconstitution of oral suspension, especially for children in paediatric drugs, with instruction on the duration of use. However, some of the hospitals' drugs were reconstituted, e.g., amoxicillin suspension. All hospitals counsel their patients on the purpose, dosage and routine of administration of drugs. The details on

the application of medicines vary from one hospital to another. More explanations were often given on new drugs to patients using them for the first time.

In case of a medication error, patients were often sent back to the physician, as observed in almost all the hospitals. Patients were counselled on the need to adhere strictly to prescriptions and timely reports of cases of MRPs/ADEs. The pharmacists in two hospitals visited were observed to provide drug information to physicians, especially in the use of Moduretic in people with diabetes and hypertensive patients. Pharmacists were observed to exhibit professionalism and enthusiasm in discharging their duties.

However, not much public health advice on immunization was seen done at the hospitals visited. Only two of the hospitals visited were seen doing this, while further enquiry revealed that some had chosen certain days for public enlightenment on immunization. It was also observed that in some of the hospitals visited that the pharmacists were not doing comprehensive medication reviews intending to identify and prevent MRP and ADEs. The few hospitals who did review showed their records in the recommended yellow form. All the hospitals engaged in clinical medication management to review patients' medication history, especially those on admission.

All the hospitals complied with correct labelling, storage and rational use of drugs; though it was observed that some of them have very small stores, shared storage facilities and even have inadequate or faulty refrigerators to keep certain drugs at recommended temperature. Some of the hospital pharmacies have a thermometer to measure the room temperature.

It was observed that many of the hospitals did not document the care delivered in the pharmacy as prescriptions were not retained in the pharmacy, except the prescription with controlled drugs such as lexotan. Communication with other primary care providers was done minimally on rare cases in most hospitals visited.

4.10: Multivariate Analysis of Relationships between Respondents' Characteristics, Perceived Roles of Pharmacists, Socio-Cultural Factors and Levels of Respondents' Satisfaction with Pharmacists in MTM

Multivariate analysis was conducted to determine the extent to which all the factors interacted and the direction of their relationships. At a 5% level of significance, multiple regression was adopted to determine the predictors and strength of relationships amongst the factors. The multivariate analysis, using multiple regressions, was used to see the interplay of these factors in shaping respondents' level of satisfaction.

The study examined how socio-cultural factors regressed with the demography of respondents and respondents' perceptions of the roles of pharmacists. This is presented in table 4.22.

Multiple regression analysis was used to examine how the demographical characteristics of patients and socio-cultural factors regressed with patients' knowledge of the roles of pharmacists. The study further examined the different relationships between the socio-cultural factors and patients' satisfaction with pharmaceutical services concerning MTM. Some of the Socio-cultural factors were found to have a significant relationship. Table 4.23 reveals the different responses of the patients on their perceptions of socio-cultural factors that affect MTM.

Table 4.22: Multiple Regressions of Social Charateristics of Respondents and Socio-Cultural Factors with Perceptions of the Roles of Pharmacists.

LEVEL OF KNOWLEDGE OF ROLE		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.668	.172		15.491	.000
	Age group	.019	.020	.042	.932	.032
	Gender	.061	.052	.044	1.185	.006
	Level of Education	-.057	.029	-.088	-2.205	.036
	Religious Affiliation	-.033	.042	-.028	-.748	.255
	Ethnic Group	-.050	.040	-.039	-1.103	.004
	Occupation	-.003	.016	-.009	-.243	.808
	Marital Status	-.019	.023	-.030	-.691	.026
	The estimated income per month	-.005	.010	-.010	-.246	.043
	Spouse's estimated income per month	.015	.034	.012	.472	.632
	Number of the visit to the pharmacy	-.007	.022	-.009	-.246	.010
	Health Facility Used	.030	.023	.025	1.14	.045
	Rate of use public health	-.049	.041	.043	1.192	.234
	Modern medicaments management is more efficacious and better than traditional medicine.	-.004	.023	-.008	-.182	.057
	Drugs purchased in hospital gives better results	-.022	.025	-.036	-.786	.032
	Medication is more beneficial to young ones.	-.021	.015	-.054	-1.423	.008
	Men ensure adherence to drug prescriptions than women.	.042	.012	.067	1.026	.007
	Family relations often assist more in ensuring adherence to drugs' prescriptions.	-.012	.010	-.068	-1.566	.118
	There is a preference for age mates or contemporary in age dispense to patients.	.020	.025	.042	.803	.099
	There is gender preference in dispensing and discussing medication that involves sensitive body parts.	.007	.015	-.043	-1.037	.180
	Adequate comprehension of the health education on medications will ensure repeat visits to the pharmacy.	-.021	.031	.020	-1.027	.003
	Courtesy and promptness of response of pharmacists will encourage satisfaction with the use of pharmacy	-.032	.018	-.042	.467	.143
	Denial of assesses to knowledge on the content of prescription paper discourages the use of the pharmacy.	-.052	.010	.037	-.859	.391
	Time spent in the pharmacy is part of the treatment process to be accepted.	.019	.036	.019	.475	.072
	Food restriction often affect adherence to using medicaments	-.007	.013	-.020	-.434	.665
	Confidence of good pharmacist-patient interaction guarantees satisfaction with MTM.	.009	.020	.018	.432	.665
	Familiarity with a pharmacist contributes to medication.	.014	.004	.004	.096	.023
	There is a preference for the pharmacist of the same ethnic group with patients for better relations.	-.005	.025	-.008	.192	.848
	The language of communication of drugs prescription is important in understanding the use of drugs by patients.	-.014	.034	-.032	-.780	.435
	The colour, size, tastes are factors in the acceptability of medication.	.003	.045	.013	.322	.008
	Patients love to be attended to by someone of the same religion.	.017	.012	.041	.985	.325
	Religious restrictions to drugs made from forbidden drinks and food are crucial to the acceptability of MTM	-.006	.072	.010	-.234	.815
	Drugs regime during special religious obligations is a crucial factor to the efficacy of drugs. E.g. fasting period.	.034	.004	.056	1.027	.002

The multiple regression analysis reveals that most socio-demographic and socio-economic characteristics of the respondents and socio-cultural factors regressed significantly at $p \leq 0.05$ in determining the perceptions of respondents about the roles of pharmacists. The table reveals that age, gender, education, ethnicity, marital status and income significantly related to socio-cultural factors, while religion, occupation and spouse's estimated income did not significantly regress in influencing knowledge of roles of pharmacists.

The study further analysed how respondents' socio-demographic and socioeconomic characteristics related to socio-cultural factors in determining the level of satisfaction of respondents with the pharmaceutical services in public hospitals in terms of MTM. The result is presented in Table 4.23

Table 4.23: Multiple Regression of Socio-Demography, Socio-Economics, Socio-Cultural with Level of Satisfaction

Level of Satisfaction		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.454	.215		6.749	.000
	Age group	.029	.022	.044	1.919	.01
	Gender	.034	.054	.020	.537	.591
	Level of Education	.051	.023	.078	1.852	.034
	Religious Affiliation	.043	.051	.030	.815	.04
	Ethnic Group	.118	.058	.100	2.744	.006
	Occupation	-.010	.012	-.023	.627	.031
	Marital Status	-.004	.034	-.005	-.115	.099
	Estimated income per month	.002	.021	.003	.068	.043
	Spouse's estimated income per month	.017	.014	.045	1.216	.021
	Number of the visits to the pharmacy	.017	.033	.019	.527	.048
	Health Facility Used	-.022	.043	-.016	-.424	.002
	Rate of use public health	.020	.031	.038	.742	.032
	Modern medicaments management is more efficacious and better than traditional medicine.	-.022	.026	-.035	-.853	.094
	Drugs purchased in hospital gives better results	.031	.034	.042	.943	.030
	Medication is more beneficial to young ones.	-.024	.023	-.040	-1.058	.002
	Men ensure adherence to drug prescriptions than women.	.028	.027	.048	1.320	.031
	Family relations often assist more in ensuring adherence to drugs' prescriptions.	.002	.054	.003	.136	.896
	There is a preference for age mates or contemporary in age dispense to patients.	.018	.035	.067	.611	.541
	There is gender preference in dispensing and discussing medication that involves sensitive body parts.	-.029	.029	-.047	-1.004	.316
	Adequate comprehension of the health education on medications will ensure repeat visits to the pharmacy.	.004	.025	.007	.153	.054
	Courtesy and promptness of response of pharmacists will encourage satisfaction with the use of pharmacy	.008	.026	.012	.397	.066
	Denial of assesses to knowledge on the content of prescription paper discourages the use of a pharmacy.	-.020	.042	-.042	-.921	.358
	Time spent in the pharmacy is part of the treatment process to be accepted.	-.003	.019	-.005	-.133	.895
	Food restriction often affect adherence to use medicaments	.005	.012	.010	.246	.069
	Confidence of good pharmacist-patient interaction guarantees satisfaction with MTM.	-.032	.024	-.057	-1.350	.008
	Familiarity with a pharmacist contributes to medication.	-.030	.019	-.045	-1.044	.297
	There is a preference for the pharmacist of the same ethnic group with patients for better relations.	.052	.042	.073	1.690	.043
	The language of communication of drugs prescription is important in understanding the use of drugs by patients.	-.038	.023	-.071	-1.699	.090
	The colour, size, tastes are factors in the acceptability of medication.	-.039	.023	-.057	-1.444	.049
	Patients love to be attended to by someone of the same religion.	.030	.021	.061	1.449	.148
	Religious restrictions to drugs made from forbidden drinks and food are crucial to the acceptability of MTM	-.005	.020	-.010	-.244	.807
	Drugs regime during special religious obligations is a crucial factor to the efficacy of drugs. E.g. fasting period.	.005	.027	.012	.251	.006

Table 4.23 reveals that most socio-demographic and socio-economic characteristics of the respondents and socio-cultural factors regressed significantly at $p \leq 0.05$ in determining the level of patient's satisfaction with the services of pharmacists concerning Medication Therapy Management. The table reveals that age, education, religion, ethnicity, Occupation, the estimated income of respondents and their spouses, all indicators of patronage of pharmacy units and some socio-cultural factors significantly influenced the level of satisfaction of respondents.

Some of the socio-cultural factors significantly regressed with respondents' characteristics and patronage of the pharmacy unit to determine the level of satisfaction with MTM in public hospitals. They include perceptions that drugs purchased in hospital give better results; medication is more beneficial to the young ones; men ensure adherence to drug prescription than women; adequate comprehension of health education on medications will ensure repeat visits to pharmacy; and belief that confidence of good pharmacist-patient interaction guarantees satisfaction with MTM.

Other factors are shown to influence respondents' level of satisfaction significantly. They include the opinions that there is a preference for the pharmacist of the same ethnic group with patients for better relations, colour, size, and taste. These are factors in acceptability of medication, drugs regime during special religious obligations is crucial to the efficacy of drugs, e.g. fasting period. Gender and marital did not significantly regress with other factors to significantly influence respondents' satisfaction level.

The study tried to make other factors independent and intervening variables to determine their levels and degree of influence on respondents' level of satisfaction with the roles of pharmacists in MTM. This is presented in Table 4.25

Table 4.24: Multiple Regressions of Respondents' Social characteristics, Socio-Cultural Factors, Perceptions of Roles of Pharmacists and Work Conditions with Level of Satisfaction

LEVEL OF SATISFACTION	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	1.078	.459		2.346	.019
Modern medicaments management is more efficacious and better than traditional medicine.	-.022	.026	-.035	-.850	.003
Drugs purchased in hospital gives better results	.032	.034	.043	.943	.061
Medication is more beneficial to young ones.	-.024	.022	-.040	-1.038	.026
Men ensure adherence to drug prescriptions than women.	.025	.023	.040	1.294	.069
Family relations often assist more in ensuring adherence to drugs' prescriptions.	.004	.024	.007	.150	.881
There is a preference for age mates or contemporary in age dispense to patients.	.018	.030	.030	.601	.548
There is gender preference in dispensing and discussing medication that involves sensitive body parts.	-.030	.029	-.042	-1.011	.312
Adequate comprehension of the health education on medications will ensure repeat visits to the pharmacy.	.004	.020	.007	.166	.008
Courtesy and promptness of response of pharmacists will encourage satisfaction with the use of pharmacy	.028	.042	.013	.311	.018
Denial of assesses to knowledge on the content of prescription paper discourages the use of the pharmacy.	-.020	.014	-.056	-.909	.089
Time spent in the pharmacy is part of the treatment process to be accepted.	-.001	.032	-.002	-.138	.049
Food restriction often affect adherence to use medicaments	.002	.018	.008	.251	.060
Confidence of good pharmacist-patient interaction guarantees satisfaction with MTM.	-.033	.012	-.057	-1.354	.033
Familiarity with a pharmacist contributes to medication.	-.030	.029	-.036	-1.045	.292
There is a preference for the pharmacist of the same ethnic group with patients for better relations.	.035	.012	.073	1.692	.046
1 The language of communication of drugs prescription is important in understanding the use of drugs by patients.	-.035	.022	-.047	-1.271	.027
The colour, size, tastes are factors in the acceptability of medication.	-.039	.018	-.047	-1.447	.148
Patients love to be attended to by someone of the same religion.	.011	.042	.060	1.435	.012
Religious restrictions to drugs made from forbidden drinks and food are crucial to the acceptability of MTM	-.005	.020	-.010	-.241	.010
Drugs regime during special religious obligations is a crucial factor to the efficacy of drugs. e.g. fasting period.	.004	.009	.019	.238	.812
Level of knowledge of the role	.015	.044	.013.	.343	.032
how will you describe drugs availability in public hospitals?	.020	.054	.019	.370	.008
How will you describe the space provided by the pharmacists	-.013	.041	-.011	-.186	.052
How will you describe facilities in the pharmaceutical unit, e.g. Refrigerator, tables, chairs etc?	-.019	.024	.-020	.485	.629
How will you describe the pharmaceutical store in hospitals	.000	.058	.000	-.002	.998
How will you describe the entire working environment of the pharmacy	.032	.068	.026	.485	.028
How will you describe the working relationship between pharmacists and other health workers in the hospital	.077	.034	.068	1.371	.171
Age group	.029	.024	.053	1.187	.023
Gender	.034	.063	.020	.542	.588
Level of Education	.065	.023	.082	1.924	.042
Religious Affiliation	.043	.033	.030	.804	.047
Ethnic Group	.154	.055	.102	2.795	.005
Occupation	-.009	.016	-.021	-.581	.022
Marital Status	-.003	.034	-.004	-.098	.922
Estimated income per month	.000	.023	.001	0.18.	.016
Spouse's estimated income per month	.009	.010	.024	1.232	.054
Number of the visit to a pharmacy	.016	.033	.018	.488	.021
Health Facility Used	-.014	.042	-.010	-.281	.004
Rate of use public health	.030	.044	.025	.677	.080

Table 4.24 reveals how each of the indicators of socio-demographic and socio-economic characteristics of respondents together with indicators of patronage of pharmacy units in public hospitals, respondents' perceived knowledge of roles of pharmacists and socio-cultural factors regressed to determine the level of respondents' satisfaction with roles of pharmacists in MTM. The table reveals further that all the socio-demographic and socio-economic characteristics of respondents, except marital status, together with the rate of patronage, perceived roles of pharmacists, work environment and some socio-cultural factors significantly influenced the level of satisfaction of respondents with the roles of pharmacists in MTM in public hospitals.

Some of the Socio-Cultural factors influenced respondents' level of satisfaction with the roles of pharmacists in MTM in public hospitals. They include respondents perception of the efficacy of modern medication in terms of drug management, the perceived more benefits to young people, the influence of comprehensible health education on a repeat visit to the pharmacy, courtesy and promptness in service delivery and timeliness in responding to patients. Other socio-cultural factors include assurance of good pharmacist-patients relationship, perceived preference for the pharmacist of same ethnics group with patients for better relations, the perception that language of communication of drugs prescription is important in understanding the use of drugs by patients, the belief that patients love to be attended to by pharmacist of the same religion and those religious restrictions to drugs made from forbidden drinks and food. These are crucial to the acceptability of MTM.

The table further reveals that the work environment such as space, drugs availability in pharmacy, and the conduciveness of the entire work environment significantly influenced the level of satisfaction with the perceived roles of pharmacists in MTM.

4.11 Discussion of Findings

Patients' perceptions of the roles of pharmacists and their expectations of the quality of services are strong determinants of their levels of satisfaction. This helps to measure the outcome of healthcare services concerning the effectiveness of medications through Medication Therapy Management towards reducing and preventing Adverse Drug Events and thus standardise the practice of Pharmacy as posited by Theising et al. 2015. An understanding of the patients' perceptions will help to improve the overall quality of pharmaceutical services and thus necessary for the pharmacists in meeting the social needs of the society by being responsive to drug-related problems of the people

The demographic profile of respondents showed that more females, about 69.0%, patronised the hospitals. About 73.0% were married and of reproductive age and thus patronised largely for maternal issues and to seek treatment for their children against childhood diseases. Both quantitative and qualitative results confirmed this. This finding is in line with the postulates of Max Weber on Social Action theory that people seek the best place where their needs will best be met with maximum benefits. This also supports the position of Natasa, Radovanovic, Vasiljevic, Kocic and Jakovljevic (2019) on the purchase of over-the-counter drugs by women.

Findings from the study also revealed that: age and religion affected the number of visits to the hospital, averaging 2-3 times. It showed that most of those who patronised the hospitals did so for age-related diseases such as the elderly with hypertension and children with childhood diseases like diarrhoea, pneumonia and malaria. Religion influenced most family decisions as it is seen as a way of life. It often influences the health-seeking behaviour of people. Thus it determined the choice of the facility which would protect and preserve the religious creeds, especially of women. This is in line with the findings of Fasasi, Jegede and Aminu (2020) on the influence of religion on health-seeking behaviour.

The demographic characteristics also showed that most of the respondents were pretty educated, with about 71.5% being educated to a minimum secondary school level. Findings also revealed that patrons of the public hospitals were largely civil servants.

Thus most of those who patronised the hospitals were capable of assessing the performances of pharmacists in MTM and thus useful tool in determining patients' level of satisfaction with the roles of pharmacists in MTM in public hospitals. The study reveals that people with a higher level of education often patronise public hospital pharmacy more than those with lower educational qualifications. The level of education is a possible indicator of the level of health education of respondents. This is evidenced in the qualitative reports where some of the respondents even had friends while in school who were studying pharmacy. This aligned with Akonoghrere and Ogigirigi (2016) position on the significant interaction of educational qualification with the roles of pharmacists in MTM.

Since most of the respondents were civil servants, they would have been exposed to (or participated in) some public enlightenment campaigns or programmes such as health seminars and talks on drugs and medication-related problems. This may imply that disease management changes with the level of educational attainment. The more educated people are likely to seek healthcare from professionals and thus conscious of medication therapy management to avoid drug-related problems. This assertion is in line with the postulates of the Equity Theory of consumer satisfaction which explains the efforts by individuals to maximise their benefits or health outcomes from visiting the pharmacy. This is also demonstrated by human behaviour concerning rational decisions to maximise the benefits of patronising the public pharmacy, similar to the findings of Abodunrin and Adeoyo (2014).

Another significant finding of the study is that age, gender and marital status influenced patronage of public hospitals. This can be explained by the nature of sicknesses and persons taken to hospitals. It also revealed the household decision-making process. Married respondents were observed to patronise hospital pharmacies for their medications or those of their children or spouses. There were relatives, especially men, who often accompanied their wives or parents to the pharmacy to buy drugs. Married people are considered more responsible in a typical Yoruba setting with the responsibility of healthcare primarily that of the husbands. This finding, however,

contrasted with the findings of Akonoghrere and Ogigirigi (2016), which states that gender and age had no significant relationship with patient's choice of health care provider but in agreement that most people visit hospital pharmacy with an obligatory attitude. The finding is in line with that of Igbanugo et al. on the influence of gender in public perception of the care provided by pharmacists.

The analysis further revealed that socio-economic factors determined the available fund to pay for the cost of medication and thus affect patronage of hospitals and the use of hospital pharmacies. Occupation, income and spouse's income were found to have some influence on the number of times respondents visited hospitals and their rate of use of hospital pharmacy. The nature of the occupation of respondents will influence their economic state, and when added to their spouse's income, it will significantly influence the amount of money available for healthcare. The majority, 52.4%, of the respondents earned between N20,000:00 and N60,000:00, while about 56.0% of their spouses also earned similar income levels. Occupation and spouse's estimated monthly income were found to influence the choice of facility significantly. Qualitative responses also corroborated these findings showing that most people patronised public healthcare facilities based on the perceived low cost of drugs and other healthcare services. This was in line with Akonoghrere and Ogirigirigi (2016) findings that educational qualification and patients' disease state significantly influenced their choice of healthcare providers. The analysis further revealed the influence of spouses in household economic status, as aggregate income influenced patronage and perceived roles. Spouses' opinions are essential in household decision making on health as supported by IDIs. They influenced expectations and thus satisfaction with the activity of pharmacists concerning their services.-

The study examined patients' level of awareness about the critical roles pharmacists play as professionals in the provision of healthcare services. There was a high level of understanding, with about 89.0% being aware and most (about 67%) being aware through visits to the hospitals. The qualitative responses obtained revealed that people visited hospitals with an obligatory attitude. While some visited for their health challenges, some either accompanied their spouses, family members or brought their

children for healthcare. This affirmed the position of Akonoghrere and Ogigirigi (2016) and is in line with the equity theory of consumer satisfaction. People patronise the hospitals to seek healthcare and will assess the performances of the Pharmacists based on the awareness of their roles in medication therapy.

Further analysis revealed that all the socio-demographic characteristics of respondents influenced the knowledge of the roles of pharmacists in MTM except gender and marital status. This shows that household decision-making process and culture, as symbolised by ethnicity, largely influenced perceptions and thus expectations of the functions of pharmacists. Qualitative responses revealed variations in people's perceptions of medicine and medication-related problems. The people's perception of illness will influence their health-seeking behaviour and attitude to medications. Such, however, contrasts with the findings of Pico (2006), which discovered that socio-demographic variables such as age, sex, and race have very low correlations with satisfaction. Married patients visited the pharmacy more. Women were more caring for the health of family members and sought the use of proximal healthcare facilities in line with the findings of Abodunrin, Adeomi and Adeoye (2014) on clients' satisfaction with the quality of healthcare in South-western Nigeria.

The study analysed patients' perceived knowledge about the roles of pharmacists in MTM using certain 20-key items, which dwelt on the perceived core functions of pharmacists in the hospitals. The results showed the perceived knowledge of the functions being about 48.0% high, 45.0% low and only about 7% average. Generally, almost half of the respondents have high knowledge of the roles of pharmacists in drugs management as trained experts, which thus influenced their expectations and level of satisfaction. Such could be due to the patients' level of education and their occupational status. It also confirms that education largely influenced the knowledge of the functions of pharmacists in MTM. The level of knowledge was found to be similar to the findings of Truong, Layson-Wolf, De Bittner, Owen and Haupt (2003) that patients who are clients of pharmacists in a community pharmacy have minimal knowledge of the core elements of an MTM, but contrasted with that of Abodunrin and Adeoye (2014).

The study thus established that knowledge of pharmacists' roles in MTM affected the rate of patronage in terms of the visit to Pharmacy and choice of health facility. Most people who knew about the roles of pharmacists had certain levels of expectations. According to Akonoghrere and Ogirigirigi (2016), people's judgement of and rationality of the quality services provided by the pharmacist (MTM services) vary with changes in their knowledge base. Such means the higher the level of educational attainment, the more conscious they are of drug therapy management.

The criticality of the work environment in which pharmacists operate is underscored by the significant relationship established between perceived knowledge of roles of pharmacists and perception of the operating work environment and other conditions. Such include the sufficiency of Pharmacy, supporting staff, adequacy of space for Pharmacy, size of the store for drugs storage, working relationship with other team members. These were corroborated by the qualitative responses, which identified poor conditions of service for pharmacists as demotivating factors. Participants also talked about the poor work environment, inadequate facilities, staff shortage, and stress resulting from understaffing and insufficient supply of drugs leading to poor quality of services. Such aligns with Abodunrin et al. (2014) on people's satisfaction with waiting-time, sanitation and cleanliness of the hospitals. The work environment did not only lead to poor satisfaction but may further compound the health challenges of the people and may lead to medication errors. Such is in line with Aronson (2009) position on latent factors that could lead to medication errors, including working overtime, inadequate resources, poor support, and low job security.

Self-assessment of the roles and effectiveness of pharmacists through KII reveals pharmacists themselves believed their work environments were not conducive enough. They complained about a shortage of staff and a poor drug management structure. They complained about PPP not being adequately structured to effectively improve the availability of critical drugs in public hospitals and at affordable costs. Responses from IDIs and KIIs revealed perceived corruption in the drug supply chain in the health system. The civil servants in the health ministry were accused of forming a cartel that

specialised in the drug business in which certain drugs were re-directed to private hands. Findings revealed further that records of drugs supplied were not often updated while costs of some of the drugs were even higher than what was obtained in pharmacies outside the hospitals. There were alleged corruptions in the drug supply system. Such is in line with some of Akokuwebe and Adekanbi (2017) findings on corruption in the health sector and implications for service delivery in Oyo State Public hospitals.

The study extended to the Covid-19 period to cover the particular challenges related to drugs management and roles of pharmacists during epidemics and pandemics. The study discovered that many pharmacists lacked knowledge of online medication therapy. And for a few that knew, there was no series of training to enhance their efficiency. Most of the hospitals visited were experiencing infrastructural deficiencies. There was no regular supply of electricity; most of the hospitals did not have computers or access to internet facilities that would have facilitated online medication therapy. The patients, too, lacked the awareness that such facility could be made available to reduce their risks of contacting covid-19 virus through unrestricted movements to endemic areas.

Satisfaction is seen as a sensitive self-assessment tool of perception of the quality of healthcare services and the effectiveness of any facility. The analysis of patients' level of satisfaction based on key areas of pharmaceutical services classified patients' level of satisfaction with pharmaceutical services. Such was in terms of MTM into 35.0% high satisfaction, 41.0% moderate Satisfaction and 24.0% low satisfaction. Level of satisfaction is a measure of rating perceived performances with expectations that largely affect patronage (number of visits and use of hospital pharmacies). The study revealed that respondents expressed satisfaction with the quality of personnel, punctuality of pharmacists at their duty posts, relationship with other health professionals in the MTM team, work environment, courteous and friendly reception. There was moderate satisfaction with many other services like assessing patients' adherence to medication, method of payment for medication charges in hospitals, pharmacists' communication with patients on medication and overall satisfaction with pharmaceutical services concerning MTM. Such is in line with some of Mohammed and Odetola (2014) findings

on the criticality of communication in healthcare. IDIs revealed patients were not satisfied with an internal crisis resulting from the poor relationship between pharmacists and other healthcare professionals, affecting the quality of general healthcare provided. Such is in line with the position of Umesh (2017) on the need for mutually rewarding relationships amongst healthcare professionals to facilitate the achievement of optimal goals of Medication Therapy.

Further analysis of patients' satisfaction showed low satisfaction with follow-up with patients after dispensing drugs to monitor their health outcomes. Such was amidst the delivery of non-pharmacological medication education to patients, educating patients on how drugs work, assessing patients' adherence to medication, and patients' privacy with pharmacists and availability of prescribed medicines at the hospital pharmacy. All these affected the general level of satisfaction of patients with pharmaceutical care regarding medication therapy.

Sociologically most patients, especially those with critical health needs, will always want special attention and privacy with their healthcare providers. There is a perception that sighting a drug's label may reveal the nature of ailments. Disclosure, stigmatisation, and stereotyping are critical factors in managing people's health, especially high net worth individuals (HNIs). Most patients expressed low satisfaction with the general treatment pharmacists always give to them without considering their health and social status. Such sometimes discouraged people who desired personalised services from visiting the public hospitals' pharmacies. Such is in line with the findings of Ushie B, Ugal B, Ingwu A. (2016) on the influence of social status on health-seeking behaviour.

Further analysis of the factors that influenced respondents' satisfaction with the performances of pharmacists in MTM revealed that some of the Socio-demographic characteristics of respondents significantly related to the level of satisfaction of respondents with performances of pharmacists in the management of drugs. It showed that gender and ethnicity influenced respondents' satisfaction significantly. Such could be because women were the ones that largely patronised hospitals for their health, that of their children, and assistance to their aged parents in visiting hospitals. It also showed

the influence of culture in perceptions of services. IDI reiterated the influence of religion in choosing a healthcare facility, especially in medication for patients during special festivals like the fasting period.

Socio-economic characteristics influence the perceptions of services rendered and thus determine the level of satisfaction. Such relates to the social status and financial comfort of the household to finance the cost of medication. Education shows the social status of the household with more educated people capable of understanding the needs to patronise pharmacies, also understand the services rendered and the content of prescriptions. Estimated income of spouses also influenced satisfaction levels as a reflection of the influence of significant others in the household's socio-economic status and household decision making on health. In most cases, medical costs are financed by spouses who make critical decisions on major issues. These findings support Farris et al. (2010) that reduction of monetary expenses is usually associated with increased patronage. Such is also in line with the Weberian Social theory of comparative cost-benefit advantage.

Respondents' perceptions of the influence of the operating environment on the level's satisfaction with pharmaceutical services in pharmacies revealed how this possibly affected other issues as promptness in attending to patients, available spaces and facilities for the comfort of patients waiting in the queue, and drugs availability. The influence of workforce shortage on quality of service was also revealed by the analysis of the relationship between operating environment and perceived level of respondents' satisfaction with the quality of pharmaceutical services in MTM.

Such was supported by IDIs in which participants complained of time spent at the pharmacy because of a shortage of workforce. Inadequate space and storage facilities were found to affect the availability and supply of drugs in the hospital pharmacies, especially on chronic ailments and thus indirectly encourage patronage of quacks and purchase of fake drugs outside the pharmacies. The condition in which pharmacists operate has increased accidental risks, resulting in medication error, as observed by Amber (2018), who described them as medication misadventure.

The study further established that perceptions of the roles of pharmacists by patients, based on their expectations, affected their levels of satisfaction with the pharmacists in the discharge of their roles. This helps explain the social aspect of pharmacy as a profession whose assessment is based on interactions with patients, which may influence total health outcomes and quality of life.

Further analysis of factors that influenced patients' satisfaction with the roles of pharmacists revealed the social aspect of pharmacy more. It showed the influence of socio-cultural factors in determining satisfaction levels with a service or product. Factors like ethnicity, the language of interaction, religious affinity of pharmacists, perceptions about the efficacy of drugs in terms of texture, shape, taste, form, smell and instructions on usage such as food restrictions were some of the factors that influenced patients' perceived level of satisfaction. There was evidence that age affected the acceptance of drugs in certain forms. Excerpts from qualitative responses revealed a preference for pharmacists who speak the same language as the community and understand their culture. Such accounted for why some hospitals had to change visiting hours to the days preferred by the people.

Further analysis of IDIs revealed that children and the elderly have their preferences for drugs in different forms. While some elderly preferred powdery and liquid medications, children vastly preferred liquid and sugary medications. IDIs also revealed drug abuse as some people were involved in unprescribed 'mixed drugs', which they believed would cure several ailments at once. These findings align with those of Chana and Bradley (2011). They are also in line with the postulates that medicine has the social, emotional and psychological meaning, which accounts for its quick or reluctance acceptance by patients according to Geest and as reported in Steven (2007)

The study also revealed the need for more comprehensive health education to enlighten patients as this was found to influence patients' level of satisfaction. The majority (about 70.0%) of the respondents believed in solid and rewarding interaction with pharmacists, enhancing adherence to medication prescription and thus MTM. Further analysis of the relationship between several factors through multiple regression analysis revealed that

most socio-demographic and socio-economic characteristics of the respondents and socio-cultural factors regressed significantly at $p \leq 0.05$ in determining the perceptions of respondents about the roles of pharmacists. Factors such as age, gender, education, ethnicity, marital status, and income are significantly related to socio-cultural factors, influencing knowledge of pharmacists' roles and patients' satisfaction.

Further regression revealed that many factors influenced patronage and thus the perceptions of roles of pharmacists. Perceptions about the influence of place of purchase of drugs on the efficacy, the preference for pharmacists with specific demography and comprehensiveness of instructions on the use of prescribed medicines are some of the factors found to influence perceptions about the quality of services and roles of pharmacists in MTM. All these affect expectations and satisfaction levels.

Work environment such as space, drugs availability in pharmacy, and the conduciveness of the entire work environment significantly influenced the level of satisfaction with the perceived roles of pharmacists in MTM. The space and adequacy of staff affected the waiting time of patients and the perception of the quality of services provided by pharmacists. This supports Abodunrin et al. (2014). The ratio of pharmacists to patients is more worrisome. Quantitative and qualitative data all alluded to the fact that there was inadequate supply and poor workforce distribution in the hospital pharmacies. The situation is worse in rural areas. This is in line with the position of Ayantoye, (2017) and Ekpenyong et al (2018).

Patients' satisfaction with the quality of services provided by pharmacists were found to be mainly affected by social and economic characteristics of the respondents, people's culture in terms of beliefs of the people about drugs, household decision making on health, the work environment of the pharmacists and perceptions about the roles of pharmacists. Findings from the study revealed that patients did not get enough satisfactory pharmaceutical care in MTM, as observed by Owonnaro et al. (2017), which asserted in a study that optimum pharmaceutical services were not provided to patients.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Summary

The primary focus of the study was to examine the understanding of the roles of Pharmacists in medication Therapy Management in public hospitals in Oyo state. The study attempted to investigate people's perceptions concerning the critical roles pharmacists play in preventing medication problems and how these perceptions affected their satisfaction levels with pharmaceuticals. The study examined the socio-demographic and socio-economic characteristics of patients selected for the study. It determined patients' perceived knowledge of the roles of pharmacists in Medication Therapy Management (MTM) in public hospitals in Oyo state. It examined pharmacists' knowledge and perceptions of pharmaceutical practice in MTM and determined perceived factors influencing the pharmacists' roles in MTM. The study also examined patients' satisfaction levels with pharmacists' roles in MTM. It also examined the interplay of socio-cultural factors in determining patients' level of satisfaction with pharmaceutical care in MTM.

Findings from the study showed that women patronised public hospitals more than men. The study also established that some socio-demographic and socio-economic variables like marital status, ethnicity, education, occupation and spouse income affected patronage of hospitals. Some of these variables also affected knowledge of the pharmacists' roles in MTM. Education was found to influence perception and rate of patronage significantly. Age and gender were found not significantly related to patronage. Multiple regression analysis revealed the further influence of the socio-

demographic and socio-economic variables. The household decision making on health was affected by the household economic status, especially with the perceived rising cost of medication.

The study further established that the operating environments were a significant determinant of patients' perceptions. Most of the findings revealed a shortage of workforce, space, and storage facility resources. These were found to impact the quality of pharmacists' services negatively and could increase the risks of medication errors. They were found to affect the perception of the roles of pharmacists and thus the patients' satisfaction.

Further analysis classified the level of patients' perceived knowledge about the roles of pharmacists in MTM. The analysis of the patients' knowledge revealed about 48.0% high, 45.0% low and 7.0% moderate. The study concluded that the level of knowledge was significantly impacted by the patients' level of education, with about 70% educated above secondary school level. The study obtained the professional assessment of pharmacists on their knowledge of their roles. These perceptions were obtained through responses to a checklist on pharmaceutical care in MTM and interviews of hospital pharmacists and policymakers at the directorate level. The study determined the challenges facing pharmacists in the effective performance of their roles in MTM. The study identified systemic, human, material and institutional challenges mitigating effective delivery of pharmaceutical services concerning MTM. The system was able to identify the drug-supply system and the challenges facing it. The system identified the knowledge gap and the need for mandatory continuous training.

The study examined patients' satisfaction levels with the roles of pharmacists in MTM. It classified the level of satisfaction as largely moderate with 41.0% satisfactory level, 35.0% high and 24.0% low. The level of satisfaction was found to be related to patients' expectations in respect of the perceived roles of pharmacists. The study examined factors that influenced patients' satisfaction. It was able to identify socio-demographic, socio-economic, rate of patronage, work environment and perceived knowledge of roles

pharmacists as significant factors. The study revealed the significance of patients' perception of the roles of pharmacists as a critical determinant of the quality of services and thus satisfaction level of patients. It eventually influences repeated visits to the pharmacy instead of exposure to risks of patronising pharmacy shops outside the hospitals.

The study identified some socio-cultural factors like ethnicity, language, preference, gender of hospital pharmacists, familiarity with pharmacists, drugs regime, and religion to influence patients' perception of the quality of services of pharmacist and their satisfaction. The study revealed that people's belief determines their definition of and attitude to drugs. It revealed how different categories of people react to various forms and shapes of medicines. The influence of religion on the choice of facility and personnel's preference to handle their medication challenges were identified.

5.2 Conclusion

This study concluded that measuring patients' satisfaction is a subjective judgement of the quality of services of a healthcare provider since it is based mainly on perceptions, though sometimes it may be done objectively. Therefore, the study concluded that the socio-demographic and socio-economic characteristics of patients greatly influenced household decision-making in terms of health-seeking behaviour, choice of a healthcare facility, payment for the cost of medication, and perceptions about the roles pharmacists and quality of pharmaceuticals care provided in MTM.

The study concluded that the moderate level of satisfaction with the quality of pharmaceutical care received in terms of MTM was mainly due to the frustrations people experienced in terms of waiting for time and the drugs supply system. Such deprived them of the availability of some drugs to manage chronic health conditions and the perception that there was corruption in the drug management system in the state.

The study concluded on the need for pharmacists to appreciate the participation of people in the management of their medications. This can be done by respecting their

culture and showing more enthusiasm in dealing with them. Pharmacists are to recognise that improvement in medication therapy automatically leads to improvement in health outcomes as drugs and thus respect social pharmacy. There is, therefore, the need to follow the current global practice, which is changing the orientation of pharmacists from focusing on the product to the patient as a new concept in pharmaceutical care through the concept of Medication Therapy Management.

5.3 Recommendations

Drugs remain a primary means through which humans' health can be managed and improved. The critical expectation of all those taking drugs should be to improve health outcomes and not further aggravate their health condition. The following recommendations emanated from the study:

1) Pharmacits needs to do more advocacy and collaborations with others and improve their images through various mass media. The mass media should be involved in sensitization of people to the need to ptaronise pharmacists and hospital pharmacy to avoid increasing the prevalence of Medication Related Problems.
2) Policies should focus on employment of more hospital pharmacists, improvement on work environment of the pharmacies, and creating an efficient drug supply chains, especially for chronic diseases. Well meaning individuals and cooperate organisations should be encourage to extends their social responsibilities to the Hospital pharamcies.
3) Non-Governmental Organisation should collaborate with governments in supporting intervention on medication therapy management in order to promote the rights of the patients to be involved in the design of their medication treatment.
4) Pharmacists should be exposed to further training as mandatory continuous development programme (MCDP) towards equipping them with the new development in the area of medication therapy in line with Basel Statements.

This is evident in the poor knowledge of pharmacist on online medication therapy management. The PCN needs to include Module on Behavioural Studies.

5) Pharmacists should respect the culture of the people for effective medication therapy. People's perception of the roles of pharmacist is largely influenced by their culture and beliefs. Phamacists should improve on their interaction with patients and build more patients' confidence in them to enhance more patronage

6) The hospital setting should foster healthy inter-professional relationship in which pharmacists are recognized as integral part of the health team, with access to the medication records of patients

5.4 Contributions to the knowledge

The study has added to the body of knowledge in the following areas:

(1) It has helped to expand the frontiers of knowledge of Medication Therapy Management, thereby showing the significance of Patients' perception of the roles of pharmacists and their level of satisfaction with these roles

(2) It has expanded the area of social-pharmacy concerning the involvement of people in discussing medication-related problems (MRP) through exploration of the factors influencing patients' satisfaction with pharmaceutical care concerning MTM

(3) The study has brought to fore the need for a paradigm shift in pharmaceutical care from being product-centred to people-centred

(4) The study has contributed to the discussion on the drug-supply chain towards improving availability and accessibility to recommended drugs

(5) Academically, the study has widened the application of sociological theories to discussion on pharmaceutical care, thereby linking sociology to social pharmacy

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APPENDIXES

APPENDIX I

Duties and Responsibilities of Pharmacist

S/n	Duties and Responsibilities of Pharmacist	That relates directly with patients	That do not relate directly to patients	Remark
1	Clinical medication management (reviewing & monitoring of medication)	✓		Questionnaire for patients
2	Assessment of patient drug need	✓		✓
3	Dosage of drugs to meet disease state(e.g. liver and kidney compromised)		✓	IDI
4	Compounding of drugs and reconstitution		✓	IDI
5	Providing information on drugs (doctor, nurses and patients)	✓	✓	IDI, to pharmacists and questionnaires to patients
6	Health monitoring advice & proper dosage of drugs	✓	✓	IDI, to pharmacists and questionnaires to patients
7	Dispensing of medicine and medications	✓	✓	IDI, to pharmacists and questionnaires to patients
8	Counselling on adherence and drug abuse	✓	✓	IDI, to pharmacists and questionnaires to patients
9	Referral to doctor	✓		IDI
10	Promotion of public health and advice on immunization	✓	✓	IDI, to pharmacists and questionnaires to patients
12	Pharmacovigilance and adverse effects of drugs	✓	✓	IDI, to pharmacists and questionnaires to patients
13	Correct labelling, storage, a rational drug used for in and out-patients	✓		IDI, to pharmacists and questionnaires to patients
14	Prevention of medication error: wrong dose, wrong choice, wrong drug, known allergy, missed dose, wrong time, wrong frequency, drug-drug interaction, wrong route, extra dose, failure to act on preparation error, and other	✓	✓	IDI, to pharmacists and questionnaires to patients

APPENDIX II

HEALTH PERSONNEL AND FACILITIES IN OYO STATE

HEALTH PERSONNEL (STATE AND LOCAL GOVERNMENT FACILITIES) 2006

ZONE	MED. DOCTOR	NURSES & MIDWIVES	LAB SCIENTIST	PHARMACIST & Pharmacy Technician	Community Health Extension Workers& CH Officers	TOTAL
IBADAN	123	976	63	70	527	1759
IBARAPA	6	91	4	8	66	175
OGBOMOSO	8	112	3	5	79	207
OYO	13	168	12	13	102	308
LOWER OKE-OGUN	8	105	1	10	107	231
UPPER OKE-OGUN	13	163	4	11	131	322
Total	171	1615	87	117	1012	3002

Source: - DPRS 2009 Ministry of Health, (2009)

GENERAL HOSPITALS IN OYO STATE HOSPITALS MANAGEMENT BOARD

BASED ON DISTRICTS

S/N		Local Government Areas	General Hospitals in the LGAs	Selected General Hospitals
1	Oyo Central Senatorial District	Afijio	General Hospital, Fiditi General Hospital, Ilora	
		Akinyele	General Hospital, Moniya	✓
		Atiba	----	
		Egbeda	General Hospital, Egbeda General Hospital, Kasumu Ajia	
		Lagelu	General Hospital, Lagun/Kutayi (2)	
		Ogo-Oluwa	----	
		Oluyole	General Hospital, Orile Odo	
		Ona-Ara	----	
		Oyo East	State Hospital, Oyo Dental Centre, Oyo	✓
		Oyo West	----	
		Surulere	General Hospital, Iresa Adu	
2	Oyo North Senatorial District	Atisbo	General Hospital, Tede General Hospital, Ago Are	
		Irepo	General Hospital, Kisi	
		Iseyin	General Hospital, Iseyin General Hospital, Ado Awaye	
		Itesiwaju	General Hospital, Okaka	
		Iwajowa	----	
		Kajola	General Hospital, Okeho	
		Ogbomoso North	State Hospital, Ogbomoso Dental Centre, Ogbomoso	✓
		Ogbomoso South	----	
		Olorunsogo	General Hospital, Igbeti	
		Orelope	General Hospital, Igboho	
		Oriire	General Hospital, IKoyi Ile	
3	Oyo South Senatorial District	Saki East	General Hospital, Sepeteri	
		Saki West	State Hospital, Saki	✓
		Ibadan North East	State Maternity Hospital, Aremo	✓
		Ibadan North West	Jericho Nursing Home, Jericho Dental Centre, Dugbe	
		Ibadan South East	----	
		Ibadan South West	Ring Road State Hospital, Ib. Oni Memorial Children Hospital Government Chest Hospital Dental Centre, Jericho Jericho Specialist, Jericho Orthopaedic Hospital, Ib. Maxillofacial Unit, Ring Road	✓
		Ibadan Central	General Hospital, Igboora	
		Ibarapa East	General Hospital, Eruwa/Lanlate (2)	
		Ibarapa North	General Hospital, Ayete	
		Ido	----	

APPENDIX III

QUESTIONNAIRE

Serial No: _____

Department of Sociology,
Faculty of the Social Sciences,
University of Ibadan,
Ibadan.

Dear Respondent,

I am a Postgraduate student at the University of Ibadan. I am researching on:
Medication Therapy Management and Patients' Satisfaction with Pharmaceutical Services in Public Healthcare Facilities in Oyo State Nigeria
My name is Oluyedun H. A. I am a PhD student in the Department of Sociology, University of Ibadan. For my PhD thesis, I am conducting a study on Medication Therapy Management and Patients' Satisfaction with Pharmaceutical Services in Public Healthcare Facilities in Oyo State, Nigeria.
I want to seek your permission to respond to an interview. The interview will last for about one hour. You are free to withdraw your participation in the study without any consequence on you or your rights to any possible benefits that the result of the study may provide, now or in the future. I assure you that the information provided will be used solely for academic purposes without any record of your identity.
Thank you for your anticipated cooperation.

Hamidu Adediran OLUYEDUN

If you accept to participate in this study, please complete the boxes below? ☐ ☐

No

Date of interview: Da ☐ ☐ ☐

INSTRUCTION: Tick corresponding codes to your choice of answer, provide answers to the open-ended questions and where necessary, tick or provide multiple answers.

SECTION A: SOCIAL-DEMOGRAPHIC CHARACTERISTICS OF RESPONDENT (PLEASE TICK THE APPROPRIATE BOX AS SHOWN)

IDENTIFICATION
State:..... Local Govt. Area:..... Ward:.....:..... Street/ Zone/District:..... Town/ Village..... Building Number:.....

No	**Questions**	**Responses**	**Codes**	**Skip instruction**
A1	Age group	20-30 31-40 41-50 51-60 61-70 70 and above	1 2 3 4 5 6	
A2	What is your gender?	Male Female	1 2	
A3	What is your highest level of education?	No formal education Primary Secondary Tertiary Others (please specify)	1 2 3 4 5	
A4	What is your religious affiliation?	Christianity Islam Traditional Other (please specify)	1 2 3 4	
A5	What is your ethnic group?	Yoruba Igbo Hausa Other, (please specify)	1 2 3 4	
A6	What is your occupation?	Unemployed Civil servant Full-Time/housewife Self-employed Traditional	1 2 3 4 5	

		ruler/Politician Religious leader Teaching/lecturer Other (please specify	6 7 8	
A7	Marital status	Single (never married) Cohabiting Married Separated Divorced Widow Widower	1 2 3 4 5 6 7	
A8	What is your estimated income per month from all sources?	Less than ₦ 20,000= 20,001 - 40,000= 40,001- 60,000= 60,001- 80,000= 80,001- 100,000= Above 100,000=	1 2 3 4 5 6	
A9	What is your spouse's estimated income per month from all sources?	Less than ₦ 20,000= 20,001 - 40,000= 40,001 - 60,000= 60,001 - 80,000= 80,001- 100,000= Above 100,000= I don't know	1 2 3 4 5 6 7	
A10	Number of visits to the pharmacy in the last year	1 2-3 4-5 6-10	1 2 3 4	
A11	Health facility used	Government hospital Private clinic Traditional Hospitals Combination (indicate)	1 2 3 4	
A12	How regularly do you use public health facilities?	Very often Often Sometimes (when necessary) Occasional (when there is no alternative) Not at all	1 2 3 4 5	
A13	Reasons for using government hospitals? Please state no more than three.	_____ _____	1 2 3	

SECTION B: Patients' perception of the roles of pharmacists in Medication Therapy Management in secondary health care facilities

Kindly indicate your opinions on the following questions by choosing from the options provide Where S.A. = Strongly Agree, A= Agree, N.S= Not Sure, D =Disagree and S.D= Strongly Disagree

S/N	Questions	S.A	A	N.S	D	S.D
B1	The pharmacist is merely a vendor /dispenser of drugs					
B2	The pharmacist is just a mere appendage of a physician					
B3	The pharmacist is an expert on issues related to drugs/medications					
B4	The pharmacist is an integral part of the health system					
B5	Pharmacists should be consulted before a final decision on patients' medication (for prescriptions)					
B6	Pharmacists should provide information to patients on how to use medications and prevent adverse drug events/side effects					
B7	As an expert, a Pharmacist should answer most drug-related questions					
B8	Pharmacists should advise patients on general health issues.					
B9	The pharmacist should review my prescription before dispensing					
B10	Can a pharmacist modify the prescribed drugs?					
B11	Pharmacists should provide drugs education before dispensing					
B12	Pharmacists are responsible for medication errors					
B13	Pharmacists are experts to attend to my medication needs					
B14	If I had a drug-related issue, I will rely on pharmacist advice					
B15	Pharmacist numbers in the hospital are sufficient to attend to patients needs					
B16	I believe pharmacists are well train to meet my Medications need					
B17	Overall, I have confidence in the intervention of Pharmacist					
B18	Pharmacists should make more information available to patients about chronic diseases and the application of some special medications					
B19	Pharmacists must provide advice and instructions on the medication					
B20	Pharmacists should be able to check or modify prescriptions for appropriateness of dose, regimens and compatibility					
B21	Pharmacists should provide adequate information on the prevention and management of possible side effects to patients					
B22	Pharmacists should monitor patients reactions to medications					
B23	Pharmacists should have access to or keep patients medication records, especially chronic ailments					
B24	Pharmacists should have access to laboratory data of patients					
B25	Pharmacists should keep records of patients' Adverse Drugs Events or medication-related problems					
B26	Pharmacists should be part of a multidisciplinary team/committee on Medication Therapy Management (MTM)					
B27	The involvement of Pharmacists in MTM will enhance improved health outcomes for Patients					
B28	The involvement of Pharmacists in MTM will reduce incidents of ADEs/MRP					
B29	MTM will ensure that Patients are sufficiently empowered to manage their medications and thus enhance the health outcomes					

SECTION C: Patients' level of satisfaction with Pharmacists roles in Medication Therapy Management.

How satisfied are you with the following? Please rate your satisfaction experiences during your visit to the Pharmacy or when you were visited in the ward-based on; a 5 Point Likert scale Where 1= no satisfaction 2= very low satisfaction 3= low satisfaction 4= high satisfaction 5 very high satisfaction to indicate your subjective level of satisfaction.

S/N		5	4	3	2	1
C1	Availability of Pharmacists at designated hours					
C2	Analysis of your treatment and therapeutic regimens for optimal health					
C3	Regular discussion of drugs' prescription with the pharmacist before dispensing					
C4	Cordial relationship as a team with physicians for optimal patients' health outcomes					
C5	Provision of proper follow-up on patients after dispensing drugs to monitor health outcomes					
C6	Delivery of non-pharmacological education on medications to patients					
C7	Educating patients on monitoring drugs performance to determine the efficacy or adverse events					
C8	Educating patients on how drugs work					
C9	Educating patients on adverse drugs events and how to prevent or minimize them					
C10	Educating patients on proper ways to take drugs to avoid Adverse Drug Events/Medication-Related Problems.					
C11	Assessing Patients' adherence to medications					
C12	Counselling patients on adherence to medications					
C13	Reception into the Pharmacy department					
C14	Pharmacy environment and drug storage condition					
C15	Privacy with your pharmacist					
C16	Getting all your prescribed drugs supplied to you					
C17	Pharmacist communication about your medication					
C18	How satisfying are you about total interaction time?					
C19	The method of payment of medications charges in the hospital.					
C20	Interpersonal relationship with the pharmacist who is refilling prescriptions					
C21	If it becomes needful, will you visit the pharmacy again to purchase the drug?					
C22	Will you recommend the facility to any person, based on your experience?					
C23	What is your overall satisfaction with the services rendered by Pharmacists with MTM?					

SECTION D: Socio-cultural factors influencing patients' satisfaction with pharmaceutical care in Medication Therapy Management.A POINT LIKERT SCALE. Where SD= strongly disagreed, D= Disagreed, N=Neutral, A= Agreed, SA= Strongly Agreed

NO	RESPONSES	SD	D	N	A	SA
D1	Modern Medicaments is efficacious and better than Traditional Medicine					
D2	Medication from a hospital pharmacy will give the desired result to your health problem					
D3	Traditional herb (medicine) will give the desired result than modern medications					
D4	Medications are more beneficial to the young ones than elderly					
D5	Medications are more beneficial to old people than the young ones					
D6	The role of the husband as caregiver ensures contentment with drug adherence and service satisfaction					
D7	The role of the wife as caregiver ensures contentment with drug adherence and service satisfaction					
D8	The role of relations as caregivers ensures contentment with drug adherence and service satisfaction					
D9	I prefer my age mate or contemporary in age to fill/dispense my medications					
D10	I prefer my gender to dispense and discuss my medication with me than opposite gender when it involves special parts of my body (like private parts)					
D12	Adequate comprehension of health education provided on medications type will ensure repeat visits to the pharmacy					
D13	Courtesy and Promptness of pharmacist response to the prescription filling will encourage the use of pharmacy and does satisfaction					
D14	Denial of assessing to knowledge on what is written in prescription discourages the use of pharmacy					
D15	Spending much to wait to be attended to by the pharmacist is part of the treatment process to be accepted					
D16	Drug and food (restrictions) interactions are a source of dissatisfaction with to use of medicaments					
D17	Confidence of good pharmacist-patient interaction guarantees satisfaction with MTM					
D18	Attending to by the same pharmacist contribute to medication adherence					
D19	I prefer to be attended to by someone of my ethnic origin to avoid the language barrier					
D20	Communication is very important and the approach of the Pharmacist to my health problems.					
D21	The colour, size, taste are factors in the acceptability of my medication					
D22	The way I am welcomed to the pharmacy and addressed is an important factor in my acceptability of the pharmaceutical service					
D23	I love to be attended to by someone of the same religion as me					
D24	Poor interpersonal relations will affect my assessment of pharmaceutical services (MTM)					
D25	The closeness of location (accessibility) of Pharmacy in the Hospital is crucial to patronage					
D26	Religion restrictions to drugs made from forbidden drinks and food are crucial to the acceptability of MTM					
D27	Drugs regimen during special religious obligations is a crucial factor to satsatisfaction					

APPENDIX IV

IN-DEPTH INTERVIEW (IDI) GUIDE FOR PATIENTS/PATIENTS' RELATIVES

Introduction:

Dear Participant,

My name is OLUYEDUN, Hamidu Adediran, a PhD student of the University of Ibadan, conducting academic research on 'Medication Therapy Management and Patients' Satisfaction with Pharmaceutical Services in Public Healthcare Facilities in Oyo State Nigeria'. It is a self-sponsored study without any conflict of interest. Therefore, this interview with you is to gather the information that will be used for this research.

Confidentiality and Informed Consent: Please note that all information generated from this discussion is purely for academic purposes and will be treated with the utmost confidentiality. You are free to participate or withdraw at any stage of the interview. This Interview session will take a few minutes of your time. Do I have your permission to continue? Yes ( ) No ( )

Thanks for your anticipated positive response.

Socio-demographic characteristics of the participant

Sex:	Income:
Age:	Ethnicity:
Education:	Grade or position in the workplace:
Occupation:	Location:
Religion:	Status (Tick appropriately): In-Patient ☐ Out-Patient ☐ Patient's Relative ☐
Marital status	Code Number……
Religion:	Result Code: Completed ☐ Partially Completed ☐

1. Patients' level of awareness of the roles of Pharmacists in Medication Therapy Management:

(a) Please tell us the location of your residence (**Probe for** distance to hospital)
(b) Do you patronise a public hospital, and why? (**Probe for** frequency of visits, reasons concerning drugs availability and distribution)
(c) Please describe a pharmacist and some of the functions that you know he performs (**Probe for** roles concerning medication therapy)
(d) Have you ever been treated for Medical Related Problems in the hospitals (**Probe for** nature or type, who treated the patient and other information)
(e) Did the pharmacist provide other services other than dispensing drugs? (**Probe for** monitoring and education on medications)
(f) How do you see the roles of a pharmacist in healthcare within a hospital? (**Probe for** opinions on the significance of pharmacists in the health system)

For patients
(a) What is your opinion on the competency of Pharmacists (**Probe for:** concerning number, experience, communication and training)
(b) In case there is a problem with the use of drugs, e.g., side effects, how do you see a Pharmacist handling your Medication-Related Problems or Medication misadventures? (**Probe for** knowledge of the role of the pharmacist in managing MRP, trust, relationship with pharmacists, etc. in handling MRPs)
(c) State some of the factors you think to affect pharmacists' efficiency. (**Probe for** individual (Knowledge, attitude, aspirations etc.) and institutional factors such as roles of government (policies and funding) and society, NGOs etc.)
(d) Suggest how to improve the management of patients' medications in hospitals

2. Patients' level of satisfaction with Pharmacists roles in Medication Therapy Management.

(a) What is your opinion about the ability of pharmacists to effectively manage drug-related problems such as side effects? (**Probe for:** therapeutic regimens being able to provide optimal health, punctuality at the designated place for pharmacists)
(b) State your opinion on communication skills of pharmacists with patients on drugs matter? (**Probe for** discussion of prescription, use and other necessary details about drugs with patients and handling complaints)
(c) What is your opinion should pharmacists do after dispensing drugs? (**Probe for:** views on satisfaction levels with patient-follow up, drug monitoring, ward round etc.)
(d) What are your experiences with the care you receive in the pharmacy? (**Probe for** satisfaction with Reception at the Hospital Pharmacy, Reception at the hospital pharmacy, pharmacists/patients relationship, Referral service, support service like Post-hospital rehabilitation program or plan of action, Family member involvement in treatment, Cost of treatment
(e) How would you describe your satisfaction with MTM regarding health governance and Leadership in the hospitals? (**Probe for** pharmacists/Doctor relationship, Pharmacists/ Doctors/Nurses/patients relationship, Referral service back to Doctor in case of medication errors)

(f) What is your opinion? Do you expect your pharmacist to do more? (**Probe for:** levels of satisfaction with medication counselling on use of drugs, assessing patients' adherence to medications, delivery of non-pharmacological education to patients etc.)

3. Social and cultural factors influencing patients' satisfaction with pharmaceutical services in MTM

(a) In your opinion, what factors can make people avoid pharmacies and pharmacists? (**Probe for** factors like cost of drugs, work environment, relationship with pharmacists, available alternatives, etc.)
(b) Who will you report your medication problem? And why?(**Probe for** belief about the roles of Physicians, Pharmacists and other health professionals. Perception about the competency of the professionals to handle medication challenges)
(c) How regularly do you interact with the pharmacists, and for what? (**Probe** to see a pharmacist and how often, especially concerning MTM)
How will you assess the efficiency of pharmacy? (**Probe for** assessment of promptness, relationship, error-free dispensing, reactions to complaints, Cost, availability of drugs, after issuing follow-up etc.)

Place of Interview:

Date:

APPENDIX V

KEY INFORMANT INTERVIEW (KII) GUIDE FOR DIRECTORS OF PHARMACY

Introduction:

Dear Participant,

My name is **OLUYEDUN, Hamidu Adediran**, a PhD student of the University of Ibadan, conducting academic research on '**Medication Therapy Management and Patients' Satisfaction with Pharmaceutical Services in Public Healthcare Facilities in Oyo State Nigeria'.** It is a self-sponsored study without any conflict of interest. Therefore, this interview with you is to gather the information that will be used for this research.

Confidentiality and Informed Consent: Please note that all information generated from this discussion is purely for academic purposes and will be treated with the utmost confidentiality. You are free to participate or withdraw at any stage of the interview. This Interview session will take a few minutes of your time. Do I have your permission to continue? Yes ( ) No ( )

Thanks for your anticipated

Socio-demographic characteristics of the participant

Sex:	Income:
Age:	Ethnicity:
Education:	Position/ Job Title:
Occupation	Location/ Place of Primary Assignment:
Grade::	
Religion:	
Marital status	Code Number……
Religion:	Result Code: Completed ☐ Partially Completed ☐

1. Patients' level of awareness of the roles of Pharmacists in Medication Therapy Management:

(a) In your opinion, how do the people perceive pharmacists and the pharmacy in hospitals

(**Probe for** people's local name for pharmacist, their expectations on roles of pharmacists among others)

(b) What influences people's opinion of a pharmacist in your opinion? (**Probe for** cultural determinants like religion, family, level of education, peer influence, among others)
(c) © Are there things your office has been doing to create more awareness about the critical roles of pharmacy in the health sector (**Probe for** community education on medications, use of media, set up of medication safety committees, collaborations, among others)

2. Pharmacist's knowledge of pharmaceutical practice in MTM:

(a) Do you think there are adequate numbers of competent pharmacists in the hospitals under your supervision? (**Probe for** number of pharmacists, their qualification, experience, and training)
(b) What are your perception of MTM and the roles of Pharmacists in MTM? (**Probe for** the skills expected of pharmacists such as monitoring, counselling and educating on drug use and medication-related problems/ Adverse Drugs Events)
(c) How well do you think pharmacists are prepared for MTM? (Probe for knowledge, awareness and training of pharmacists, and facilities and structures availability)
(d) Are there other agencies that support the government in facilitating improved participation of pharmacists in MTM? (**Probe for** the involvement of PCN, PSN and NGOs)

3. Factors influencing the roles of pharmacists in Medication Therapy Management

(a) How do you describe the distribution of pharmacists in the hospitals in the state? (**Probe for** numbers, experience, training, specialization among others)
(b) What is your perception of MTM? (**Probe for the** perception of MTM as a burden, modified pharmaceutical care among others)
(c) How will you describe the working conditions of pharmacists for effective MTM? (**Probe for** the work environment, remuneration, job security, promotion, available facilities, among others)
(d) How will you describe drugs' management in hospitals? (**Probe for** persons in charge of procurement, availability of different classes of drugs, budgeting for drugs, and storage)
(e) What facilities and structures are available for MTM in the hospitals? (**Probe for** ADE reporting system, Medical Safety committee and Multidisciplinary committee)
What can be done for MTM to be an effective tool to improve health outcomes in your view? (**Probe for** issues relating to recruitment, working conditions, relationships within healthcare professionals, drugs policy, handling patients' MRPs/ADEs through multidisciplinary committee on medications, drugs management through automation, computerization of prescription, satellite pharmacies among others)

Place of Interview:
Date:

APPENDIX VI

KEY INFORMANT INTERVIEW (KII) GUIDE FOR HOSPITAL PHARMACIST

Introduction:

Dear Participant,
My name is **OLUYEDUN, Hamidu Adediran**, a PhD student of the University of Ibadan, conducting academic research on '**Medication Therapy Management and Patients' Satisfaction with Pharmaceutical Services in Public Healthcare Facilities in Oyo State Nigeria'.** It is a self-sponsored study without any conflict of interest. Therefore, this interview with you is to gather the information that will be used for this research.
Confidentiality and Informed Consent: Please note that all information generated from this discussion is purely for academic purposes and will be treated with the utmost confidentiality. You are free to participate or withdraw at any stage of the interview. This Interview session will take a few minutes of your time. Do I have your permission to continue? Yes ( ) No ( )
Thanks for your anticipated

Socio-demographic characteristics of the participant

Sex:	Income:
Age:	Ethnicity:
Education:	Position/ Job Title:
Occupation	Location/ Place of Primary Assignment:
Grade::	
Religion:	
Marital status	Code Number……
Religion:	Result Code: Completed ☐ Partially Completed ☐

1. Pharmacist's knowledge of pharmaceutical practice in MTM:

(a) Do you think there are adequate numbers of competent pharmacists in the hospital? (Probe for number of pharmacists, their qualification, experience and training)
(b) Have you ever participated in handling medication-related problems (**Probe for** such
Issues of drug misuse, drug-drug interactions, among others, and roles played)
© How involved are you in the management of the healthcare of patients (**Probe for:** Participation of a pharmacist in ward round, handling and review of patients' medical records, participation in the multidisciplinary team)

(d) What is your knowledge of Medication Therapy Management as a pharmacist? (**Probe for** perceived roles of pharmacists in medication therapy, healthcare system)
(e) Which methods do you know can be adopted to identify Patients; needs in MTM? (**Probe for** knowledge of the formalised list of specific medications, disease states of patients, specific or surgical needs of patients, abnormal laboratory values requiring prompt dosage adjustment, and high-cost medications)
(f) What services do you know a pharmacist must render in Medication Therapy Management? (**Probe for** the required skills of pharmacists in drug monitoring, counselling and education of patients on medications)
(g) What are methods routinely used to identify ADEs/ MRPs in the hospitals under MTM? (**Probe for** regular activities such as review of Laboratory values, therapeutic drug monitoring, joint ward round by pharmacist and physician, independent ward round by pharmacists, Notification of ADEs by Nurses to Pharmacists, Interaction with patients among others)
(h) What are the reporting practices for ADEs/MRPs? (**Probe for** which body is reported to, e.g. Medical Safety committee, MoH, NAFDAC, Drug manufacturers among others)
(i) In your opinion, what are the possible benefits of adopting MTM on the health system? (**Probe for** its effects on patients adherence to prescriptions, reduction of ADEs, improvement of health outcomes, reduction on the overall cost of healthcare, effective drug management, patient-centred medication therapy, pharmacists participation in health system, efficiency of pharmacists through training among others)
(j) In your opinions, what are the barriers to MTM (**Probe for** institutional problems of training, adequacy of personnel and facilities, MTM Committee in hospitals, intra-professional relationships, among others)

2. Factors influencing the roles of pharmacists in Medication Therapy Management:

(a) How do you describe the distribution of pharmacists in the hospitals in the state? (**Probe for** numbers, experience, training, specialisation among others)
(b) In your opinion, how will you describe the relationships of pharmacists with colleagues (**Probe for** the relationship with doctors and other health workers?)
(c) How will you describe the working conditions of pharmacists (**Probe for the** work environment, remuneration, available tools, among others?
(d) How will you describe drugs' management in hospitals? (**Probe for** persons in charge of procurement, availability of different classes of drugs, budgeting for drugs, and storage)
(e) What facilities and structures are available for MTM in the hospitals? (**Probe for** ADE reporting system, Medical Safety committee and Multidisciplinary committee)
What can be done for MTM to be an effective tool to improve health outcomes in your view? (**Probe for** issues relating to recruitment, working conditions, relationships within healthcare professionals, drugs policy, handling patients' MRPs/ADEs through multidisciplinary committee on medications, drugs management through automation, computerisation of prescription, satellite pharmacies among others)

APPENDIX VII

YORUBA LANGUAGE TRANSLATION OF THE QUESTIONNAIRE

IWE IBEERE IFOROWANI-LENU-WO
EKA TI ISEDA ATI IDAGBASOKE AWUJO ILE-EKO GIGA YUNIFASITI, IBADAN

Olukopa mi Owon,

Mo je akeko gboye imo ijinle keji ni Yunifasiti Ibadan, Naijiria. Mo n se ise iwadii loriii:

Sise Amujoto lilo Oogun fun Iwosan Awon Oluwa-iwosan/Onibara/Alailera/Alagbato pelu Iranwo akose mose oogun pipo atililoni Awon Ile-iwosan Ijoba Ipinle Oyo.

Oruko mi ni Oluyedun H. A. Mo je akekoo gboye omowe ni eka ti o n ko nipa ibagbepo eda ati idagbasoke awujo, ni ile-eko giga Yunifasti Ibadan. Mo n se ise iwadii lori: Sise Amojuto lilo Oogun fun iwosan awon Alailera pelu iranlowo awon akose mose oogun pipo ati lilo ni awon Ile-Iwosan Ijoba Ipinle Oyo, Naijiria fun ikekoo gboye omowe mi.

Mo fe toro iyonda yin lati dahun awon iforowero kan. Iforowwanilenuwo naa yoo gba to wakati kan. E ni oore-ofe lati yera kuro ninu ise yii laisi akoba Kankan ti yoo se fun yin tabi eto yin latari anfani ti esi ise yii ba mu jade, nisinsinyi tabi ni ojo iwaju. Mo fi da yin loju wipe gbogbo ohun ti e ba so maa wa fun lilo eko nikan laise akosile ohun kankan nipa yin.

E seun fun ifowosopo yin.

Hamidu Adediran OLUYEDUN

Bi o ba gba lati kopa ninu ise yii, jowo fowo si awon iho isale yii.

Beeni ☐ Beeko ☐

Ojo iforowanilenuwo: **Ojo** ☐ ☐ ☐

ITOSONA: Mu liana to ye fun idahun re fi idahun si awon aaye ti o pese ati si ibi ti o ye.

ABALA A: ABUDA-AJEMAWUJO EN TI A N FI ORO WA LENU WO (JOWO SAAMI SI AWON IHO YII BI A SE SAFIHAN WON).

IPINLE: ----------

IJOBA IBILE: ----------

WOODU: ----------

OPOPONA: ----------
ABULE/ILU: ----------
NOMBA ILE: ----------

ONKA	**IBEERE**	**IDAHUN**	**ISORI**	**ITOSONA**
A1	Ojo Ori	20 – 30 (OGUN-OGBON)	1	
		31 – 40 (----LOSI OGOJI)	2	
		41 – 50 (----LOSI ADOTA)	3	
		51 – 60 (----OGOTA)	4	
		61 – 70 (----ADORIN)	5	
		70 SOKE (ADORIN SI OKE)	6	
A2	Abuda Ako/Abo	Okunrin	1	
		Obinrin	2	
A3	Ki ni ipele ikekoo re to ga ju?			
		Ile-Eko Alakoobere	2	
		Ile Eko Girama	3	
		Ile-Eko Giga Agba	4	
		Awon miiran (jowo soo)	5	
A4	Ki ni Esin ti o n se?	Kiristeni	1	
		Musulumi	2	
		Abalaye	3	
		Awon miiran (jowo soo)	4	
A5	Ki ni Eya re?	Yoruba	1	
		Igbo	2	
		Hausa	3	
		Awon miiran (jowo soo)	4	
A6	Ise wo lo n se?	O o ni ise lowo	1	
		Osise Ijoba	2	
		Iyawo ile	3	
		Ise taara re	4	
		Ise isegun ibil/Oloselu	5	
		Asaaju Esin	6	
		Oluko	7	
		Awon miiran (jowo so o)	8	
A7	Ipo Igbeyawo	Apon/Omidan	1	

		Mo n gbe pelu ti mo fe fe	2	
		O ti segbeyawo	3	
		E o gbe papo	4	
		E ti ko ara yin sile	5	
		Opo (Obinrin)	6	
		Opo (Okunrin)	7	
A8	Elo ni iye ti o n wole fun o ni osu lati awon orison gbogbo ti o ni?	O kere si N20,000	1	
		N20,001 – N40,000(ogun-ogoji egberun)	2	
		N40,001 – 60,000 (--ogota egb-	3	
		N60,001 – 80,000 (--ogorin--)	4	
		N80,001 – 100,000 (okanle logorin-egberun mewa)	5	
		N100,000 (egberun mewa lo soke)	6	
		Mi o mo	7	
A9	Elo ni iye ti iyawo/oko re n gba losu lati orison gbogbo ti o ni?	O kere si N20,000 (Oke kan)	1	
		N20,001 – 40,000(ogun-ogoji egberun)	2	
		N40,001 – 60,000 (---- ogota egberun)	3	
		N60,000 – 80,000 (---- ogorin egberun)	4	
		N80,001 – 100,000 (--egberun mewa)	5	
		N100,000 (egberun mewa lo soke	6	
		Mi o mo	7	
A10	Iye igba ti o lo si ile-itaja oogun ni odun ti o koja.	1	1	
		2 – 3	2	
		4 – 5	3	
		6 – 10	4	

A11	Awon ohun elo ilera ti o lo	Ile-Iwosan Ijoba	1	
		Ile-Iwosan Aladaani	2	
		Ile –Iwosan isegun Ibile	3	
		Alopo (salaye)	4	
A12	Bawo ni o se maa n lo ohun elo ilea ti ijoba si?	Ni gbogbo igba	1	
		Loorekoore	2	
		Igba to ba ye	3	
		Eekookan (ti ko ba si ona miiran)	4	
		Emi o ki n lo o rara	5	
A13	Idi ti o se maa n lo ile-iwosan Ijoba? Jowo ma se je ki o ju meta lo.		1	
			2	
			3	

ABALA B: Ero awon alailera lori ipo ti awon ata-oogun n ko bi lori ise amojuto oogun lilo ni ile-iwosan nla.

Jowo so ero re lori awon ibeere wonyi nipa mimu ninu awon idahun ti a ti pese Nibiti M. G. D = Mo Gba Daadaa M. G = Mo Gba K .D = Ko Damiloju M. F = Mi o fara mo on ati M. T = Mo Tako o.

ONKA	Ibeere	M.G.D	M.G	K.D	M.F	M.T
B1	Ata-oogun je eni ti o maa n pin oogun tabi alagbata lasan.					
B2	Ata-oogun je eni to kere si onisegun					
B3	Ata-oogun je akosemose to mo oogun ati lilo re.					
B4	Ata-oogun je okan gboogi ninu eto ilera					
B5	O ye ki a koko ri ata-oogun saaju ki a to lo oogun fun alailera (bi a o se lo o).					
B6.	Ata-oogun ye ki o salaye fun alailera bi yo se lo oogun lati dena ijamba ti asilo oogun le mu wa.					
B7.	Gege bi akosemose, Ata-oogun le mu wa.					

B8	Ata-oogun ye ki o gba alailera nimoran lori awon nnkan to ro mo ilera.					
B9.	O ye ki ata-oogun se agbeyewo lilo oogun ki o to taa.					
B10	Nje ata-oogun le se atunse si bi won se ni ki a lo oogun?					
B11	O ye ki ata-oogun se idanilekoo lori oogun lilo saaju ki o to ta a.					
B12	Ata-oogun ni ki a bu fun asise oogun lilo.					
B13	Akosemose ni awon ata-oogun nigba ti won ba n boju to aini lilo oogun mi.					
B14	Bi mo ba ni isoro to je mo oogun, maa gbokanle awon ata-oogun.					
B15	Awon ata-oogun to wa ni ile-iwosan ti to niye lati maa mojuto si lilo oogun mi.					
B16.	Mo gbagbo wi pea won ata-oogun kosemose daadaa lati maa samojuto si lilo oogun mi.					
B17.	Lakootan, mo ni igboya ninu idasi awon ata-ogun					
B18	Awon ata-oogun ye ki won polongo fun awon alailera nipa awon arun to le ati ona ti won yoo gba lo oogun re.					
B19	Awon ata-oogun ye ki won maa gba eniyan nimoran ki won si salaye lilo oogun.					
B20	O ye ki ata-oogun le ye awon oogun ti wno yan wo tabi ki o se atunse si awon ogun naa lati lo bi o se ye ati lati wo bi agbara oogun naa ti to.					
B21	O ye ki ata-oogun le salaye oogun lilo ati ona ti a le gbe dena ijamba ti oogun le se fun alailera.					
B22	O ye ki ata-oogun maa topinpin ikorasi alailera si lilo oogun.					
B23	O ye ki ata-oogun ni akosile lilo oogun paapaa julo awon aisan to le.					

B24	O ye ki ata-oogun ni anfaani si awon ibi ti alailera maa n se itoju oogun re si.					
B25	O ye ki ata-oogun se akosile bi alailera se maa n se amulo oogun.					
B26	O ye ki ata-oogun je okan lara awon omo igbimo ti o n mojuto sise amulo oogun.					
B27.	Didarapo mo igbimo ti o n mojuto sise amulo oogun yoo mu ki abajade ilera alailea ko dara.					
B28	Igbimo to n se amojuto sise amulo oogun yoo ri daju wipe awon alailea gba ironilagbara daadaa lati se amojuto si lilo oogun ati ki abajade re dara.					
B29	Didarapo ata-oogun po mo igbimo to n se amojuto sise amulo oogun yoo mu adinku ba oniruuru aisan ati arun.					

Abala D: Gbedeke bi awon alaileera se gbadun ipa ti awon ata-ogun ko ninu sise amulo oogun.

Bawo ni o se gbadun awon nnkan wonyi to? Jowo salaye iriri re ni awon asiko ti o lo si ibi ti won ti n ta oogun tabi igba ti won wa se abewo si o ni yara itoju lori awon osuwon marun-un yii nibi ti 1 = ko Temilorun 2 = O Temilorun die 3 = O Temilorun 4 = O Temilorun daadaa 5 = O Temilorun gan-an daadaa.

ONKA	KOKO ORO	5	4	3	2	1
D1	Ki awon apoogun maa wa nitori gbogbo igba					
D2	Atupale itoju ati agbeyewo ilera re fun okun to peye					
D3	Iforowero pelu apoogun loorekoore lori lilo oogun saaju lilo re.					
D4	Ibasepo to danmoran gege bi iko pelu awon onisegun fun ilera pipe alailera.					
D5	Sise ibewo to peye si alailera leyin ti o ba ti gba oogun lati mo bi ilera re se ri.					
D6	Idanilekoo to lodi si sise amulo oogun fun awon alailera.					
D7	Sise idanilekoo fun awon alailera lori itopinpin ise oogun lati mo bi o se lagbara tabi se ise si.					

D8	Dida awon alailera lekoo lori bi oogun se maa n se ise.					
D9	Sise idanilekoo bi oogun se le se ise yato si ohun to ye ati ona ti a le gba dena re tabi se adinku re.					
D10	Sise idanilekoo fun awon alailera lori ona to dara lati maa lo oogun lati dena awon isoro to maa n tele oogun lilo.					
D11	Sise igbelewon awon alailera bi won se n lo oogun si.					
D12	Gbigba alailera ni imoran lati tepa mo lilo oogun daadaa.					
D13	Lilo si eka oogun pipo.					
D14	Ipo ti ayika ile-ipoogun ati oogun wa					
D15	Iwo nikan pelu apoogun re					
D16	Titewo gba awon asayan oogun re ti won ko fun o					
D17	Oro apoogun lori sise amulo oogun re					
D18	Bawo ni o se gbadun akoko ifarakunra yii si?					
D19	Ogbon ti won fi gba owo fun oogun lilo ni ile-iwosan					
D20	Ibasepo timotimo pelu apoogun ti o n se atunto ona ti a maa gba lo oogun.					
D21	Bi o ba je koseemalo, nje o tun le lo si ile-itaja oogun lati lo ra oogun sii?					
D22	Pelu iriri re, nje o le jerii awon ohun elo yi fun elomiran?					
D23	Ki ni igbadun re lori ise apoogun ati igbimo to n se amojuto oogun lilo.					

Abala E: Akude ti asa n se fun awon alailera lati je igbadun itoju to peye nipa sise amulo oogun. Nibi ti MTP = Mo a koo Patapata MT = Mo Ta koo K E = Ko si eyi ti mo fara mo MF = Mo faramo on MFD = MO faramo on daadaa.

ONKA	Idahun	MTP	MT	KE	MF	MFD
E1	Iwosan ode oni dara ju ti ibile lo.					
E2	Sise amulo oogun ile-iwosan yoo mu ki opin de ba isoro ailera re.					
E3	Agbo ibile n sise ju oogun oyinbo ode ni lo					
E4	Sise amulo oogun wulo fun awon omode ju agba lo.					
E5	Sise amulo oogun wulo fun awon agba ju awon omode lo					

E6	Ipa ti oko n ko gege bi alaboojoto maa n je ki amulo oogun se itewogba.					
E7	Ipa ti iyawo n ko gege bi alabojuto maa n je ki amulo se itewogba.					
E8	Ipa ti molebi n ko gege bi alabojuto maa n je ki amulo oogun se itewogba.					
E9	O wu mi ko je wi pe egbe mi tabi iro mi ni yoo ta oogun fun mi.					
E10	O wu mi ko je wipe eni ti a jo je nkankan naa okunrin/obinrin ni mo n ba soro ilera mi ju eni ti o je odikeji si mi, paapaa to ba je ohun to nii se pelu oju ara.					
E11	Ninu oye kikun to peye lori eko eto ilera maa funeniyuan ni anfani lati se atunlo oogun ni lilo si ile-itaja oogun.					
E12	Oyaya awon opoogun ati oro iyanju won yoo mu iwuri wa fun eniyan lati maa se amulo oogun.					
E13	Aisi ona lati mo lilo oogun ko je ki awon ni iwuri lati lo maa ra oogun ni ile-itaja oogun.					
E14	Diduro pe lowo awon apoogun ki won to da eniyan lohun je ara itoju to ye ki eniyan tewogba.					
E15	Ounje ati oogun lapapo je orison anfesi oogun lilo.					
E16	Igbokanle ninu ibasepo alailera-apoogun maa n se okunfa sise amulo igbimo to n samujo oogun lilo.					
E17	Ikorasi awon apooogun maa n se iranwo fun sise amulo oogun.					
E18	Mo maa n fe ki eni to je eya mi ko maa da mi lohun bi mo ba fe ara oogun nitori ede aiyede.					
E19	Ibanisoro se Pataki ati isesi apoogun si isoro ailera mi.					
E20	Awo, titobi ati adun ej awon nnkan to ro mo sise amulo oogun mi.					
E21	Bi awon to n ta oogun ba se ni oyaya si mi ni yoo so bi maa se tewogba itoju won.					
E22	Mo maa n nifee si ko je eni ti a j o n se esin kan naa ni o ta oorgun fun mi.					
E23	Aisi ibasepo to danmoran maa se idena fun igbelewo itoju awon apoogun.					
E24	Ilana esin lori oogun sise, awon nnkan					

	mimu pelu won ounje kan je ohun to se pataki fun sise amulo oogun.					
E25	Ki ile-ita-oogun sunmo ile-iwosan maa n je ki o rorun lati maa se amuilo re.					
E26	Oogun lilo ninu ofin esin je oun ti o je pataki fun sise amulo oogun.					

APPENDIX VIII

ILANA IFOROWANILENUWO FUN EBI AWON ALAISAN /OLURA OGUN

Ifaara:

Olukopa mi owon,

Oruko mi ni **OLUYEDUN, HAMIDU ADEDIRAN**, akekoo gboye omowe ni ile-eko Yunifasiti ti Ibadan, mo n se ise iwadii lori: Sise Amojuto lilo Oogun fun Iwosan Awon Alailera pelu iranlowo awon akose mo se ogun pipo ati lilo ni Ile-Iwosan Ijoba Ipinle Oyo, Naijiria. Emi ni mo nse agbateru ise laisi wahala kankan. Iforo wani lenu wo pelu re yii je ona lati se akojopo awon iroyin ti yoo wulo fun ise iwadii yii.

Ifokantan ati Idaniloju: Jowo gbogbo iforowanilenuwo ti o ba se akojopo re yii wa fun ikekoo ko si ni je eyi ti gbogbo eniyan maa mo si. O ni anfaani lati ko paati lati yeba kuro ninu iforowanilenuwo yii nigbakuugba.

Iforowanilenuwo yii yoo gba to iseju die ninu akoko re. se mo ni oore-ofe lati tesiwaju.? Beeni ☐ ☐

O se fun anfani alaigbe yii

Awon Abuda fun idanimo Olukopa

Abuda Ako/Abo	**Iye ti o n wole fun o**
Ojo-ori	Eya
Eko	Ipo ti o wa lenu ise
Ise:	Adugbo:
Esin:	Alailera ☐ Alara pipe ☐ Ebi ☐
Alailera	
Ipo Igbeyawo	Onka_____
Esin:	Esi _____O ti setan O ku die ☐ ☐

1. Gbedeke Ipa alailera ninu oye re fun eto Amojuto sise Amulo Oogun.
   a. Jowo se adugbo ibi ti o n gbe wa (bi o se jinna si ile-iwosan)

b. Nje o maa n lo si ile-Iwosan ijoba? Ki ni idi re? (bi os e maa n lo si ati idi ti o se maa n gba oogun)

d. Nje won tile ti toju re fun aisan kan ri ni ile-iwosan (iru aisan wo tabi bawo ni o se ri, Ta ni o toju alaisan naa, ati awon nikan miran)

e. Jowo salaye oluta-oogun kan ki o si so awon ise ti mowi pe o nse (Ipa tlo ko ninu ise amulo oogun).
e. Nje oluta-oogun naa n se nnkan miran yato si ki o ta oogun? (Itopinpin ati idanileko lori sise amulo oogun).
f. Bawo ni o se ri ipa ti awon oluta-oogun n ko si ninu eto-ilera ni ile-iwosan? (Ero nipa awon nnkan to je mo ninu eto ilera).

Fun OLUWA-IWOSAN/OLURAOGUN

a. Ki ni ero re lori ijfa oluta-oogun (ni ibasepo pelu iye, iriri, eko ati itosona)
b. Bi o ba je wi pe isoro wa pelu oogun lilo; bi apeere: akoba/Ijamba, oju wo ni iwo o fi wo oluta-oogun naa bi o se fi oro mu sise amulo oogun fun ilera re? (oye nipa ipa ti oluta-oogun n ko ninu sise amulo oogun, igbokanle, ibasepo pelu oluta oogun abbl).
d. Daruko awon nnkan ti o ro wi pe o le fa aikun-oju-osuwno oluta oogun (imo enikoona, isesi, iwoye abbl) ati awon nnkan ti ile-eko bii ipa ti ijoba ko (awon ilana ati eto inawo0 awujo, ati awon ojo ti kii se ti ijoba abbl).
e. Dabaa bi idagbasoke se le wa fun sise amulo oogun fun alailera ni awon ile-iwosan.

2. Ipele itelorun Alailera pelu oluta-oogun ninu eto sise amulo oogun.
a. Ki ni ero re lori agbara ti oluta-oogun ni lori akoba ti oogun lilo n se? (lati le se itoju ti o peye, wiwa ni ibi ti o ye ki oluta-oogun wa).
b. So awon ero re lori ibanisoro awon oluta-oogun lori oro oogun (Ijiroro lori bi yoo se je lilo, iru oogun, ati awon nnkan miiran ti o niise pelu oogun ati alailera ati akiyesi)
d. Ki ni o ro wi pe o ye ki oluta-oogun se leyin ti o ba ti ta oogun tan? (ero lori ipele itelorun pelu ibewo-alailera, ayewo oogun, kikaakiri yara itoju abbl.
e. Ki ni awon iriri re pelu itoju ti o gba lati ile itaja-oogun? (itelorun pelu, Itewogba ni ile itaja-oogun to je ti ile-iwosan, ibasepo apoogn po ati alailera, eto titosona, atileyin leyin wiwa si ile-iwosan, bi awon molebi se da si itoju, iye ti itoju je).
e. Bawo ni o se le se alaye itoju ti o ri gba pelu igbimo to n se amojuto sisamulo oogun bi o se te o lorun si pelu eto isejoba ilera ati isakoso ile-iwosan? (Ibasepo laarin apoogunpo ati dokita, ibasepo laarin noosi, dokita ati alailera, didapada si odo dokita bi asise ba waye).
f. Ninu oro re ki ni o n reti ki apoogun po tun se si? (Ipele itelorun pelu sise amulo oogun, igbanimoran lori oogun lilo, igbelewon, bi alailera se maa n lo oogun sise idanilekoo fun awon alailera nipa awon ti kiise apoogun).
3. Bi igbe-aye ati Asa se n se akoba fun itelorun alailera pelu ile-ise apoogun.

a. Ni ero tre, ki ni won nnkan ti o le mu ki awon eniyan maa sa fun apoogun ati ile-itaja oogun? (awon nnkan bii, iye oogun, ise ayika, ibasepo pelu apoogun, ati awon nnkan miiran abbl).
b. Ta ni o le so isoro ailera re fun? Ki ni idi? (Igbagbo nipa ipa onisegun, apoogun ati awon eleto ilera miran. Ero nipa bi awon akosemose se le se itoju ipenija ailera ara).
d. Bawo ni o se maa n ni iforowero pelu apoogun si ati pe fun ki ni? (Idi Pataki fun rii apoogun ati bawo ni o se maa n ri won si, paapaa ni ibasepo pelu igbimo to n mojuto sise amulo oogun).
e. Bawo ni wa a se se igbelewon ile-itaja oogun bi won se kun oju osunwon si? (Igbelewon ibasepo, ailakude Kankan, ikorasi lori edun okan, iye, bi oogun se wa si, ibewo leyin tita oogun abbl.

Ibi Iforowanilenuwo:
Ojo:

APPENDIX IX

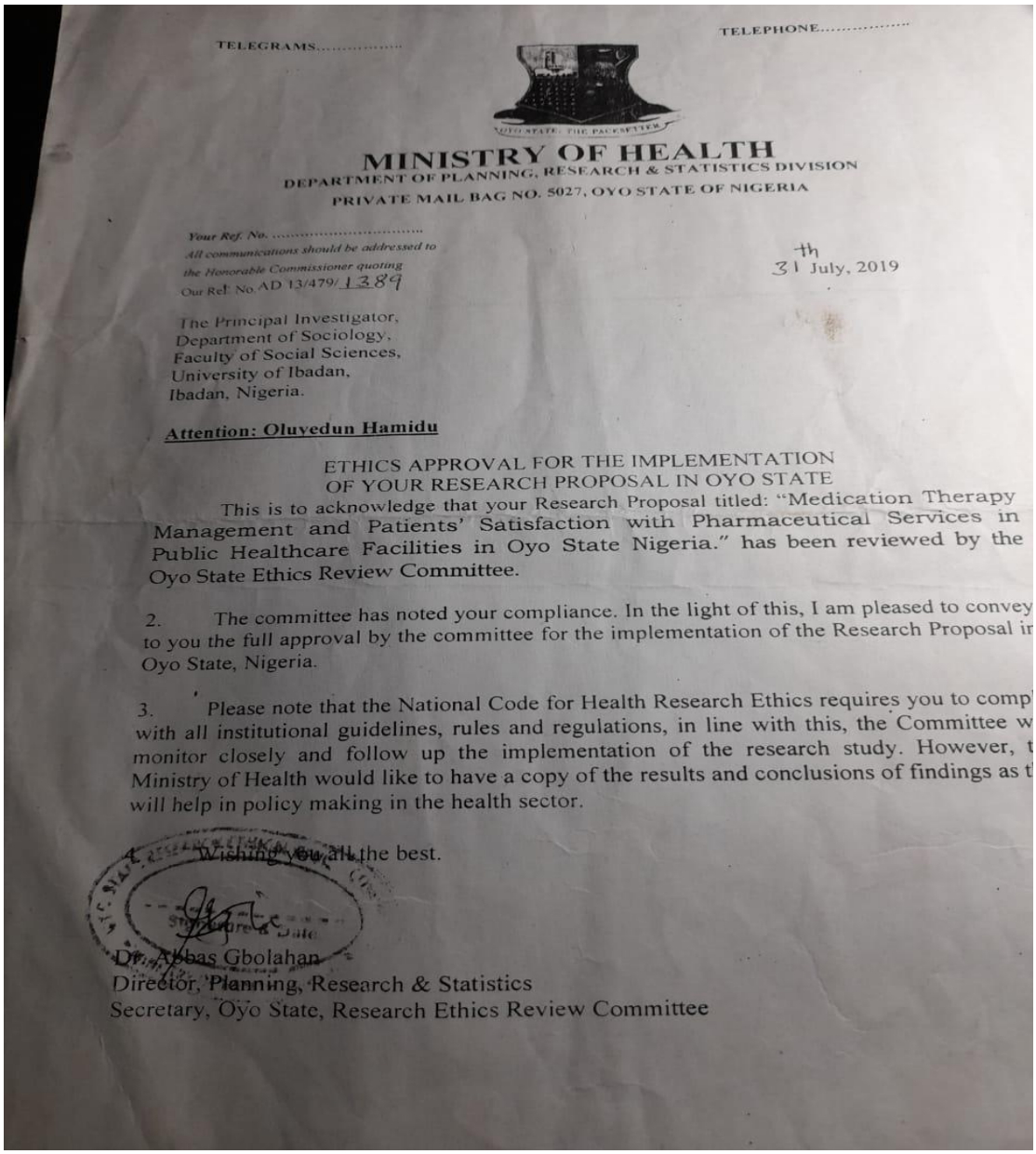
CHECKLIST FOR PHARMACISTS OBSERVATION:

S/n	Duties and Responsibilities of Pharmacist
1	Dress professionally with displayed identification, Positive attitude, Culturally sensitive, Enthusiastic etc… OBSERVER COMMENT:
2	Verbal communication: counselling of patients, Improving communication with other pharmacists & other members of the health care team OBSERVER COMMENT:
3	Questioning Dosage of drugs to meet disease state Assessment of patient drug need OBSERVER COMMENT:
4	Compounding of and reconstitution of powder drugs OBSERVER COMMENT:
5	Counsel on new medications OBSERVER COMMENT:
6	Providing information on drugs to (doctor, nurses and patients) OBSERVER COMMENT:
7	Health monitoring advice & proper dosage of drugs OBSERVER COMMENT:
8	Dispensing of medicine and medications with enthusiasm. OBSERVER COMMENT:
9	Counselling on adherence and drug abuse OBSERVER COMMENT:
10	Referral to doctor OBSERVER COMMENT:
11	Promotion of public health and advice on immunization

	OBSERVER COMMENT:
12	Performing a comprehensive medication review to identify, resolve, and prevent medication-related problems, including adverse drug events OBSERVER COMMENT:
13	Correct labelling, storage, a rational drug used for in and out-patients OBSERVER COMMENT:
14	Prevention of medication error: wrong dose, wrong choice, wrong drug, known allergy, missed dose, wrong time, wrong frequency, drug-drug interaction, wrong route, extra dose, failure to act on prescription error, and other OBSERVER COMMENT:
15	Clinical medication management (reviewing & monitoring of medication) OBSERVER COMMENT:
16	Providing verbal education and training designed to enhance patient understanding and appropriate use of his/her medications OBSERVER COMMENT:
17	Providing information, support services and resources designed to enhance patient adherence with his/her therapeutic regimens OBSERVER COMMENT:-
18	Coordinating and integrating medication therapy management services within the broader health care management services being provided to the patient OBSERVER COMMENT:
19	Monitoring and evaluating the patient's response to therapy, including safety and effectiveness OBSERVER COMMENT:
20	Documenting the care delivered and communicating essential information to the patient's other primary care providers OBSERVER COMMENT:

APPENDIX X

ETHICS COMMITTEE APPROVAL



TELEGRAMS..... TELEPHONE.....

OYO STATE - THE PACESETTER

MINISTRY OF HEALTH
DEPARTMENT OF PLANNING, RESEARCH & STATISTICS DIVISION
PRIVATE MAIL BAG NO. 5027, OYO STATE OF NIGERIA

Your Ref. No. .....
All communications should be addressed to the Honorable Commissioner quoting
Our Ref. No. AD 13/479/1389

31th July, 2019

The Principal Investigator,
Department of Sociology,
Faculty of Social Sciences,
University of Ibadan,
Ibadan, Nigeria.

Attention: Oluyedun Hamidu

ETHICS APPROVAL FOR THE IMPLEMENTATION
OF YOUR RESEARCH PROPOSAL IN OYO STATE

This is to acknowledge that your Research Proposal titled: "Medication Therapy Management and Patients' Satisfaction with Pharmaceutical Services in Public Healthcare Facilities in Oyo State Nigeria." has been reviewed by the Oyo State Ethics Review Committee.

2. The committee has noted your compliance. In the light of this, I am pleased to convey to you the full approval by the committee for the implementation of the Research Proposal in Oyo State, Nigeria.

3. Please note that the National Code for Health Research Ethics requires you to comply with all institutional guidelines, rules and regulations, in line with this, the Committee will monitor closely and follow up the implementation of the research study. However, the Ministry of Health would like to have a copy of the results and conclusions of findings as they will help in policy making in the health sector.

4. Wishing you all the best.

Signature & Date

Dr. Abbas Gbolahan
Director, Planning, Research & Statistics
Secretary, Oyo State, Research Ethics Review Committee