THE SOCIAL AND ECONOMIC CONTEXT OF MEDICAL ERRORS IN OSUN STATE, NIGERIA

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DECLARATION

I, Kamorudeen **ADEGBOYEGA**, of the Department of Sociology, Ahmadu Bello University, Zaria, hereby declare that the Research Thesis here in presented, has been written by me, that it is a record of my own research work, and that it has not been presented in any form for another degree or diploma in any other institution. All quotations and sources of information have, to the best of my knowledge, been duly and specifically acknowledged in the reference section.

Kamorudeen ADEGBOYEGA …… ……

Signature Date

CERTIFICATION

This thesis entitled THE SOCIAL AND ECONOMIC CONTEXT OF MEDICAL ERRORS IN OSUN STATE, NIGERIA by Kamorudeen ADEGBOYEGA meets the regulations governing the award of Doctor of Philosophy (PhD) Degree in Sociology of Ahmadu Bello University, Zaria, and is approved for its contribution to knowledge and literary presentation.

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DEDICATION

To my beloved parents for the foundations that they established in my early years and for always believing that I could accomplish great things. I only wish that my mother had lived to be part of this accomplishment. To my beloved Wife and Children: Mrs Anifat Adegboyega, Mohammed Fawaz Ayobami Adegboyega, Umar Ayomide Adegboyega and Abdulsalaam Ajibola Adegboyega, I am grateful for your prayers, understanding and enduring my long period of absence from the family.

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ABSTRACT

Medical errors are unintended and negative outcomes directly linked to the process of providing healthcare to clients. As healthcare professionals embark in the process of curing the sick, they sometime make mistakes, which in some cases do result in worsening the health conditions of patients or may lead to deaths. At the threshold of 21st Century, medical errors constitute a considerable threat to comprehensive and effective health care delivery in Nigeria. This study examined social and economic factors responsible for the occurrence of medical errors in Nigeria. The study examine the spectrum of medical errors suffered by victims; their consequences on victims, how victims respond and cope. The study utilized the political economy approach in its theoretical and analytical thrust. As a theoretical tool used in this study, the 'Political Economy of Medical Errors' help to reveals that Nigeria's corrupt and weak healthcare system, which is characterized by primitive accumulation; inadequate health facilities; ill-trained medical professionals; low socio-economic background and poor awareness by majority of Nigerian patients who themselves are poor; all combine to contribute to the incidence of medical errors in the country. The findings revealed that medical errors manifest in various ways and forms. These include diagnostic, medication, surgical, procedural and injection errors, among others. The study established that low socio-economic status of patients forced them to patronize incompetent health practitioners and ill-equipped hospital facilities. These two broad factors are also the fundamental drivers of medical errors in Nigeria. Other factors that generate medical errors include the inability of the healthcare providers to observe established and laid down medical protocols. The non-observation of medical protocols exposed patients to medical errors. The study found that victims of medical errors are also exposed to varying degree of social and economic challenges. Some of these challenges include but not limited to impediments such as routine life style, some form of disability, prolonged hospitalization, extra costs on medical treatment, loss of occupation and or in some cases loss of income generation capacity, rejection by society, immediate family members and or friends. Sadly, some victims suffered loss of their lives due to medical errors. This study revealed that victims responded to medical errors in various ways, which included resigning to fate or exhibiting violent behaviors against perceived erring healthcare practitioners. Aligning its recommendations to the Political Economy of Medical Errors in Nigeria, this study recommended that the market driven health care policies should be scrap. This is because Structural Adjustment policies contribute in the shrinking of the public provision of healthcare services and encourage primitive accumulation; corruption and inadequate health facilities; ill-trained medical professionals and difficulties in accessing quality medical facilities by majority of the poor who are often the victims of medical errors. Subsidy withdrawal on medical services have tended to reverse all positive gains made in the provision of basic medical services at the point of delivery and contributes in the increase in the incidence of medical errors in Nigeria. The rejuvenation of public healthcare system in Nigeria will address the challenges posed by the medical errors in the country. In addition to the foregoing recommendations, there is also an urgent need for public enlightenment on the challenges of medical errors in Nigeria as well as the rights of victims. Similarly, there is need for effective monitoring of healthcare providers by appropriate specialized government agencies and regulatory bodies to ensure that health services being rendered are responsive to patients needs.

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ABBREVIATIONS

ADR	-	Adverse Drug Events
BSC	-	Bachelor of Science
FGDs	-	Focus Group Discussions
HIV	-	Acquired Immunodeficiency Virus
HND	-	Higher National Diploma
LAUTECH	-	Ladoke Akintola University Teaching Hospital, Osogbo
LUTH	-	Lagos University Teaching Hospital, Lagos
NCE	-	National Certificate of Education
NHIS	-	National Health Insurance Scheme
OAUTH	-	Obafemi Awolowo University Teaching Hospital, Ile-Ife
OND	-	Ordinary National Diploma
PMVs	-	Patent Medicine Vendors
SSI	-	Surgical Site Infection
UCH	-	University College Hospital, Ibadan
WHO	-	World Health Organization

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

This study examined the social and economic factors responsible for medical errors in Osun State, Nigeria. Scholars have defined medical errors in different ways but the major theme that cut-across their definitions is that medical errors are injuries that are unintentionally inflicted on patients. Medical errors are considered universal problems and can cause serious consequences for patients. Liang (2000) defined medical errors as mistakes, inadvertent occurrences, or unintended events in health care delivery, which result in patient injuries. Aronson (2009) also defined medical errors as failures in the treatment process that are harmful to patient, leading to death or disability. Similarly, Brennan, et al. (2004) viewed medical errors as unintended outcomes cause by medical management rather than the disease process that lead to prolonged hospital stay and/or temporary or permanent disability to the patient.

For the purpose of this study, medical errors encompass all errors made by healthcare providers; untoward events with outcomes directly linked to the healthcare services rendered to clients. Medical errors are also considered as unplanned mishaps resulting from either the health practitioners' carelessness, incompetence, faulty medical equipment or a combination of these factors, causing injuries, losses or increase in inconveniences to patients. Medical errors occur when the healthcare practitioners violate or breach medical protocols, thereby predisposing clients to injuries, disabilities or deaths. Acts that constitute medical errors in healthcare include health practitioner failure to attend promptly to a patient requiring urgent attention when the practitioner is in position to do so; manifesting incompetence in the assessment of a patient; making an incorrect diagnosis particularly when the clinical features are so glaring that no reasonable skillful practitioner could have failed to notice them. Others are failure to refer a patient in good time to a competent source of help when such referral is necessary, failure to advise, or proffering wrong advice to a patient on the risk associated with a particular course of treatment and failure of health practitioner to see a patient as often as medical condition warrants, among others.

Medical errors either result from system errors, or are inherent risks in the practice of medicine. Illustrating this point, a report from the United States Institute of Medicine (1999) revealed that the occurrence of medical errors is a combination of faulty systems, processes, and conditions inherent in

the health system. To understand the problem of medical errors in Nigeria, this study situates its analysis within the context of the political economy of health care in the country. This is because the patient's wellbeing is partly influenced by the prevailing social, economic, political, cultural and environmental factors where such care is provided. The application of this approach meant that the occurrence of medical errors in patients' care is due to the modern medical system failures. This is because the actions of individual healthcare providers play a central role in healthcare outcomes, but their immediate working environment and wider organizational processes influence their thinking and behavior. These manifest in form of poor communication, unclear lines of authority among some healthcare providers and poorly staffed healthcare facilities.

Many patients have suffered medical errors in Nigeria because of unsafe vaccinations, injections, blood transfusions, counterfeit drugs or unreliable medical equipment. For instance, Kanabe (2015) reported the case of a woman, who had fibroid and was examined by a gynaecologist in a private health facility in Nigeria. She was assured that she would be cured once she went through a surgery to remove the fibroid. The surgery was claimed to have been successful and therefore the patient was discharged from the hospital. Exactly two weeks after, the woman noticed that her stomach was swollen. She had general pains in her reproductive system and therefore returned to the hospital for remedy. Upon examination, it was established that the surgery was poorly done. The woman eventually died. The notable medical error in this case was a surgical error.

Given the Nigerian situation, knowledge on the social and economic context of medical errors is poor. Even though cases of medical errors are common in privately and publicly funded health facilities, it is worthy of note that most of the cases only appear on the pages of the Nigerian newspapers. While appreciating the roles of mass media in creating public awareness on the subject matter, it is important to state that mass media lack capacity to provide comprehensive statistics about the gravity and magnitude of medical errors in the country. The development is not good for effective acquisition of empirical knowledge on predisposing factors responsible for the occurrence of medical errors in the Nigerian health systems. The importance of this gap must not be underestimated as it is considered a serious limitation to understanding the extent of the challenge posed by medical errors in Nigeria. The purpose of this research therefore is to establish the connections between the social and economic status of patients, the prevailing social and economic context where healthcare services are rendered and their influences on the occurrence of medical errors. With the prevailing social and economic conditions associated with the Nigerian health sector, the study surmises that the healthcare environments are fertilize grounds for the occurrence of medical errors. Therefore, there is priority for academic research on the social and economic context of medical errors in Nigeria.

1.2 Statement of the Research Problem

Although it is difficult to obtain reliable estimate of the errors, medical errors are a global health concern. According to the World Health Organization [WHO] (2015), medical errors occur in 10% of hospitals worldwide. Studies conducted by WHO (2004), and in acute care hospitals in the United Kingdom (1999-2000), Denmark (1998), New Zealand (1998), and Canada (2001) found adverse event rates to be 11.7%, 9.0%, 12.9% and 7.5% respectively. The WHO (2008) report also indicated that medical errors occur throughout the world in 5-15% of all hospital admissions. While information is available on the prevalence and pattern of medical errors in developed countries, there is a dearth of such information on the problem in developing countries, hence the need for this research.

This study acknowledges that data regarding the number and pattern of reported errors is very limited in Nigeria. However, in the past few years, the mass media started to play a role in raising awareness on the medical errors occurring at the hands of the Nigerian health practitioners. This spotlights the problem but provides little insight into its nature or magnitude of the errors. For example, Abayomi (2009) revealed the case of a two-month old baby delivered through caesarian section who was infected with HIV at the Lagos University Teaching Hospital in November 2005, despite both parents' being tested HIV negative. The attention of the public was brought into the case through mass media reportage and therefore influenced the hospital management to investigate the incident. It was established that the standard of hygiene at the hospital was very poor, which led to the baby getting infected with the virus. Donald (2014) also reported a case of a couple who took their sick child for a medical checkup in a public health facility in Ibadan, Nigeria. After consultation and treatment, the child was discharged. The following day, it was reported that the child had seizures and went into a coma. Thereafter, a laboratory test revealed that the child had been overdosed with anti-malaria drugs the previous day. While the reported incidents created public attention into the subject matter, it is worthy of note to state that deeper understanding on the social and economic contexts of medical errors are required in order to broaden empirical literature.

The occurrence of medical errors negatively affects many aspects of victim's life. The aftermath of medical errors on victims are multi-faceted and of various levels of severity. These include physical, emotional, social and financial hardships. Loss of work, permanent disability, poorer quality of life, and loss of future wages are also few examples of the possible negative impacts of medical errors. Other costs are expenses incurred such as those for special food or diet. Illustrating this argument, a study conducted by Classen, et al. (1997) established that patients who experience medical errors have longer hospitalizations that are more expensive and therefore translates to higher hospital costs (especially in a fee-for-service context), workday related loss for patients and members of their family. Similarly, the victims of medical errors may not be able to pursue other activities and responsibilities. These include inability of the victims to participate in routine religious congregational prayers, recreation, sporting activities and family functions. Additionally, fear of becoming a victim of medical errors may lead patients to delay obtaining potentially beneficial medical care, which may allow their illnesses to worsen. The doctor-patient relationship may also be strained due to medical errors.

In terms of responses, medical errors come to the attention of the law through the complaints that arise from the victims or their relatives. However, the healthcare environments do not encourage voluntary reportage of medical errors by health practitioners who committed them. In addition, because of religious or other social sentiments, relatives and victims of medical errors seldom institute actions in court or lodge complaints to regulatory bodies for redress. The identified factors among others, contribute to low public awareness about the challenge of medical errors in the Nigerian health sector. In this regard, Chuwuneke (2015) established out that victims of medical errors in Nigeria, are mostly the less privileged, and if there is any case of negligence they may not have the means to file legal actions against the hospital or medical practitioner. He stressed further that in an environment where ignorance and poverty are common, people's fundamental rights are often violated, as poor patients may not have the means to seek redress against erring practitioners who committed medical errors in their care.

Medical errors constitute systemic problems that have besieged the healthcare systems of Nigeria. For instance, a study conducted by Demehin et al. (2008) in Obafemi Awolowo University Teaching Hospital, Ile-Ife, Nigeria revealed that wrong drug, wrong dose of drug were identified as the most frequently occurring administration errors in the teaching hospital. Similarly, a study conducted by Jido and Garba (2012) revealed the incidence of 9.1% errors following caesarean section in Aminu Kano Teaching Hospital, Kano, Nigeria. The available data provide some backgrounds to the magnitude of medical errors in Nigeria. However, there is the need to deep digger through an empirical research in order to understand the intricacies surrounding the occurrence of medical errors.

The intensity of debates on the subject matter is very low in Nigeria. Notwithstanding, this study acknowledges the contributions of few studies conducted on medical errors in Nigeria. A study conducted by Oshikoya and Awobusuyi (2009) explored the healthcare providers perceptions towards prescription errors in the University of Lagos Teaching Hospital, Lagos while Arulogun, et al. (2011) established the occurrence of medication errors in the University College Hospital, Ibadan. Oyebode (2006); Ushie, et al. (2013) also focused their on clinical errors and providers negligence in tertiary health facilities in Nigeria. The identified studies provide platforms towards understanding the dynamics of medical errors in the Nigerian health sector. However, none of the identified studies paid attention to social and economic contexts of medical errors. The identified gap in knowledge therefore gives renewed weight to the importance of the empirical research on the subject matter. This means that one must endeavor to understand the narratives and descriptions of the dynamics of medical errors from the victims' points of view, their relatives and the healthcare providers. A study of this nature is required in order to determine the extent to which medical interventions deviated from the patients' expectations.

1.3 Research Questions

Deriving from the statement of the research problem, this study seeks answers to the following questions:

1. What are the socio-economic profiles of the victims of medical errors in Osun State?
2. What are the types of medical errors experienced by victims in Osun State?
3. What are the specific factors responsible for medical errors in Osun State?
4. What are the consequences of medical errors suffered by victims in Osun State?
5. How do victims respond to medical errors in Osun State?

1.4 Aim and Objectives of the Study

The aim of this study is to examine the social and economic context of medical errors suffered by victims in Osun State, Nigeria. The following are the objectives of the study:

1. To identify the socio-economic profiles of the victims of medical errors in Osun State
2. To describe and analyze various types of medical errors experienced by victims in Osun State
3. To examine the specific factors responsible for medical errors in Osun State
4. To determine the consequences of medical errors on victims in Osun State
5. To find out victims responses to medical errors in Osun State

1.5 Significance of the Study

This study contributes to the body of literature, with particular focus on unraveling the social and economic factors responsible for medical errors in the Nigerian health institutions. Academic literature and research on medical errors, especially, based on firsthand victims' interviews, is limited in Nigeria. This study therefore serves as a platform to add significant insights into the literature on medical errors, providing information that could inform policy makers and for use by educators in Nigeria. The study is useful for future researchers interested in problems associated with public health and those who might develop and conduct their research around and within the scope of this study.

Investigation into the social and economic context of medical errors is also of tremendous importance because beyond their cost in human lives, medical errors exert other significant tolls on

patients and society. Further, the victims' perspective of medical errors is informative in the development of initiatives designed to improve patient safety, public confidence and public satisfaction with healthcare. This study stresses that the main reason for the establishment of health institutions is to improve clients' health conditions and therefore, their experiences with the health system will determine their attitude toward health institutions; determine their return visit and achievement of better treatment success.

This study is also critical for developing measures capable of enhancing safety of clients, as data generated from the study enhanced victims' and healthcare practitioners knowledge the causes of medical errors, the types and consequences of medical errors suffered by victims and their relatives. The data on medical errors reinforce the need for health care facilities and providers to collaborate on quality of services rendered to patients. This study therefore provides healthcare managers and policy makers, among others with useful information about the process and outcomes of care.

Finally, this study contributes significantly to both policy and theoretical issues. On the policy side, this study serves as a contribution to the debates about the poor quality of services delivery, coupled with the notions in overhauling the health system in Nigeria. The study therefore provides useful insights into the formulation of effective policies capable of reducing the occurrence of medical errors in the various health facilities. On the other hand, this study contributes to a more robust application of theory for the understanding of the inherent factors responsible for medical errors in Nigeria, coupled with the consequences of medical errors on patients, their relatives and the entire health system.

1.6 Scope of the Study

The focus of this study is strictly on the medical errors suffered by the victims who utilized orthodox health care services in Osun State. Geographically therefore, the study is restricted to all the thirty local governments in the State. Although, the study is restricted to Osun State, its outcome might be useful in understanding and analyzing the social and economic context of medical errors in other States in Nigeria.

In terms of academic scope, the study focuses on medical errors experienced by clients who patronized orthodox health practitioners in Osun State. Specifically, the study examines the profiles of victims of medical errors, types of medical errors suffered by victims, ascertaining the factors responsible for the medical errors in Osun State. In addition, the study examines the consequences of medical errors on victims, identifying the patients' response to medical errors in Osun State.

CHAPTER TWO

LITERATURE REVIEW AND THEORETICAL FRAMEWORK

2.0 Introduction

This chapter is a critical overview of the studies that have been conducted by a variety of researchers regarding medical errors. It starts with the concept of medical errors and the prevalence of medical errors in patients' care, factors responsible for the occurrence of medical errors. Literature on consequences of medical errors on victims/relatives is also reviewed. In addition, literature on how patients respond to medical errors is reviewed. This chapter also reviews the political economic theory and its application towards understanding the social and economic contexts for the occurrence of medical errors in Nigeria.

2.1 Medical Errors: A Conceptual Framework

Varieties of terms are used to describe errors within health care. The terms such as *medical errors*, *patient care errors* and *preventable adverse events* are often used to indicate these errors. The Joint Commission on Accreditation of Healthcare Organizations (JCAHO) (2001) defined medical error as "an unintended act, either of omission or commission, or an act that does not achieve its intended outcome. Kohn, Corrigan and Donaldson (1999) also defined medical errors as injuries caused through medical management rather than by the underlying disease or condition of the patients. Rothschild, et al. (2005) viewed medical errors as the failure of planned actions to be completed as intended or the use of wrong plans to achieve aims. Grober and Bohnen (2005) also proposed what they called "outcomes and processes dependent definition of medical errors", which are "acts of omission or commission in planning or execution that contribute to unintended results". Similarly, Mayo and Duncan (2004) defined medical errors as preventable events that may cause or lead to inappropriate medical treatment or patient harms while the treatment is in the control of the healthcare professionals. Such errors may be related to professional practice, healthcare products, procedures, and systems. Craddick and Bader (1983) defined medical errors as untoward patient events, which, under optimal conditions, are not a natural consequence of the patient's disease or treatment. Von Laue, et al (2003) also described medical errors as mistakes in medication prescription, surgical procedures, diagnosis, administrative tasks, and use of technologies and facilities.

The above definitions indicate that medical errors are associated with harms and injuries attributable to interventions received by patients from health practitioners. However, the identified authors failed to highlight how treatments exposed patients to errors. Realizing this gap, Banja (2005) defined medical errors as unwarranted failure of actions or judgment to accommodate the standard of care. Gallagher et al. (2003) conceptualized "error" as including poor service (e.g., long wait times for a routine procedure), adverse events such as a previously unknown drug allergy, and deficient

interpersonal skills, in addition to deviations from the standard of care. There are, however, drawbacks to employing the standards of care in defining medical errors. First, standards of care are often no less ambiguous than determinations of causation, as exemplified by offsetting expert witness testimony in litigation. Secondly, standards of care are often sluggish in responding to advances in medical practice. Lastly, using a definition of error that coincides with the definition used in litigation can erroneously convey that error and negligence are synonymous, reinforcing already problematic and unpleasant associations for physicians.

For the purpose of this study, medical errors are mistakes committed by health professionals, which result in harms, injuries and or deaths to the patients. Medical errors are decisions made by healthcare providers adversely affecting the outcome of a patient and on which the person who took the decision could have done better with the benefit of hindsight. The causes could be from the decision makers (healthcare providers) or the environment where they operate. In a general sense, medical errors comprised clinical conditions suffered by patients of which remedies, physicians, patients or hospitals are the contributory factors. Medical errors may not necessarily to be physical nor do they involve in loss of body parts. They include but not limited to diagnoses errors, errors in administration of drugs and medications, errors in the performance of surgical procedures, in the use of other types of therapy, in the use of equipment, in the interpretation of laboratory findings and error of discharge.

2.2 Typology of Medical Errors in Health Institutions: A Global Perspective

Evidence from literature shows medical errors are global health challenges. Studies have also shown that medical errors exist all over the world's health systems, compromising the patient safety and affecting the standard of care. On the prevalence of medical errors, a study conducted by Brennal et al. (1991) revealed that 3.7% of the patients on admission in the United States hospitals in 1984 suffered medical errors, while Vincent et al (2001) reported that 10.8% of the patients in the United Kingdom hospitals in 1999 were victims of medical errors. Davis et al (2002) also found that 11.2% of patients on admissions in New Zealand hospitals experienced medical errors in 1998, while Soop et al (2009) revealed that 12.3% of the patients on admissions suffered medical errors in the year 2006. Wilson et al (1995) also reviewed the medical records of 14179 admissions to 28 hospitals in New South Wales and South Australia, where it was established that medical errors occurred in 16.6% of admissions, resulting in permanent disability in 13.7% of patients and death in 4.9%.

Vincent (2010) also found that from 1911 to 1916, there were 337 patients discharged from Codman's hospital in the United States with 123 cases of medical errors. In Ireland, one in every 100 patients is estimated to experience some form of medical error (GeneralCologneRe, 2002). Hashemi (2008) also reported that 30% of the nurses in the University of Pennsylvania had committed at least one medication administration error between 2006 and 2007. A study conducted by O'Hagan, et al. (2009) also revealed that in 2007, 17% or 4.2 million adult Canadians believed that a medical error occurred when they received healthcare services in the previous two years preceding the study. Al-Khaja et al. (2007) reported the highest error rate, 90.5 % of prescriptions in a primary health care centre in

Australia, while the lowest rate, reported by Al-Dhawailie (2011), was 7.1 % of prescriptions in a teaching hospital in the Middle East region. Kassim and Najid (2013) also reported that between 2005 and 2009, 113 negligence cases involving government healthcare providers were recorded in Malaysia.

A study conducted by Edmonson (2012) found that medical errors put the hospitalized patients at major risks in developing countries and lead to more than one death per day. The most common types of prescribing errors reported by Alsulane et al. (2013) among the Middle Eastern countries were incorrect dose and surgical errors. A study by Alemdar and Aktas (2013) revealed that the common medical errors committed by nurses in Turkey were hospital infection (15.4%), diagnostic errors (12.8%), needle or cutting tool injuries and problems related to the drug usage, which has side effects 10.3% in the study. Similarly, a study conducted by Maryyan (2012) to explore the Jordanian nurses perceptions about medication errors and their related issues revealed that only 42.1% of medication errors were reported to nurse managers using incident reports. Michel, et al. (2005) reported that between 120,000 and 190,000 serious medical errors occur during hospitalization each year among patients in France. Sommella, et al. (2014) also identified that 3.3% of medical errors among patients admitted to hospitals in Italy.

In terms of typologies, medical errors of different rates have occurred in many countries of the world. For instance, a two-month study conducted by Sommella, et al. (2014) revealed that injection-related errors, wrong diagnosis and errors of labeling were the most common medical errors suffered by patients in Italian hospitals. Basem, et al. (2012) also found out various types of medical errors among patients in Saudi Arabia hospitals between 2007 and 2010. The identified errors included diagnoses errors (14.2%), surgical errors (10.3%), administrative errors (5.2%) and errors of negligence (45.8%). Others were inappropriate therapeutic technique (5.2%) and inappropriate medication (3.9%). Khoo, et al. (2012) also reported incidences of medical errors in different clinics in Malaysia among patients on admissions between 2008 and 2011. These were documentation errors (18.0%), medication errors (21.1%), investigation errors (21.7%), decision-making errors (14.5%) and diagnostic errors (3.6%). The study also established that most of the errors were preventable and 40% of errors were viewed as having a potential for causing serious harm. Study conducted in the United States of America by Dovey, et al. (2002) classified medical errors into two broad categories. These are administrative failures and wrong diagnoses. Examples of situations where the required duties have been breached as identified in the study were; adverse drug events, improper transfusions, surgical injuries and wrong-site surgery and mistaken patient identity. Pape (2000) also identified that two percent of the yearly iatrogenic deaths in the United States are related to medication administration error.

The identified studies revealed that medical errors are global health challenges and common in various healthcare settings. The available literature also shows that patients in different healthcare settings had suffered various degrees of medical errors. The existing literature is therefore a revelation that the challenges of medical errors deserve research attention, especially from social scientists. However, there is no consensus among the various studies concerning the frequencies of medical errors suffered by patients in various health settings. This could be attributable to different locations where

the studies were carried out, as well as the use of different methodological approaches by the researchers. In spite of these limitations, the available studies provide guides and necessary background knowledge on the global trends of medical errors.

O' Hagan, et al. (2009) established that patients suffered various categories of medical errors in a Canadian hospital between 2006 and 2008. The errors suffered by the affected patients included wrong medication, wrong prescription, errors of filing and surgical errors. While appreciating the contribution of the findings to the understanding of typologies of medical errors, it is worthy of note to state the findings were not exhaustive. A study conducted by Ponte et al. (2013) also indicated that medical errors were the fourth cause of mortality in developing countries. In this regard, a study conducted by Akouko (2007) revealed that a significant number of medical errors occurred in Ghana healthcare system. Notable among them were medication errors, wrong interpretation and wrong labeling. Study conducted by Burroughs, et al (2005) to find out patient concerns about medical errors, in Emergency Units in selected hospitals in United States of America established the occurrence of various types of medical errors. They were errors of diagnosis (22%), mistakes by nurses (12%), errors of test/procedure (10%), errors attributable to medical equipment (9%), being mistaken for another patient (8%), and injury due to falling (6%). In a study conducted by Dean, et al. (1995), the most common medication errors of American nurses were wrong dosage and giving medication without prescription. In a similar study, Vaziri, et al (2016) found 809 cases of medical errors at the Emergency Department in Imam Reza hospital, Iran (2014-2015). The identified errors were unnecessary medication treatment (29.9%); misdiagnosis (24.6%); delayed admission (9.5%); request for unnecessary laboratory tests (9.5%) and request for unnecessary medical imaging procedures (7.9%). Others were unnecessary consultation (6.3%); delayed response to necessary consultations (5.4%) and procedural errors constituted 1.9% of the recorded errors.

Evidence from the illustrations above shows that there are several typologies of medical errors suffered by victims in various healthcare institutions. It is worthy of note that incident rates of medical errors vary widely, the reasons for which could be explained by the variations in scope and methods adopted by the researchers. The contexts and environments where the studies were conducted might have also responsible for the variations in the typology of medical errors found in various healthcare institutions. Notwithstanding, the available literature indicates that medical errors are global health challenge and therefore clarion call for researcher to investigate its myriad form in all parts of the world.

2.3 Overview of Incidents of Medical Errors in Nigeria

In addition to the evidence-based studies, indicating the occurrence of medical errors in most countries of the world, literature also reveals that there were incidences of medical errors in the

Nigerian modern health setting. For instance, a study conducted by Nwasor, et al. (2013) among physician and nurse anesthetists in secondary and tertiary hospitals in Kaduna State, Nigeria found that 56% of the health workers involved in the study admitted to ever having made a medication error. The study further shows that 79% of the research participants attributed the medication errors to problems with drug labeling from manufactures using similar labels for different drugs. Oni, et al. (2006) established that a 9.4% incidence of surgical site infection (SSI) in University College Hospital, Ibadan, Nigeria. In a similar study, Dalhatu, et al (2014) found an incidence of SSI of 22% among patients on admissions at General Hospital Funtua, Katsina State, Nigeria. The identified studies could said to be educative as they uncover the challenges of medical errors suffered by victims; however, the studies were hospital-based. As such, they did not accommodate feelings and opinions of the victims' of medical errors outside the hospital environments as well as their relatives.

A study conducted by Abioye and Adeyinka (2002) also discovered that 75 cases of medical errors were reported in various health facilities in Osun State, Nigeria between 1999 and 2001. The identified errors included medication errors, surgical errors, injection errors, mostly attributed to child immunization and errors of referral. A hospital study-based conducted by Akinloye (2007) established that 15% of the patients on admissions in a public health facility between 2004 and 2006 were attributable to medical errors committed by sub-optimal health facilities in various communities in Osun State. He attributed the incidences of most of the medical errors to the infiltration of quacks into the medical profession in Osun State. Ohajuru, Fajemilihin and Onipede (2011) reported an incidence of 21% surgical site infections (SSI) at Obafemi Awolowo University Teaching Hospital, Ile Ife, Nigeria. While the existing findings provided platform for researchers, interested in understanding the challenges of medical errors in Nigeria, notwithstanding none of the studies examined the social and economic context of medical errors.

Arulogun et al. (2011) also carried out a study to determine the magnitude of prescription errors among Pharmacists and Medical Registrars in various units of the University College Hospital, Ibadan, Nigeria (2000-2006). The study identified 1866 prescriptions in the selected hospital. it was revealed that a total of 1424 (76.3%) prescription errors were made by the Pharmacists and Medical Registrars during the period under review. The study identified the following errors; prescription error of illegitimacy (52.2%), omission (23.8%), style (18.8%), wrong dose (4.9%) and irrational use of drugs (0.8%). Similarly, Iyayi, et al. (2013) established that medical errors manifested in various ways in a public health facility in Nigeria. These include dispensing errors, assessment errors, counseling errors, and misdiagnosis and communication errors. In addition, Kanabe (2015) reported the case of a woman, involved in a motor accident on the Lagos-Ibadan expressway and sustained some injuries, with pelvic a pains. She was taken to a nearby private hospital, where she was syndronically diagnosed of ulcer (without an X-ray) and hospitalized. The doctor also ruled out any form of fracture as the patient was able to walk around (although with difficulties). Upon the completion of the treatment, she was discharged. However, she continued experiencing pains. Her family members took her to another hospital, where an Orthopaedic doctor conducted an X-ray, which revealed a pelvic fracture. The implication of the error committed on the woman was that she had to stay in the hospital for a longer

period in order to correct the observed medical error. Oguntola (2015) reported a diagnostic error suffered by a middle age woman (name withheld), who was diagnosed of obstructed jaundice at Ladoke Akintola University Teaching Hospital, Ogbomosho, Nigeria. The initial diagnosis necessitated a referral to Global Hospital Chennai, India where she was diagnosed with cancer of the pancreas. Ihekweazu (2009) also reported that Gani Fawehinmi (now late) suffered a diagnosis error when he was treated for pneumonia instead of cancer in a private health facility located in Victoria Island, Lagos, Nigeria. The error was detected in a hospital in London where it was found that he had cancer.

Similarly, Chukwuneke (2015) reported how a pregnant woman who underwent labour suffered gynaecological related error in a tertiary health facility (name withheld) in Nigeria. When the labor started and sustained for a longer time, cesarean Section (CS) was decided. It was reported that the attending obstetrician was not available and instructed the younger inexperience resident to carry out the surgical procedure. It was established that the woman was mismanaged and therefore made her to lose the pregnancy. Further investigations carried out suggested that the woman suffered severe adhesions, scar tissue formation, and uttering blockage.

Observation from the existing literature indicates that there are variations in terms of trends and frequencies of the occurrence of medical errors. Notwithstanding, the implication of the existing findings is that the challenge of medical errors is a public health crisis across nations, including Nigeria. However, none of the studies paid attention to the social and economic context of medical errors. This means that there is need for empirical study in order to fill the available gap in the existing stock of knowledge of medical errors.

2.4 Factors Responsible for the Occurrence of Medical Errors

Evidence from the literature indicates that many factors are responsible for the occurrence of medical errors. These include faulty health systems, characterized by understaffed and ill-equipped facilities, poor budgeting and corruption. Others are negligent acts from health care providers. Justifying the position that multiple factors are responsible for the occurrence of medical errors, a study conducted by Al-Saleh and Ramadan (2012) attributed the occurrence of medical errors in a tertiary health facility in Saudi Arabia to heavy workload, inexperience, distractions, lack of vigilance among healthcare providers and inadequate technology as being concomitants in healthcare institutions. Others were fatigue, staffing issues and time constraints. Report from the United States Institute of Medicine (1999) also emphasized that most medical errors are systems related. The identified system failures include poor communication, unclear lines of authority of physicians, nurses, and other care providers. Others are disconnected reporting systems within a hospital, inadequate systems to share information about errors etc. Similarly, the WHO (2013) opined that during health care delivery patient could be harmed by the use of technology or treatment they receive and by poor

communication between the health care providers or delay in receiving treatment. A study conducted by El-Jardali et al. (2015) in Lebanon found that between 2012 and 2013, media topics related to medical errors reported stories of patients' deaths due to medical errors during or after surgeries and deaths due to healthcare organizations' refusal to admit patients who are not financially covered. Other were medical errors attributable to the lack of appropriate equipment or facilities to accommodate emergency patients.

Khan and Hoda (2001) considered medical errors as system errors involving equipment and human factors. The human related errors are associated with knowledge, experience and other contributory factors such as haste, fatigue, stress, illness and others. The study reported 329 anaesthesia errors. In terms of causal factors, 136 (41.3%) were attributable to human errors, of which 17.6% were knowledge-based, 27.9% skill- and 25.7% rule-based, and 6.6% were technical errors. The study was for a period of six months. Anderson (2002) identified factors responsible for medical errors to include insufficient knowledge and uncertainty about procedures, ignorance of the sources of errors; poorly defined responsibilities and insufficient communication. Similarly, a study by Alemdar and Aktas (2013) found that the causes of medical errors among healthcare providers in Turkey were tiredness, increased workload and long working hours. Han, et al. (2011) attributed the occurrence of medical errors to uncertainties inherent in the healthcare system. These manifest in forms of hospital leadership, the hospital policy, the extent of use and depth of hospital drug. Paul (2014) reported 3.46 medication related error per prescription due to poor handwriting and recording. It also stated poor documentation in prescription to be a major cause of patient morbidity and mortality in Bangladesh. While the findings are revealing, it is worthy of note that none of the studies focused on the victims of medical errors. Rather, the researchers focused on gathering data from health practitioners and available medical records.

Examining the physician and public perceptions of the causes of medical errors, study conducted by Blendon and Robert (2002) revealed that both differed in their judgments. The study highlighted that the physician believed that the two most important factors contributing to medical errors were the understaffing of nurses in hospitals and the few on duty who are overworked, stressed are fatigue on the part of healthcare professionals. On the other hand, the study discovered that members of the public identified the shortage of nursing shortage and the overworking of healthcare professionals as contributing factors to medical errors. These were important findings because they showed that practicing physician and the public view medical errors differently. Though, the findings aided researchers' knowledge on the contributing factors to medical errors, it is also noted that the study was deficient as the researchers failed to identify other supporting health facilities that could facilitate nurses' performance and thereby reduce the spate of medical errors. Ballard's (2003) study revealed that there are many factors in the work environment causing the Turkish nurses to make errors. These were insufficiency in number of nurses, difficult working conditions, restlessness, fatigue, carelessness, undefined duties, irregular working hours and inappropriate physical conditions. Ballard findings are important for the understanding of predisposing factors for the occurrence of medical errors in the healthcare settings.

A study conducted by Seidi and Zardosht (2013) among Iranian pediatric nurses revealed that 73.9% of the participants felt that medication administration errors occur due to nurses' inability to properly check medicinal orders, while 64% felt that medication administration errors occur due to errors in the administration of the medication. A study carried out in the United Kingdom by Dean et al. (2002) reviewed the causes of prescribing errors by interviewing those who committed errors. The study attributed prescribing errors to slips in attention or because prescribers did not follow relevant rules of prescribing (absence of necessary knowledge). While acknowledging the relevance of findings from this study towards understanding the contributing factors to medical errors, it is interesting to note that the study was narrow in scope as it focused on medication administration errors.

Vincent (2010) attributed the occurrence of medical errors in the United States to include overcrowding, shortage of time on the part of health care personnel and shortage of adequate health care facilities. Other contributory factors were poor judgments from healthcare providers, inexcusable negligence, and lack of immediate care, and focus on the wrong ailment. The findings corroborated that of Taxis and Barber (2003), which revealed that administrative and managerial weaknesses, physical environment, and communication breakdowns are factors in the working environment that contribute to medication errors. Similarly, study conducted by Meguiar (2012) found that the occurrence of medical error during obstetric practice in various hospitals in Germany were due to poor sign-out practices, absence of close monitoring for high-risks patients, lack of teamwork, and proper communication among medical staff. Others were weak leadership, and inadequate backup and consultations. The relevance of the identified findings to this study is enormous. However, most of the reviewed studies were hospital based, thereby focusing on healthcare practitioners and neglecting the victims who could have offered other views and dimensions of the contributing factors to medical errors.

Mustajoki (2005) established that managerial flaw, such as insufficient information, missing instructions, staff inadequacy, and poor supervision of nursing students as factors responsible for the occurrence of medical errors in Canadian hospitals. Weingart, et al (2000) found that the risk factors such as age, complex care, urgent care and prolonged hospital stay have been associated with a higher rate of errors. Smits, et al (2010) also identified the predictors of medical errors to include emergency admission, surgical procedures, patient risk factors (age, gender), and unit discharge. Others were length of stay, the organizational factors, human behaviours and environmental factors. Sommella, et al (2014) found that the occurrence of medical errors in Italian hospitals were attributable to length of stay, type of admission, referral source and discharge unit. Hamitage and Knapman (2003) also found that lack of knowledge about the patients and their diagnosis, the name, and purpose and correct method of administration of a medication are the common reasons why nurses commit medication administration errors in Australia hospitals. Llewellyn, et al. (2009) found that doctors in South African hospitals with limited resources and large numbers of patients are often subjected to adverse factors contributing to system, equipment and human errors, which caused stress and burnout and increased errors in the administration of anaesthesia medication. Similarly, Warren (2015) revealed that misuse and flaws related to medical equipment and mistakes in the laboratory are common causes

of medical errors. The study highlighted that more than 50% of errors are caused by a mistake during the use of device because the person using the device was not adequately trained on how to use it. Findings from this study contributed to the stock of knowledge on the subject matter, as it provides various dimensions on the drivers of medical errors.

Ahmed, et al. (2014) attributed the occurrence of medical errors in Riyadh city in Saudi Arabia to poor quality or damaged medication labels. However, Lee, et al. (2007) attributed the causes of wrong-site tooth extraction to include cognitive failure, action lapse, miscommunication, internal communication problems and problems with communication with the referring doctor/dentist. Several studies (Ely, et al., 1995; Conradi, 1999; Silk, 2000) noted difficulties in doctor-patient communication as an important cause of medical errors. However, the nature of these difficulties were not clearly described.

Study conducted by Chukuezi and Nwosu (2010) identified reasons for surgical errors in a tertiary health facility in Nigeria to include delay in treatment and error in judgment, and limited hospital resources and poor infrastructure on the ground. Ojerinde, et al. (2014) also attributed the incident of medication among nurses in a public health facility in Nigeria to multiple factors. The factors include exhaustion due to work pressure, wrong dose calculation, inadequate knowledge about the drug, poor documentation, wrong prescription, poor labels/packaging, distraction and failure to check patients name with prescription. Others are misinterpretation of prescription, confusion between two similar terms, illegible prescription, absent-mindedness and wrong time of administration. The findings from these studies are of immense value to the body of knowledge, the authors narrow their scope of studies to a few areas in the discussion of medical errors. However, study conducted by Weissman, et al (2007) attributed the occurrence of medical errors in Accident and Emergency Department in various hospitals in New Zealand to overcrowding as well as shortages of medical personnel. Corroborating this finding, Matama, et al (2015) found that the Accident and Emergency Units of three tertiary health facilities in Nigeria were faced with the challenge of overcrowding among patients, as such, contributing to the incidences of medical errors in the teaching hospitals. The findings were also similar to that of Källberg, et al (2013), which revealed that the Emergency Department was described as complex, dynamic, and vulnerable to medical errors. In particular, the Emergency Department, in relation to communication, competence, triage, accessibility, and medication management, was identified as a possible risk area for medical errors.

Studies in other countries of the Eastern Mediterranean Region (EMR), such as Saudi Arabia, Palestine, Oman and Turkey found that the main reasons for the occurrence medical errors included: shortage of healthcare providers, lack of training, lack of available professional staff, and work overload whereby most providers work more than 40 hours per week. Other studies attributed the occurrence of medical errors to the prevalent blaming culture, which is associated with underreporting of errors or near misses (El-Jardali et al., 2014a; Hamdan and Saleem, 2013; Alahmadi, 2010; El-Jardali et al., 2010; Al-Mandhari et al., 2008). Lori et al., (1998) reported that there are many contributory factors for medical errors in developing countries. These include inadequate human resources for health, poor

management capacity and under-equipped health facilities, lack of adequate working conditions in hospitals and lack of training of health care professionals. In this regard, Ajemigbitse, et al. (2014) attributed the occurrence of medication errors among health workers in Obafemi Awolowo University Teaching hospital, Ile-Ife, Nigeria to many factors, such as workload, multitasking, rushing and tiredness. Other factors were distraction, low morale, unfamiliar patient, lack of support from senior colleagues and being nervous.

Manias (2007) found that the occurrence of medication error in Australia were attributable to the lack of medication, lapses or slips of memory and the incorrect identification of drug among health workers. Similarly, a study conducted by Gonzales (2010) also indicate that prescribing different dosage of medication, incorrect dosage and no prescribing standard dosage were three factors due to the occurrences of medication errors in most of the hospitals and health centers. Investigation about the causes of errors by Kazaoka, et al. (2007) among nurses showed that the medication errors are being committed by experienced nurses less than the junior nurses. This finding is very important because unlike the previous studies that associated inexperience among healthcare providers to the occurrence of medical errors, the study shows that experienced nurses were prone to commit medical errors than the junior health personnel. It also shows that skilled and experienced health personnel are vulnerable to commit medical errors. A study conducted by Franklin (2012) also found that poor documentation process and inappropriate communication among nurses as contributing factors to medication errors. A critical look at the various studies on the contributing factors for medical errors shows that the concerns of the authors were based on the relationship between the health care structures, processes and the connection with the occurrence of medical errors. However, the scholars neglected patient factors in the understanding of the dynamics of medical errors. Notwithstanding, the existing studies provided a platform for setting new focus in the discussions of medical errors in Nigeria.

Recognizing the importance of patients' social and economic backgrounds and vulnerability to medical errors, a study conducted by Atiyeh, Gunn and Hayek (2010) attributed the occurrence of medical errors among patients in sub-Saharan Africa to poverty and illiteracy. The study highlighted that most patients live in rural and semi urban areas and are not able to get to hospital quickly in an emergency. The study further identified that these patients were malnourished, could not afford the cheapest medicine and were reluctant to travel long distances for routine checkups and screenings in centralized services of tertiary health institutions in urban area. The study concluded that the socio-economic factors mean that some patients were not likely to afford multiple interventions necessary as part of their care. A critical look at this study shows that poor socio-economic statuses among patients affect their health seeking behavior negatively as the poor patients delay medical treatment and in some cases, patronized quacks. Subsequently, expose them to experience medical errors. However, the study failed to unravel the systemic factors that predisposed the poor to poverty and the subsequent implications of poverty on their health-seeking behavior.

Inference from the available reveals that medical errors are caused by a variety of factors. These factors could be classified as omission of certain functions by healthcare providers, or systemic,

depending on procedures, administrative controls, technology and implementation. Therefore, when people and systems function properly, these functions work to protect patients' medical errors.

2.5 Consequences of Medical Errors on Victims, their Relatives and Members of the Public

Studies reveal that medical errors pose negative consequences for victims, relatives, friends and the society as a whole. Medical errors may be minor, involving only inconvenience or discomfort, but it can also involve serious disability or death. Dietz et al. (2010) recalled that errors in medicine carry enormous burdens on victims in forms of financial costs, moral and social consequences. Dietz et al. (2010) further explained that when health care professionals commit medical errors, patients and relatives constitute direct victims. The study concluded that medical errors result in disability, re-admissions, inconveniences distresses, permanent damage, or deaths. According to Gianino, et al. (2007), the consequences of medical errors create a burden for patients' and their caregivers and could increase the costs of hospitalization. Merrills and Fisher (2013) also found that in addition to causing serious morbidity and mortality, medical errors also increase the economic burden on the society by adding to care costs and litigation. In this regard, Green (1999) estimated that one in two hundred thousand patients died from medical errors during their hospital stay (1992-1998), in the United States of America. While appreciating the importance of these findings for providing information on the consequences of medical errors on victims, it is worthy of note to state that they failed to provide the basis for the estimate and such, the findings need to be considered with cautions, especially, with reference to the adopted methodology.

According to Allen (2013), medical errors cause extensive emotional stress and extra medical and social costs for patients, families and friends. Bark (2011) also found that when people suffer medical errors, they experience strong feelings of anger, distress, worry and depression. He explained further that when medical errors expose victims to long-term effects on their work, social life and family relationships, as well as economic challenges. A study conducted by Dovey, et al. (2003) in the United States of America reported significant health, time, and economic consequences on patients. The economic impact of medical errors are related to direct costs as well as hidden costs such as delays in care and missed opportunities for effective treatment. Kaushal et al. (2007) carried out a study to demonstrate the costs of adverse events associated with intensive care units. The study concluded that patients who require intensive care are especially at risk for adverse events, and the associated costs with such events are substantial. However, Banning (2006) estimated the incidence of medication administration errors costs the British National Health System (NHS) around €500 million every year. Similarly, De Vries, et al. (2008) reported that victims of medical errors suffer economic consequences in the sense of wasted time and resources.

Other studies revealed that victims of medical errors suffered psychological consequences. For instance, Duclos, et al. (2005) found that patients experienced physical, emotional and financial trauma because of their involvement in medical errors. Gallagher, et al. (2003) also found that patients described feeling sad, anxious, depressed and often angry that their hospital stay was prolonged due to incidences of medical errors. Schwappach and Boluarte (2009) also established that victims of medical errors in Australia experienced detachment, anxiety, depression and agitation. Schwappach and Boluarte (2009) also explained that victims of medical errors suffer from lack of concentration and poor memory, which significantly impaired their ability in performing usual roles.

Elder, et al. (2005) found that patients' interactions with healthcare professionals changed following the occurrence of medical errors in their care. The study identified that patients reported avoidance of the healthcare system, more assertive communication with the healthcare providers, and increased insistence on getting second opinion. Waterman, et al (2007) reported that the occurrences of medical errors did not only affect the patients but also affecting healthcare providers' confidence and integrity. Gilmour (2006) expressed that the incident of medical errors suffered by victims in Canada resulted in permanent disability, while some victims die because of medical errors. Osmon, et al (2004) studied the reporting of medical errors in an intensive care unit experience. They concluded that medical errors are common among patients in the intensive care unit and that an error can result in the need for additional life-sustaining treatments, which can contribute to patient death. Miller and Zhan (2004) also reported that medical errors in hospitalized children are associated with significant increases in length of stay, healthcare costs and death.

A study conducted by Starfield (2000) found that medical errors are the third leading cause of death in the United States. The study also shows that there were 2,000 deaths/year from unnecessary surgery; 7,000 deaths/year from medication errors in hospitals; 20,000 deaths/year from other errors in hospitals; 80,000 deaths/year from infections in hospitals; 106,000 deaths/year from non-error, adverse effects of medications. A study conducted by Plowman, et al (2001) found that medical errors occurring in surgical patients (surgical, orthopedics, gynecology and urology) in the United Kingdom were estimated to cost the hospital sector £363 million. In another study, Crawshaw, et al (2007) reported that doctors who unintentionally leave medical equipment in patients during an intervention cost the British National Health Services £9m in medical negligence compensation over a five year period. Vincent (2010) estimated that the cost of medical errors in Britain include lost bed days with the sum of one billion (Pounds) per year. A study conducted by Sousa, et al (2014) revealed that most of the patients (58.6%) who experienced medical errors prolonged the length of stay in hospital on average 10.7 days, with additional direct costs of €470,380.00.

A study carried out by Orkuma and Ayia (2014) in Nigeria revealed that the effects of medical errors on victims include economic and non-economic damages. Economic damages include lost wages and medical expenses on the part of victims. On the other hand, the non-economic damages include pain, sufferings and physical impairments, emotional torture, inconveniences, loss of companionship and humiliation. In addition to the direct economic effects of medical errors on patients, Aspden, et al

(2007) found that patients who suffered medical errors in Washington, United States of America faced difficulties in terms of meeting the basic household needs. Similarly, Wu, et al (2013) reported that the occurrences of medical errors in various hospitals in Australia have significant effects on various components of patients' lives. These included school, work, family commitments and relationships.

A study conducted by Dindo, et al. (2004) found that the effects of surgical errors on patients might be of various degrees of severity. These vary from very minor risk effects that can be resolved relatively quickly without the need for pharmacological treatment or other intervention, to more grave effects, which could be life-threatening, require multiple interventions (for example, return to theatre), delay patient's discharge and might lead to multi-organ failure. Jha, Propa-Plaizier, Larzgoitia and Bates (2010) also observed that the harmful impact of medical errors pose substantial burden to the world's population, as patients' expectation of maintaining good health is dashed whenever they experience medical errors.

Assessing the implications of medical errors, study conducted in North Western Nigeria by Nwasor et al. (2014) shows that of the patients who were affected by medical errors suffered some complications. These range from cardiac arrest to delay recovery from anesthesia. Similarly, Ushie and Ugal (2014) reported that errors in medical care delivery pose an enormous threat to patient safety in Nigeria. They established that medical errors lead to care delayed, upset patients and make patient to loss trust in physicians. Medical errors are traumatic issues and can cause extensive emotional stress and extra medical and social costs for patients, their families and friends. Similarly, Thom, et al (2004) reported that victims of medical errors used avoidance behavior by reducing rates of care seeking, and less use of medications and treatments. In addition, study conducted by Aasland and Forde (2005) showed that the incident of medical errors affects private life of victims.

Rosenfield (2010) also shared his awareness that a doctor's misdiagnosis can have the power to label a patient for life and, with it, drastically change such patients' life. He further explains that patients and relatives may also suffer from the way the medical errors are handled afterwards. The economic impact of medical errors are often related to direct costs as well as hidden costs such as delays in care and missed opportunities for effective treatment.

In addition to the direct consequences that are attributable to the occurrence of medical errors, Vincent and Coulter (2002) opined that victims of medical errors suffer further trauma if the errors are not handled sensitively. Bismark and Paterson (2005) therefore reported the need for honesty, compassion and apology in the aftermath of medically induced errors as an ethical obligation on the part of the healthcare professionals, which allows victims to deal with the consequences of medical errors more effectively.

It is observed that medical errors have significant economic and clinical consequences and are great challenges for the healthcare systems. These are range from psychological, economic to various degrees of injuries and deaths, among others.

2.6 Victims and Public Responses to Medical Errors

Victims, relatives, and members of the public respond to the phenomena of medical errors known to them in various ways. Acknowledging the consequences of medical errors on victims, findings from various studies revealed that victims' responses to medical errors are hampered by non-disclosure of medical errors by healthcare providers. For instance, a study conducted by Gallagher, et al. (2003) in Canada revealed that patients and members of the public were favourably disposed to the disclosure of medical errors. The study further highlighted that patients expressed appreciate apology from the erring healthcare professionals. A study conducted by Mazor, et al. (2004) among Australian adults who experienced medical errors showed that non-disclosure of medical errors was associated with lower patient satisfaction, less trust in physician and a stronger negative response to the incident of medical errors. Corroborating these findings, Wu, et al (2013) reported that patients who suffered medical errors and their relatives in the United States demanded sincere regret and apology from healthcare practitioners and institutions where errors occurred. Allan and McKillop (2010) found that open disclosure, particularly full apology consisting of an admission of responsibility, an expression of regret and action to remedy medical errors and prevent future occurrence might expedite the recovery and health of patients after the incident of medical errors. In this regard, Camara, et al. (2016) expressed that the errors are not the major problems but the inability of the medical personnel to recognize their occurrences and make adequate amendments forestall their future reoccurrence. Jegede (2002) also stated that when healthcare practitioners failed to disclose medical errors, the patients and members of the public are left in the dark regarding actions, which affect them directly and oftentimes affect their health adversely, especially given the general low level of medical knowledge among Nigerians, and poor awareness and knowledge of medical error in particular.

Though non-disclosure of medical errors constitutes major barrier against responses from the affected victims, various studies had established that victims, their relatives and members of the public react to cases of medical errors known to them. The reactions include depression, expression of disappointment and loss of trust against the suspected healthcare providers, sense of frustration and humiliation. For instance, a study conducted by Kennedy and Heard (2001) indicated that common reactions reported by individuals involved in medical errors in the United States of America include distress, confusion, fear, depression and inadequacy that often persist for longer periods. Elder, et al. (2005) also found that some patients who experienced medical errors in Ohio, Canada displayed angry behaviors against healthcare practitioners and institutions responsible for the occurrences of medical errors they suffered. The study further indicated that some patients expressed mistrust against the erring healthcare practitioners. A study conducted by Chiegil (2010) to explore the factors relating to quality of care and their influence on antiretroviral among end users in Nigeria, it was discovered that health consumers frowned at any form of medical errors in health care delivery. The importance of the identified studies is that they provided understanding on how victims' and their relatives reacted to the incident of medical errors. The available studies also established that medical errors are not celebrated in the eyes of the victims and their relatives. However, none of the authors described the gravity of frustration, humiliation and depression exhibited by the victims.

Apart from the expression of disappointments, depression, and lack of trust against the healthcare facilities, studies have also shown that victims of medical errors institute legal actions to ventilate their anger against the suspected erring medical practitioners. In this regard, Gorea (2010) established that medical litigations are becoming more popular in most countries of the world. Accounting for the factors responsible medical errors related litigations, Orkuma and Ayia (2014) revealed that there are advances in public awareness of incidences of medical errors. Some of the other reasons for the increasing litigation suits include, medical practitioners not admitting their limitations in training and experience in medical treatment. Liebman and Hyman (2004) found that a significant portion of malpractice litigation is caused by a relational breakdown between the patient and the provider. Cohen (2004) also noted that some victims of medical errors are concerned that unless the physician admits responsibility, they will likely repeat the error in the future. Hence, some patients feel that it is their duty to sue in order to protect the well-being of other patients. Kassim and Najid (2013) also pointed out that litigation often starts because the patient cannot get the information he is seeking, explanation or apology from the appropriate persons.

Examining the trends of health related litigations in Malaysia; Chin (2013) established that there is an increase in the number of litigations against doctors in Malaysia. He buttressed his findings by examining data from the Malaysia Health Ministry, which showed increase medical errors related litigations from 29 to 56 against doctors from 2006 and 2011. Ferner (2000) also reported the increased in the use of litigations against doctors in the United Kingdom during the period 1970–1999. In terms of trends, Holbrook (2003) documented that the periods 1970–1979 and 1980–1989, there were only 2 cases each whereas in the period 1990– 1999, there were 13 cases involving 17 doctors in the United Kingdom. Traiana (2008) established that erring doctors in Italy were held criminally liable for negligent actions committed against patients. AlJarallah and AlRowaiss (2013) found that patients and relatives in Saudi Arabia instituted legal actions against healthcare providers and institutions perceived to have been responsible for the occurrences of errors during their care in order to checkmate professional misconducts. A study by Al-Salim (2014) also revealed that between 1996 and 2013, more than a thousand complaints related to medical errors were instituted either by aggrieved patients or by their relatives against suspected health workers in Lebanon. Of these, it was reported that 400 complaints were referred to the disciplinary council and about 300 disciplinary rulings and penalties were issued in accordance with the law. From the 300 issued rulings, it was reported that 50 resulted in physicians being suspended from work for a period ranging between 2 and 6 months and only one physician was permanently banned from practicing medicine. The implication of the findings is that medical errors receive attention in the eyes of the law and therefore the aggrieved victims and their relatives considered legal actions as the best options to seek redress. However, none of the scholars highlighted difficulties faced by complainants in the process of instituting legal action against the suspected erring healthcare providers.

While appreciating the proliferation of health related litigations in different countries, Oyetunde (2011) however noted that the situation is different in Nigeria. He stated that Nigerians have poor attitudes to health litigation. These are attributable to many factors, such as high cost of health

litigations in Nigeria, challenge of poverty rate and religious 'godswill' among the victims of medical errors, their relatives and members of the public. Additionally, there was difficulty in the provision of proof to establish the occurrence of medical errors in patients' care. Similarly, Bello (2000) found that there were cases of poor diagnosis of patients in the Northern Nigeria, leading to death and aggravation of illnesses, but the victims hardly realize them and even when they are aware, they do not institute legal actions against the suspected healthcare providers.

As a regulatory body, the Nigerian Medical and Dental Tribunal with other health professional bodies also respond to incident of medical errors committed against patients by conducting trials in order to establish the gravity and magnitude of negligence. For instance, Babalola (2013) reported a case of Dr Okeize who was found guilty of negligent, failure to secure the professional services of an anesthetist and of qualified registered nurses to provide as required before, during and after the caesarian operation. The negligent led to the death of Mrs Obiekwu after a caesarian operation. The Tribunal suspended the affected doctor from practices for six months. In addition, Orkuma and Ayia (2014) reported that in 2006 some medical practitioners in Nigerian Teaching Hospital including a Chief Medical Director (CMD), Chairman Medical Advisory Committee (C-MAC), Head of Department of Hematology, and Blood Transfusion had their appointments suspended for their vicarious liability in a neonatal transfusion transmissible-HIV case. In addition, Bello (2010) reported how the activities of unqualified health personnel led to the deaths of some children at the University of Nigeria Teaching Hospital, Nsuka in 1989. Sequel to the deaths of the children, there was a public outcry and the Management Board of Teaching Hospital conducted investigations to ascertain the person or persons responsible for the overdose. It was reported that the children received wrong dosage of chloroquine syrup. The parents of the affected children instituted legal actions against the hospital management. The postmortem analysis conducted by the central Drug Control Unit of the Federal Ministry of Health revealed that the said chloroquine syrup contained about eight times more chloroquine phosphate than a normal dose. Such overdose, it was deciphered, was dangerous and responsible for the deaths of the affected children.

While appreciating the various disciplinary actions meted against erring health providers, it is worthy of note that majority of the victims of medical errors in Nigeria found it difficult to institute legal actions to ventilate their grievances. This was attributable to many factors, such as ignorance of the existing laws and disciplinary bodies, poverty and religious fatalism.

2.7 Theoretical Framework: The Political Economy of Medical Errors in Nigeria

Political economy refers to an interdisciplinary approach that applies economic methods to the analyses of how political outcomes and institutions affect economic policies and human wellbeing.

According to Essia and Okoi (2013), modern political economy originated from moral philosophy in the 18th century as the study of the economies of states and polities, particularly as relating to morality, ethics, and equity. This study adopts the Marxian Political Economy framework because it best explains the intricacies of medical errors, which manifest in Nigeria's health sector, intertwined in the polity and economy of its society. It is within this socio-economic context that the Nigerian health sector serves as a fertilizing ground for the occurrence of medical errors.

The application of the political economy approach for this study would be appropriate because the occurrence of medical errors is the result of a system failure. In this regard, medical errors emanate from weak or ineffective health systems. The approach also allows this study to examine the historical, economic, political and social factors that serve as impediments to the provision and delivery of health services in Nigeria. The political economy approach also pays attention to the extent to which the Nigerian State healthcare policy framework has the capacity to enhance or distort effective health services for her citizens.

The Political Economy of Medical errors hinges on the materialist conception of the history of healthcare delivery in Nigeria (Falola and Ityavyar: 1991; Milward: 2010; Ticktin: 2010). The Marxian Political Economy approach has three basic theoretical thrust. Firstly, the approach takes as its starting point the assumption, that human society is materially rooted and constituted. The implication of this is that relations of power permeate the way in which a society conducts its economic life, in terms of the production and distribution of scarce resources. This is what is referred to as relations of production. Secondly, relations of production determine the life chances of individuals and social classes in society in terms of those who benefit from economic transactions, and those who loss out. Thirdly, the Marxian political economy approach posits that the material world has dialectical relations with social existence. This holds that social realities cannot be grasped outside the realms of economic realities. In effect, the Marxian political economy theory sees the economy and politics as dialectically linked (Marx, 1977a).

For instance, Ohwona (1991) considered the political economy approach an analytical tool that helps explain the relationship that exist between economic structure and social existence. Contributing to the debate, Alubo (1995) opined that political economy is a tool for the analysis of mode of production; which also helps us to understand social stratification, the role of State and the dynamics of production and reproduction in human society. Karodia and Soni (2015:123) located the heart of the Political Economy of Medical Errors in their discourse of the intersection of politics with utilization of scarce resources thus:

> It is therefore important to concentrate upon the political economy of healthcare management in relationship to public health issues. Advances in preventive medicine or public health depend on the prior allocation of scarce economic resources, primarily through actions in the political arena… It therefore, has to be clearly understood that demand for health expenditures must compete with other priority areas such as defense, education, social security and housing… more difficult, and this places a huge burden on the resources available and the mobility of the labor force. The length of stay in

> health institutions, levels of disease (acute) and chronic lead to far more work and greater responsibilities for healthcare professionals and managers. Healthcare statutory bodies must serve to enhance patients' rights and serve as watchdogs to ensure the delivery of healthcare strictly abiding by ethical codes of conduct. The ethical and moral dilemmas that healthcare professionals and managers are faced with daily, place additional strain on the system.

Tuohy and Glied (2012) also provide a descriptive narrative of the role of government in the health care system by identifying the factors and forces that determine the direction of that role. They examine the extent to which the political economy applies to our understanding of the challenges associated with healthcare delivery. Their analytical strength draws from both economics and politics to understand the intricacies inherent in the health sector. They emphasized that government policies play a critical role in health care delivery in a polity. This is because the failure or success of healthcare has a dialectical link to existing socioeconomic system. These include the extent to which health care expenditure and quality of health infrastructure is considered as a public good and prioritized. Their article explores the extent to which powerful influence of politics contribute in shaping the health system.

Arguing on a similar theoretical thrust, Ichoku, et al (2012) demonstrated that lack of progress towards universal health care coverage and other related health challenges in sub-Saharan Africa is largely due to the elitist, pro-capitalist, primitive capital accumulation and 'free market' system that drives it. This economic structure set the foundation for many challenges that are associated with the health care delivery in the sub-continent. Ichoku, et al (2012: 297) posits that "too often, it seems that analyses of these issues ignore history and take no or little account of these colonial influences that today still have a bearing on policy in various sectors, especially in health care". Their conclusions posit that in order to understand the present challenges facing the health care sector in the sub-Saharan Africa, it is important that we do not "forget history".

Williams (2012) also explored the social and economic causes of medical errors in the United States of America and Canada. These systemic factors include staffing ratios in clinical and non-clinical departments, shift work, healthcare working conditions, lack of accountability, legal issues that conflict with patient safety issues, bullying and hierarchical relationships, training of healthcare workers that never rises to the level of risk, and injury to healthcare workers. The premise of William's (2012) study is that if the systemic or social causes were not considered, then medical errors would continue to occur in different health settings.

Pietra et al. (2005:242) assert that medical errors can and do occur because of different factors, such as use of expired reagents to carry out the tests, delay in diagnosis, failure to follow proper test procedures, use of outdated tests procedures, failure to act on results obtained from scientifically confirmed tests, wrong treatment during the performance of an operation and during medical

procedure; in the administration of treatment. Others include errors due to dose prescription, due to avoidable delay in treatment, in responding to an abnormal test; due to inappropriate care; due to inadequate monitoring; in situations that result from failure of communication and due to equipment failure or system failures. The foregoing is an indication that medical errors cannot be isolated from the politics, economy and society of Nigeria. The application of the political economy theory in understanding the challenges of medical errors in Nigeria therefore requires explanatory illustrations of the role played by colonial and neo-colonial healthcare policies.

For instance, Stock and Anyinam (1992) analyzed how the introduction of modern health system in African societies was mainly to cater for the health problems of the missionaries and their colonial counterpart. In an extended contribution, Akeredolu-Ale (1982) and Ohwona (1991) also argued that the British colonial welfare services were restricted to the needs of the colonial military and other officials. This discriminatory approach to health care in favor of elite became the operating principle in Nigeria even in the post-colonial era, and resulted in the denial of healthcare access to the less privileged. Nigeria's post independent national healthcare policy continues to reflect a health system modeled along the colonial pattern (Scram: 1971, Ityavyar: 1983). This partly explains why in the 21st century Nigeria, government general hospitals are still poorly staffed and equipped and still primarily serve the poor population who cannot afford anything better. In a similarly study, Adegboyega and Hellandendu (2015) submitted that the challenges associated with the Nigerian health sector predisposed the privileged Nigerians to go for medical tourism abroad.

Part of the problem is that general hospitals in Nigeria have fewer physicians and lack essential hospital facilities including even very simple equipment such as drugs, syringes, needles, coolers and beds. Gaps and dysfunctions also exist in the area of clinical services, specifically clinical audits, performance appraisals, educational training and re-training of health care personnel, and quality improvement of patient safety. Similarly, clinical auditing, documentation, accurate assessment of health care performance and processes by professionals are far from being adequate in the Nigerian healthcare centers. This makes it difficult to enhance or evaluate healthcare performance and patient safety. With these scenarios, the health care environment becomes a fertile ground for the occurrence of medical errors.

Political economy theory enables us to understand the social and economic contexts of medical errors in Nigeria, provides the key to un-lock, and analyzes other components of the problems, such as corruption in the Nigerian health sector and its impact on the quality of services received by patients. Over the years, provision of health services has always been an avenue for primitive accumulation and corruption. In a related study, Smee (2002) found that Nigerian health institutions do not always have the financial and technical capacity to effectively exercise oversight and control functions, track and report on allocation, disbursement and use of financial resources to enhance effective delivery of health services. Situating how the provisions of health care encourage corruption in the post-colonial Nigeria, Alkasum et al (1985) opined that health policy in Nigeria was pre-occupied with capital construction, and expensive medical equipment, some of which could not be installed or adequately operated. The

significant of this can be located in the economic contribution of hospital construction to primitive accumulation, corruption, award of inflated contracts for profiteering. This laid the foundation for the problems that continue to ravage the health sector, including the preponderance of medical errors (Central Bank of Nigeria - CBN: 2010). To buttress this point, the World Health Organization (2011) reports indicates that total public expenditure on the Nigerian health sector which stood at 7.05% in 1995 dropped to a low of 4.22% in 2000, rose slightly to 6.41% 2005 and dropped again to a low of 4.4% in 2010.

Similarly, the political economy theoretical approach is useful to explain the correlations between hyper-unemployment, increasing level of poverty among Nigerians and its implications on patients' health seeking behavior and the potential for their vulnerability to medical errors. The paradox of the deepening crisis of mass poverty in Nigeria and the enormous wealth in the country is pathetic. It further shows that indicators of health are a mirror of what goes on in the wider society as majority of the population are deprived of the material benefits of the economy. Balancing this equilibrium is therefore a function of history, politics and economic policies (Stuckler, et al: 2010; Gish, 1979). It is within such a context that the volume 'the Political Economy of Health in Africa' by Falola and Ityavyar (1991) is situated. The book took a historical review of major phases of health services in Africa. Their study analyzed health as an integral part of the deepening crises in Africa's underdevelopment, pointing out that the Western paradigm of health care delivery systems have not only made health care less accessible for most African people, but that it has also created countless number of problems for the health sector. Some of these problems include food and nutritional deficiencies that impact on health of the people; issues of acute cases of infections, fake drugs; the menace of unqualified medical care providers, inequality of access to medical facilities, poor medical infrastructure, and the violation of human rights in general and the rights of patients in particular. Their study acknowledged that there could be no immediate solution to the healthcare crisis in Africa until the linkage between health and political economy is contextualized especially the issue of widespread poverty in Africa.

With specific reference to the impact of economic policies of Structural Adjustment on the provision of basic services including health care, education and the human development indicators in Nigeria, Adesina (2010) laments how subsidy withdrawal on social services tended to reverse all positive gains made in the provision of these basic services at the point of delivery. Advocacy by the World Bank and the International Monetary Fund for a market driven option to solve the crises of development in Sub-Saharan Africa is yet to yield any positive gain. Rather, the market approach continues to compound the problem. Adesina (2010) provides reasons why Sub-Saharan African economies need to rejuvenate the public sector if only to address the challenges of social development issues that constitute to the breeding ground for human resource development pitfalls including medical errors. He laments:

> For many developing countries, the challenge is also at an institutional level, and we see these more acutely in Sub-Saharan Africa. Successive cycles of neoliberal reforms have left many countries in a state of acute institutional crisis and undermined the little capacity for endogenous policy learning that

> many of these countries built in the period between 1960 and 1980. For many of our societies, the consequence of obsessive anti-statism was to damage the nation-building project. The institutions and policy instruments for building social cohesion were undermine in the process of 'reform'. Often, for the poorest countries there are no substitutes for the collective, public provisioning of these services. In the sub-Saharan African context people did not simply fall through the cracks; they died (Adesina: 2010:2).

Writing on 'the Political Economy of Health Services Provision and Access in Brazil', Mubarak (2004:1) argued that the levels of public healthcare provision increased the probability that individuals will gain access to health services whenever they seek for it. He explained further that this was made possible if government in developing countries subsidize health care not only "because of the positive externalities associated with disease control, but to redistribute income and to assure that the poor receive at least some minimum level of health services".

It is also instructive to state that the political economy theory influences victims and healthcare providers' responses to medical errors. Illustrating this statement, Adetola-Kazeem (2016: 1-2) explains the legal options available to victims of medical negligence in Nigeria, with emphasis on the Code of Medical Ethics (Rule 29.4), which stipulates professional negligence. This rule among other things, includes failure to attend promptly to a patient requiring urgent attention when the practitioner is in position to do so; incompetent assessment of the condition of a patient; making wrong diagnosis even when clinical features are glaringly obvious to have informed a correct diagnostic exercise, proffering wrong medical advice to a patient on the risk(s) involve in undertaking a particular course of action which result in side effects, deformity, loss of organ or function of organs; failure on the part of a medical professional to obtain informed consent of the patient before undertaking a medical procedure like surgery, or course of treatment; making a medical error in terms of amputation of the wrong limb, wrongly terminating pregnancy, prescribing a wrong drug or dosage; failure to refer a patient to a more competent and qualified medical consultant; failure to do be reasonable in handling a patient; failure to see a patient and relatives as frequent as the medical condition required. While the foregoing rules are given, in actual practice, the social, political and economic realities of every society are the main determining factors that can ensure that medical professionals meet the requirement enshrined in such medical rules and ethics.

Similarly, Ushie and Ugal (2014: 25) study concentrated on the dilemmas that "health caregivers often face in the choice of whether to disclose or cover-up their own preventable medical mistakes, which are harmful to patients' health". Their study was also concerned with the choices that patients have to make "between suing a caregiver who reports medical errors" and forgiving such a caregiver. Beyond the issues surrounding voluntary reportage of error and its effects on medical negligence or malpractice litigation, is the political economy on which all these challenges are rooted. It is difficult if not impossible to resolve these dilemmas without situating our analysis within the political, moral, economic and

historical context of each medical error. This is because medical errors don not occur in a vacuum. Ushie and Ugal (2014: 25) submit thus:

> …difficulty patients or their relatives face in proving that indeed the alleged errors were 'preventable', as well as the burden of litigating a health caregiver who has voluntarily reported their own error", and therefore call for the "need to create an environment whereby disclosure becomes standard practice and medical errors are minimized, to reduce the potential for conflict between caregivers and patients and generally improve care…

From the foregoing, the political economy theory has demonstrated the basis for the occurrence of medical errors, in Nigeria, as it describes how systemic factors, such as inadequate funding of health sector, primitive accumulation of health resources, ill-equipped health facilities and ill-trained medical providers predisposed patients to medical errors. It could therefore be stated that the Nigerian healthcare environment is fertilize for the occurrence of medical errors.

CHAPTER THREE

METHODOLOGY

3.0 Introduction

This chapter provides the description of the various strategies adopted for conducting this study. The chapter therefore presents the procedures for conducting this research. It presents the study location, research design, and study population, methods of data collection, sampling, sample size, research instruments used, data analysis and presentation.

3.1 The Location of Study

The study was carried out in Osun State, Nigeria. The State was created on August 27, 1991 out of the old Oyo State. The State's name is derived from the River Onus, the venerated natural spring that is the manifestation of the Yoruba goddess of the same name. The major Yoruba sub-ethnic groups in Ọṣun State are Ife, Ijesha, Oyo, Ibolo and Igbomina, although there are also people from other parts of Nigeria. Yoruba and English are the languages of the people for official and business transactions. According to the 2006 National Population Census, the population of Osun State was 3,423536 of which 1,740619 (50.8%) were males while 1682917 (49.2%) were females (Federal Republic of Nigeria Official Gazette, 2007). Projecting these figures at an annual growth rate of 2.8 percent for the year 2009 yields an overall population of 3,719,328. Some of the notable towns in Osun State are Ilesha, Ijebu-Ijesha, Ede, Ile-Ife, Ikirun, Ikire, Ila-Orangun, Ejigbo, Iwo and Osogbo.

The health situation in the State is very much like the national one characterized by poor indicators, such as shortages of competent health facilities and absence of regulatory mechanisms historically worsened by rapidly growing population that stretches health resources. According to Sanni (2010), there are about one thousand and twenty (1020) health care facilities scattered throughout the State. Two of these are Tertiary Teaching Hospitals, 55 are Secondary health care facilities owned and managed by Osun State Government; 621 are Primary health care facilities owned and managed by the 30 LGAs plus 1 Local office while about 430 are owned and managed by private practitioners. Findings by Sanni (2010) further show the distribution of personnel in government owned health facilities as follows: Doctors (282); Nurses (1101); Pharmacists (53); Health Technicians (473) and Health Assistants (1356). Others are Health Attendants (935); Radiographers (14); Medical Records Officers (232); Community Health Personnel (1334) and Laboratory Scientists (72). Thus, these existing health facilities and personnel provide medical services to the projected population of 3,719,328. The findings by Sanni (2010) also opined that the facilities are skewed in favour of urban areas, thereby creating greater barrier for rural residents to access basic health facilities. Some citizens therefore patronize poorly regulated private health facilities, such patent medicine vendors. From the foregoing, it is worthy of note to state that the study area is fertile for the occurrence of medical errors.

The researcher's choice of Osun State was influenced by many factors. Firstly, pilot studies carried out by the researcher prior to the comprehensive research, revealed that there were cases of medical errors involving patients in Osun State. The identified patients demonstrated willingness to narrate the social and economic factors that were responsible for the medical errors they suffered. Additionally, members of the public in the study area were interested in the subject matter, as the topic was considered relevant, area that is relatively new and capable of enhancing their knowledge about the dynamics and intricacies of medical errors in the State. There were also people who offered to assist to identify victims of medical errors for interview for this research. The combinations of these factors motivated the researcher to embark on this study. Communities where participants with useful information on the subject of investigation were identified included Osogbo, Ilesha, Ile-Ife, Ede, Iwo, Ikire, Ipetumodu, Ila and Ikirun. Others are Ipetu-Ijesha, Odeomu, Akinlalu, Ifetedo, Asipa, Esa-Oke, Otan- Ayegbaju and Apomu. The presence of the victims who voluntarily agreed to participate in the study restricted the researcher's to focus on the identified communities.

3.2 Research Design

The research design is largely exploratory, employing qualitative and quantitative research approaches using a combination of data collection. These include in-depth interviews, focus group discussions and hospital records. The triangulation techniques adopted by this study allows the subject of medical errors to be observed from different viewpoints (laypersons and healthcare practitioners) in order to substantiate findings that would enhance the validity and reliability of the study. The qualitative research adopted in this study therefore is a semi-structured interview that allows the participants to respond to the research inquiry by sharing their views and feelings in a conversational format.

It is worthy of note to state that issues related to discussions of medical errors are very sensitive, personal and emotional and surrounded with a lot dilemmas for the victims, their relatives and healthcare providers. Combination of qualitative and quantitative research approaches therefore became valuable tools that encouraged the study to elicit relevant data to provide answers to research objectives. Through these approaches, the study explored the experience of the participants, as they both lived and gave meaning to the said experience. Therefore, the researcher resorted to capturing the 'lived experiences' about the challenges attributed to the medical errors experienced by the victims.

The adopted research design therefore allowed the research participants to describe the contributory factors for the medical errors they suffered and effects they posed on the social and economic lives of the victims. Thus, free-flowing narratives were considered appropriate in this study because they gave voice to the research participants and provided a window into their real experiences on types and consequences of medical errors in their wellbeing.

3.3 Methods of Data Collection

The data collection took place between March and July 2015 with a follow-up in March 2016. The data collection approaches adopted in this study are multi-method in nature based on the principle of triangulation where the researcher used focus group discussions and in-depth interviews (qualitative approach) to elicit data from the key informants. Available hospital records (quantitative approach) on medical errors were also elicited and analyzed. The rationale behind the adoption of qualitative and quantitative approaches was to elicit robust and relevant data in order to provide explanations to the research objectives.

3.3.1 Techniques of Qualitative Data Collection

Qualitative data for this study were elicited using in depth interviews (IDIs) and focus group discussions (FGDs) conducted on laypersons (victims of medical errors and their relatives) and healthcare providers. The principle guiding the adoption of these techniques was to facilitate discussions about the subject matter in a systematic and verifiable manner. The decision to use these techniques is also driven by the need to understand various factors responsible for medical errors and the consequences suffered by the victims. One thing that stood out clearly, is that the victims of medical errors did not subscribe to the FGDs because they wanted to keep their identities as anonymous as possible. They therefore opted to tell their life histories in a one to-one interview.

The interviews and focus group discussions guides for the study were designed in accordance with the research objectives, presenting open-ended and probing questions. Central to the interviews and focus group discussions is the idea that the spoken communication between the participants and the researcher could reveal something of the world in which the participants inhabit and experience, gathering their unique views, descriptions and accounts and then placing these within the wider social and interpretative context. The adopted methods and research tools therefore allowed the researcher to have direct and face-to-face discussions with victims of medical errors, and therefore enhancing proper understanding of the subject matter. Most participants agreed to be audio taped having been assured that their names and identities would not appear in the report presentation. Interviewers took field notes and later transcribed the interviews. All research participants were assigned a code number to maintain anonymity.

The distribution of the interviews and focus group discussions are as follows: 105 interviews conducted with victims, relatives and community leaders, 5 sessions of focus group were conducted with health workers; each of the groups contained 10 discussants. Each of the focus group discussants consisted of individual health workers within the same sub-discipline in the medical profession. In conducting FGDs with the healthcare providers, consideration was given to specialization (Nursing, Doctor, Pharmacist, Laboratory Scientist, Patent medicine vendors) according to their respective professional groups. The goal of the focus group discussions was to facilitate discussions about the

various factors responsible for the occurrence of medical errors among the research participants in a systematic and verifiable manner. The interviewed informants and discussants provided useful and insightful information and ideas regarding the medical errors.

3.3.2 Study Populations for Qualitative Data

The research participants for the qualitative data comprised residents (key informants) of Osun State who had experienced medical errors during their care and individuals who possessed knowledge relevant to the subject matter. They were victims of medical errors and their relatives, community leaders, healthcare practitioners and officials of the Nigerian Medical Association, Osun State Chapter. The selected health care providers were identified from various hospitals, clinics and maternity homes in the State. They included Nurses, Physicians, Patent Medicine Vendors (PMV), Medical Laboratory Scientists, Health Technicians, and Pharmacists. Each of the included health care workers had minimum of five years of working experience.

Victims of medical errors were included in this study to elicit the following: how medical errors manifested during their care, their views of factors responsible for the medical errors, consequences of medical errors and their responses to the phenomena of medical errors. For the victims who found it difficult to provide detailed account of the medical errors they experienced, their relatives served as proxies who provided the details to the researcher. Notably, all victims but one were able to vividly recall the details of the errors experiences, some of which had occurred as long as 15-35 years previously. The ability of the victims to recall the details of error experiences after many years suggests that the events were traumatic enough to remember for years. The health practitioners were also included in this study to provide expert accounts of the types, victims, causes and consequences of medical errors suffered by the victims.

3.3.3 Selection Criteria of the Research Participants for Qualitative Data

The pilot studies earlier conducted had broken the ice with ‘gatekeepers’, working in some hospitals and with families whose members had incidences of medical errors. They helped suggest other key informants for the study. Individuals were eligible to participate in the research if they or their relations had suffered any form of medical errors from health practitioners, attributable to medical interventions. For the health practitioners, they must have been providing health services to patients for a minimum of five years and who are employed either in a hospital setting or in private health practitioners. The participants appeared to have one main reason for taking part in the study: the genuine sense that reporting their own experience would contribute to shed more light on the problem of medical errors. The participants also hoped that their participation could contribute to change a system in which they had suffered medical errors.

3.3.4 Sampling Techniques for Collection of Qualitative Data

The samples were selected using non-probability sampling technique known as snowball sampling where participants were drawn based on their availability and their knowledge of the research topic. It is worthy of note that the victims of medical errors lived in different locations; the researcher therefore identified the participants through networks and contacts with professional experts and community leaders. The pilot study conducted before the main study yielded good results. For instance, during the pilot study, the researcher was privilege to interact with a retired record officer in a tertiary health facility. At the initial visit, he was very reluctant but after series of meetings, when the aim and objectives of the study were discussed, he agreed to participate in the study. From his experience as a former record officer in a tertiary health facility, he directed the researcher to some victims of medical errors who started the snowball process of identifying others. For instance, he facilitated the researcher's access to the victims of medical errors at Ile-Ife in Osun State, where the researcher was eventually linked to some participants. He also used his contacts to link the researcher to his former professional colleagues; some of who were still in the service. In addition, he provided links leading to the identification and selection of victims of medical errors in Osogbo.

The researcher also requested for the assistance of the Head of Legal Unit of a tertiary health facility in Ilesha, Osun State. At the initial contact, he was not willing to honour the request until he was convinced that the research was not meant to indict him or other healthcare providers. His inclusion in this study therefore helped the researcher to access useful hospital records on cases of medical errors. He also assisted in identifying some victims of medical errors. To identify additional participants, the snowball sampling technique was used by having participants who provided referrals to other victims.

3.3.5 Sample Size of the Research Participants for Qualitative Data

One hundred and twenty five (125) laypersons (victims of medical errors, their relatives and community leaders) participated in this study. The breakdown of the participants shows that there were 80 victims of medical errors, while the remaining 25 participants comprised of relatives of the victims and community leaders. In addition, fifty (50) healthcare providers were included in this study for the generation of qualitative data.

3.3.6 Negotiation and access to Research Participants for Qualitative Data

To ascertain the feasibility of this study, the researcher conducted pilot studies. These involved visits to various communities and healthcare facilities in order to be acquainted with the social, political and cultural environments and to establish a good working relationship with some relevant individuals to enhance identification of the victims. The first visit was in May and June 2013; the second was in October and December 2013; and the third between October 2014 and January 2015. Communities visited included Ile-Ife, Osogbo, Ilesha and Ede. Others were Ipetu-Ijesha, Iree, Ila-Orangun, Akinlalu, Odeomu and Apomu.

The pilot studies also revealed many unforeseen benefits and challenges. First, it offered the researcher the opportunity to familiarize himself with key informants and stakeholders in various locations. This was very important, as it assisted the researcher to get access to the target research participants in the course of data collection. Second, it helped to understand patients' interest in the discussion of medical errors, which further reinforced the researcher's hope of accessing relevant research participants. Experiences gained from the familiarization visits indicated that some individuals, particularly those who either experienced medical errors or their relatives, knew about the medical errors and thereby enhanced the success of the fieldwork. Third, it broadened the researcher's knowledge of some of the predisposing factors for the occurrence of medical errors in Osun State, especially with visits to various health units of Obafemi Awolowo University, Ile-Ife, Seventh Day Adventist Hospital, Ile-Ife and Ladoke Akintola University Teaching Hospitals, Osogbo. Overall, the pilot studies prepared a platform and foundation for the final data collection exercise.

3.3.7 Recruitment of Research Assistants for Collection of Qualitative Data

Data for this study were collected with help of twelve research assistants. The research assistants were selected from each of the communities of study. In terms of qualifications, the research assistants were holders of either National Certificate of Examination, Ordinary National Diploma, and Higher National Diploma, Bachelor's Degree certificates in Humanities, Arts, Social Sciences, Sciences and Nursing Sciences. They were trained by the researcher on the basic rationale for the research, and on how to elicit data from research participants through qualitative research methods. The training focused on the objectives and importance of the study, how to secure participants informed consent and general interviewing skills. The training took place at a community primary school, Odeomu in Ayedaade Local Government Area of the State, and lasted for seven days.

3.3.8 Techniques Employed for Collection of Quantitative Data

To complement the qualitative data, the researcher reviewed incidents (medical errors) records available in a hospital in Osun State. Attempts made to review records from other hospitals did not yield positive results as management and staff declined to make the records available. The review of hospital

records was retrospective in nature; covering recorded medical errors for a period of seven (7) years (2008-2014). The records indicated that one hundred and seventy-two cases of medical errors were recorded in a tertiary health facility. All the cases were therefore reviewed for this study. The following information were extracted from the incidents records; the socio-demographic characteristics of the patients who suffered medical errors, the categories of errors experienced by the victims, number of deaths attributable to medical errors and number of survivors during the periods under review.

3.4 Data Analysis and Presentation

In this study, data analysis was done both manually and electronically. Both methods were used to corroborate one another. Upon completion of the qualitative data collection process, all audio taped interviews and focus group discussions were transcribed verbatim by the researcher. All transcribed interviews and focus groups were also re-checked for accuracy. Manually, data were sorted into different themes based on the study objectives to reflect the views and responses of the research participants. This involved reading and re-reading the transcripts, and identifying themes within each transcript, a concept known as content analyses. This was followed by generating an index by which the raw data could be labeled and sorted. This involved identifying the recurring themes and concepts in the transcripts together with terms used in the interview schedules and related literature.

A workable list of main and sub-themes were also developed and applied systematically to the whole data with the aid of the computerized qualitative data analysis software QSR N-Vivo version 9.0. N-Vivo is a qualitative data analysis software package used to analyze interviews, field notes and other types of qualitative data. First, collected data were transcribed and typed in Microsoft Word programme. Each interview and FGD was entered as a single file in form of index. The index was then mapped to the categories outlined and the coded data sorted and synthesized by grouping data with similar contents together under the different themes and sub-themes. The collected data were further synthesized in the main findings by looking across all practices for data coded against a particular theme, for example 'patients' characteristics', and understanding the range of views and experiences shared by interviewees. The researcher then began to build explanations for the recurring patterns and associations in the data. This process involved analyzing the dataset as a whole to identify linkages between sets of phenomena and exploring why such linkages occurred.

The participants' responses considered significant to illustrate the discussion of findings were also highlighted with quotation marks. This was done in order to bring out illuminating responses derived from interviews and focus group discussions as expressed by the participants on the subject under investigation. Verbatim quotations as expressed by the participants were reported but refined in a way that readers could better understand. This was done in a way that the real meanings and originality of expressions as presented by the participants. The data analysis and interpretation were done by capturing the participants' real-life experiences about the subject matter.

The quantitative data on the other hand were sorted out, presented and analyzed using multiple bar charts. The charts describe the patterns and nature of medical errors suffered by the victims for as recorded in a hospital in Osun State. The multiple bar charts therefore provided platform to understand the variation in the socio-demographic characteristics of the victims across the periods.

3.5 Ethical Considerations

The research proposal was submitted and approved by Ahmadu Bello University Teaching Hospital Ethical Review Committee. This notwithstanding, the researcher and the research assistants informed participants about the purpose and significance of the study, their roles as participants, estimated interaction time the data collection will last, and what would become of the research findings. Informed consent was thus obtained from participants. Prior to the interviews and discussions, each participant was contacted to arrange a mutually convenient time and place to meet for discussions about the interview. All research participants agreed to participate in the study by giving verbal consent and approval. Before commencing interviews, participants were asked if they were willing to be audio-recorded and reassured that any information provided would be treated with a strict confidence.

Participants were also informed about the purpose and rationale of the study. This was done in order to prevent misconceptions and fear associated with academic research of this nature. Participants were also informed that they were at liberty to withdraw voluntarily at any time, whenever they felt uncomfortable enough to do so. However, all the identified key informants felt comfortable with the study and therefore provided the needed data for the study. Areas that required further exploration were followed up later in the interviews. Towards the end of the interview, all participants were asked if there were anything, they would like to add to the issues discussed or question they wanted to ask the interviewers.

3.6 Challenges Encountered During the Fieldwork

The challenges encountered resulted mainly because of the personal and emotional nature of the research topic. For instance, some healthcare practitioners felt threatened and reluctant to give relevant data and to provide answers to some research questions. Some of them considered the study as an attempt to audit and intrude into their professions and therefore became unfriendly when asked questions such as have you ever committed medical errors while providing treatment to patients, has any patient sustained injuries or died due to carelessness of any of your personnel?. For example, in an encounter with a private medical practitioner, he declared categorically that there were no cases of medical errors in his clinic and therefore he was not interested in participating in the study. The researcher subsequently pleaded for necessary cooperation from him. In the end, he shared his experiences about the subject matter, which became useful for the study. Secondly, in spite of the fact that formal approval received from Ahmadu Bello University Teaching Hospital Ethical Review Committee and the Department of Sociology, Ahmadu Bello University, Zaria were presented to key

informants, some individuals still declined to participate in the study. Some research participants also found it problematic to honour appointment as initially agreed, while many of them perceived the study as a way to dig into their private lives.

In spite of the identified challenges, the researcher was able to overcome the difficulties and successfully completed the fieldwork. This was done by establishing informal links and networks, which were sustained until the study was completed. The processes provided avenue for the researcher to identify some health workers, quality maintenance officers working in various hospitals in the State, who volunteered to provide necessary logistic supports such as introducing the researcher and the research assistants to 'gate keepers' and thereby mitigating many challenges against this study.

CHAPTER FOUR

DATA PRESENTATION, ANALYSES AND INTERPRETATION

4.0 Introduction

The purpose of this chapter is to present, analyze and interpret data gathered on the social and economic contexts of medical errors in Osun State, Nigeria. The study investigated the laypersons and health professionals' points of view of medical errors in the State. The data are presented according to the study objectives, themes and sub-themes. Specific issues that shape this data analysis and interpretation include real-life experiences as narrated by the victims, their relatives and other key informants such as healthcare practitioners and community leaders.

4.1 Profiles of Victims of Medical Errors in Osun State

The essence of this section is to present and analyze the social profiles of the victims of medical errors in order to have full knowledge of categories of patients and members of the public that have suffered medical errors in Osun State. This was done in order to understand the basis for the occurrence of medical errors suffered by the victims and to have comprehensive knowledge about the categories of health personnel who are alleged to be responsible for the occurrence of medical errors. This is also important, as it would serve as platform for health seekers to modify their health seeking behavior. Therefore, the age, gender, educational qualifications and occupational status of the victims are identified. Victim's place of residence and the type of health facility where the victims experienced medical errors are also examined such that the connections between patients profiles and vulnerability to medical errors could be established.

4.1.1 Socio-Demographic Characteristics of Victims of Medical Errors

Age (Years)	**Frequency**	**Percentage**
20 years or less	10	12.5
21-30	25	31.3
31-40	30	37.5
41 or older	15	18.8
Total	**80**	**100.0**
Gender	**Frequency**	**Percentage**

Male	28	35.0
Female	52	65.0
Total	**80**	**100.0**
Academic Qualification	**Frequency**	**Percentage**
Informal Education	10	12.5
Primary Education	35	43.8
Secondary Education	15	18.8
NCE/OND/HND	12	15.0
First degree or higher	8	10.0
Total	**80**	**100.0**
Occupation	**Frequency**	**Percentage**
Dependant	55	68.8
Artisan/Self-Employed	15	18.8
Civil Servant	10	12.5
Total	**80**	**100.0**
Place of Residence	**Frequency**	**Percentage**
Urban	35	43.8
Rural	45	56.2
Total	**80**	**100.0**
Owner of Health Facility where Medical Errors occurred	**Frequency**	**Percentage**
Private Health Facility	12	15.0
Public Health Facility	23	28.8
Patent Medicine Vendor	45	56.3

Total	**80**	**100.0**

Source: Fieldwork, 2015

Table 4.1.1 summarizes the socio-demographic characteristics of victims of medical errors with respect to age, gender, education, occupation and rural/urban residence. A total number of 80 victims of medical errors participated in the study. The distribution of the victims indicate that there were 28 males (35.0%) and 52 females (65.0%). The result indicates that females were more than males, it can therefore be concluded that there is relationship between gender and patient vulnerability to medical errors in the study area. The plausible explanation is that females experience gynecological diseases and as such, making women susceptible to medical errors. The study also revealed that most of the victims were between the ages of 31 and 40 years while a few were aged between 10 and 20 years.

In terms of the formal educational attainment, significant numbers of the victims were holders of primary school/senior secondary school certificates. However, some of the participants possessed higher educational qualifications such as NCE, OND, HND and First Degree in various disciplines not related to medicine; while some participants were in various higher institutions of learning as at the time of the research. The implication of this finding is that there is relationship between patient educational attainment and vulnerability to medical errors. This is because patients' educational attainment influences their health seeking behavior. It could not be considered an overstatement to say that patients with low educational background may not possess relevant information capable of influencing where they could seek health services, thereby patronizing unqualified health practitioners and those who do not understand standard of care. The low educational attainment therefore expose the clients' to suffer medical errors. Inference from this study therefore is that patient with little or no formal educations were more vulnerable to medical errors.

This study also found that most of the victims of medical errors resided in rural areas. Given the fact that most of the rural dwellers in Nigeria find it difficult to receive treatment from competent health facilities, rural dwellers patronize the available healthcare providers in their communities. While most of the health practitioners in the rural areas did not operate within the rules and regulations guiding the safety of clients, the chances are therefore higher for the occurrence of medical errors when clients patronize the existing health facilities in their communities. The absence of appropriately staffed and equipped healthcare facilities in the rural communities therefore has direct effect on the health seeking behavior of the rural dwellers.

In terms of occupational status, this study revealed that most (68.8%) of the victims were dependents (students, unemployed or the retirees). The results also provided information about the economic status of the victims, which suggest that most of the victims of medical errors in Osun State did not have regular incomes (sources of economic livelihoods). Given the fact that most of the victims were dependents, their health seeking behavior would be directly influenced by their income or by the

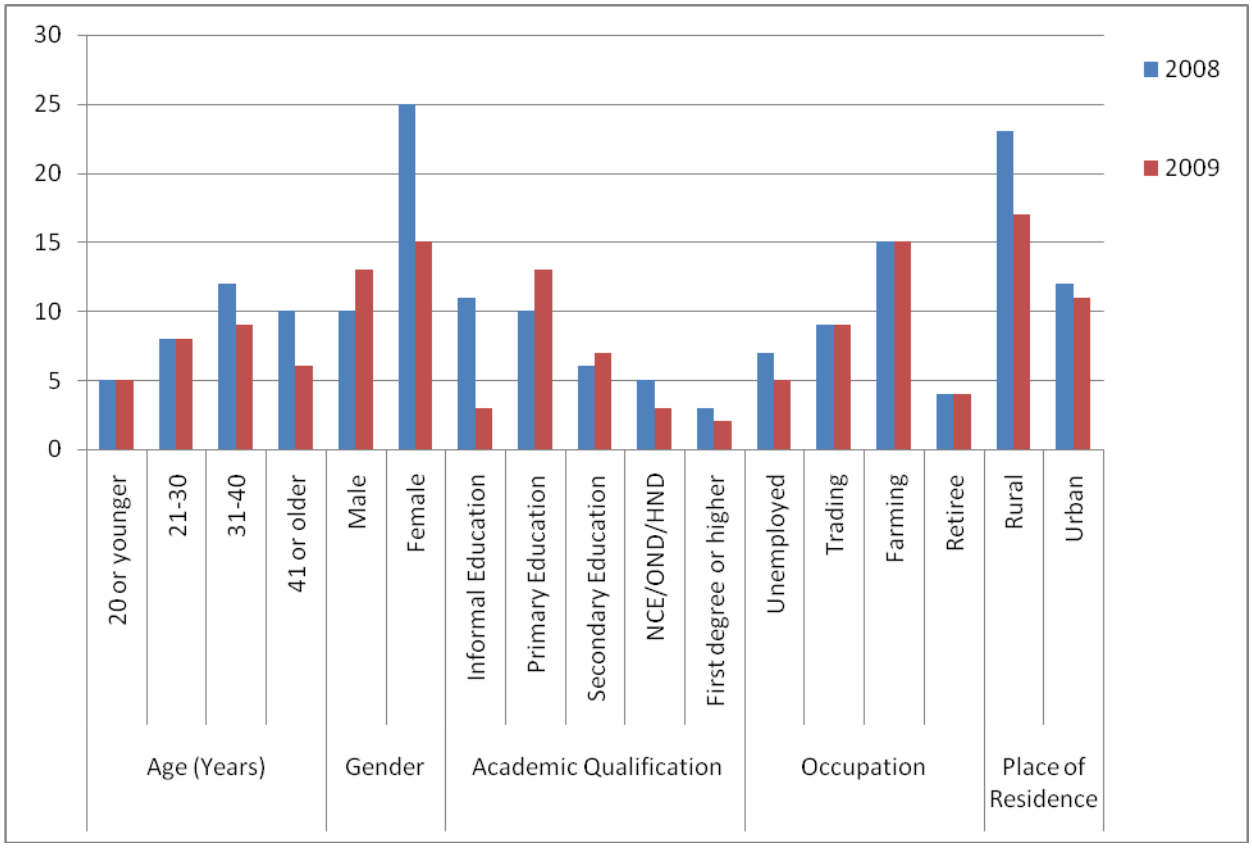
predisposition of the person, they depend on. This implies that patients who were financially weak would find it difficult to patronize reliable health facilities and in a bid to seek medical help from cheaper but less effective healthcare facilities, they become vulnerable to medical errors. The occupational statuses of the victims' also explains why most (56.3%) of them patronized patent medicine vendors who were not competent enough to render quality healthcare delivery to clients. This could be explained from economic point of view that most of the patent medicine vendors render services at lower rates and therefore attracting clients from low economic status.

The plausible explanation to above assumption is that socio-economic position of individuals influences the aggregate of the social and economic privileges and opportunities available or deniable to them. In a country such as Nigeria, where the healthcare facilities are not equitably distributed, the socio economic positions of individuals, such as the case of the study area sometimes debar them from effective utilization of competent health facilities. This, mostly, is either because the individuals cannot afford the utilization of such facilities or do not have adequate information that can enhance their utilization. These problems are by-products of the socio economic status in which the individuals are placed in the society.

In terms of categorization of errors suffered by the victims, this study revealed that 19.0% of the victims suffered minor errors. Examples of minor errors in this study include injuries, pain and discomfort attributable to wrong medication, injection error, errors of diagnosis, among others and therefore exposed the victims to stay indoors for some days. On the other hand, 66.7% of the victims suffered major complications at the aftermath of the medical errors (discomfort, injuries, pains attributable to surgical errors, wrong medication, errors of delay and therefore exposed the victims to further hospitalization. However, 14.3% of the victims died because of medical errors they suffered.

Given the triangulated nature of this study, patient records, which indicated the profiles of victims of medical errors (2008-2014), were sought from a tertiary health facility. The available records were analyzed as shown in figures 1 to 3 (multiple bar charts). The significant of the available incident records from the hospital is that beyond narratives provided by the victims from different communities in Osun State, occurrence of medical errors is established in a tertiary health facility.

Figure 4.1.2: Hospital Records of Victims of Medical Errors in Osun State: 2008-2009



Source: Fieldwork, 2015

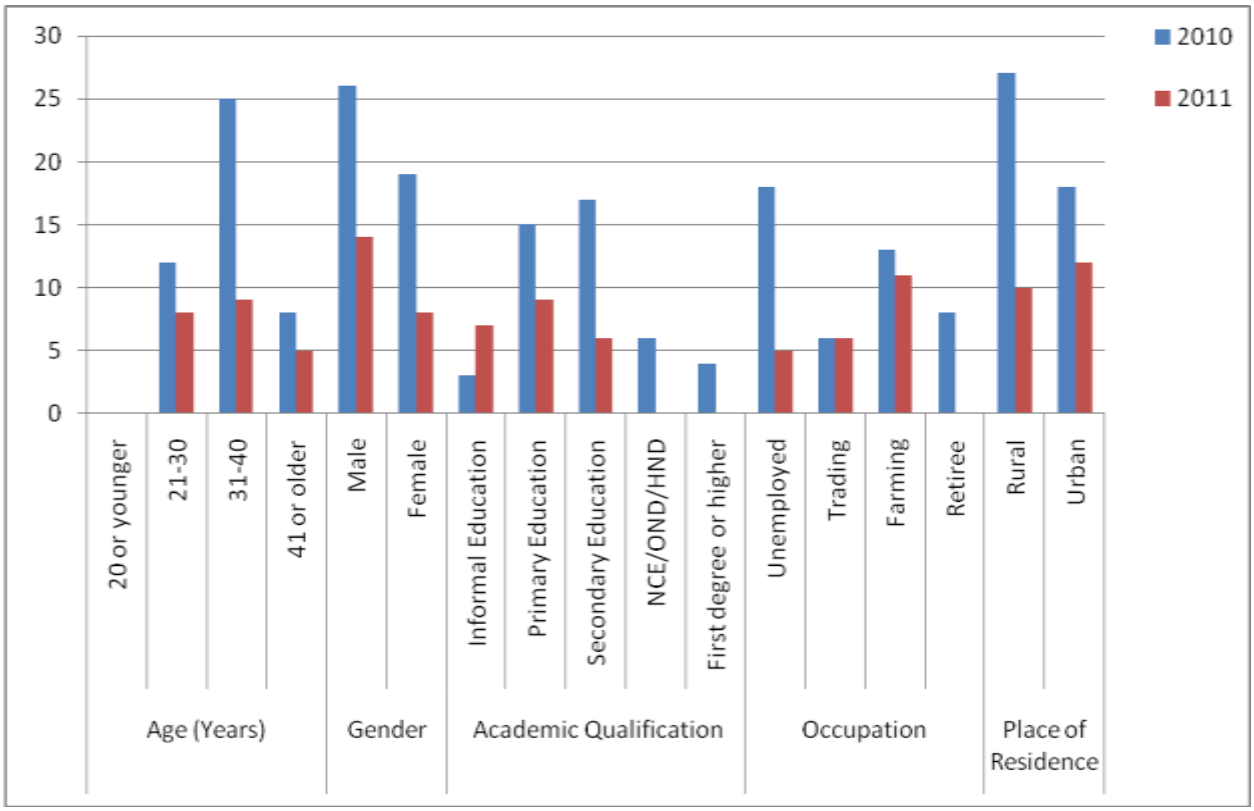
Hospital records in Figure 4.1.2 indicates that 35 cases of medical errors occurred in 2008. This is against 28 cases for 2009. For distribution within the age category of 20 years or younger, the records indicate that there were five victims for each of the two years under consideration. However, the age category 31-40 years recorded slightly high number of victims of 12 in 2008 compared to only 8 victims of medical errors for 2009. The Gender distribution of victims however shows that 2008 had higher number of females than their male counterparts.

In terms of educational attainment, the figure reveals that most of the victims of medical errors in 2008 did not attain formal education while the 2009 record shows that most of the victims of medical errors were holders of primary school certificate. The plausible assumption from this finding is that there is a relationship between patients' academic attainment and their involvement in medical errors, as patient with low educational qualifications are not be well informed to understand the risks associated with patronizing incompetent health care providers.

The occupational distribution also revealed that most of the patients who suffered medical errors as elicited from hospital records in Osun State during the years under review were farmers. In addition, those engaging in trading activities constituted the second categories of the patients who suffered medical errors in the tertiary health facility in 2008 and 2009 respectively. The distribution of

the victims by place of residence also reveals that most of those who suffered medical errors in the tertiary health facility in 2008 were rural dwellers as compared to what was witnessed in 2009 where the urban dwellers constituted higher number of the victims of medical errors. The implication of these findings is that the patients' occupational statuses and place of residence are partly responsible for the victims' involvement in medical errors.

Figure 4.1.3: Hospital Records of Victims of Medical Errors in Osun State: 2010-2011



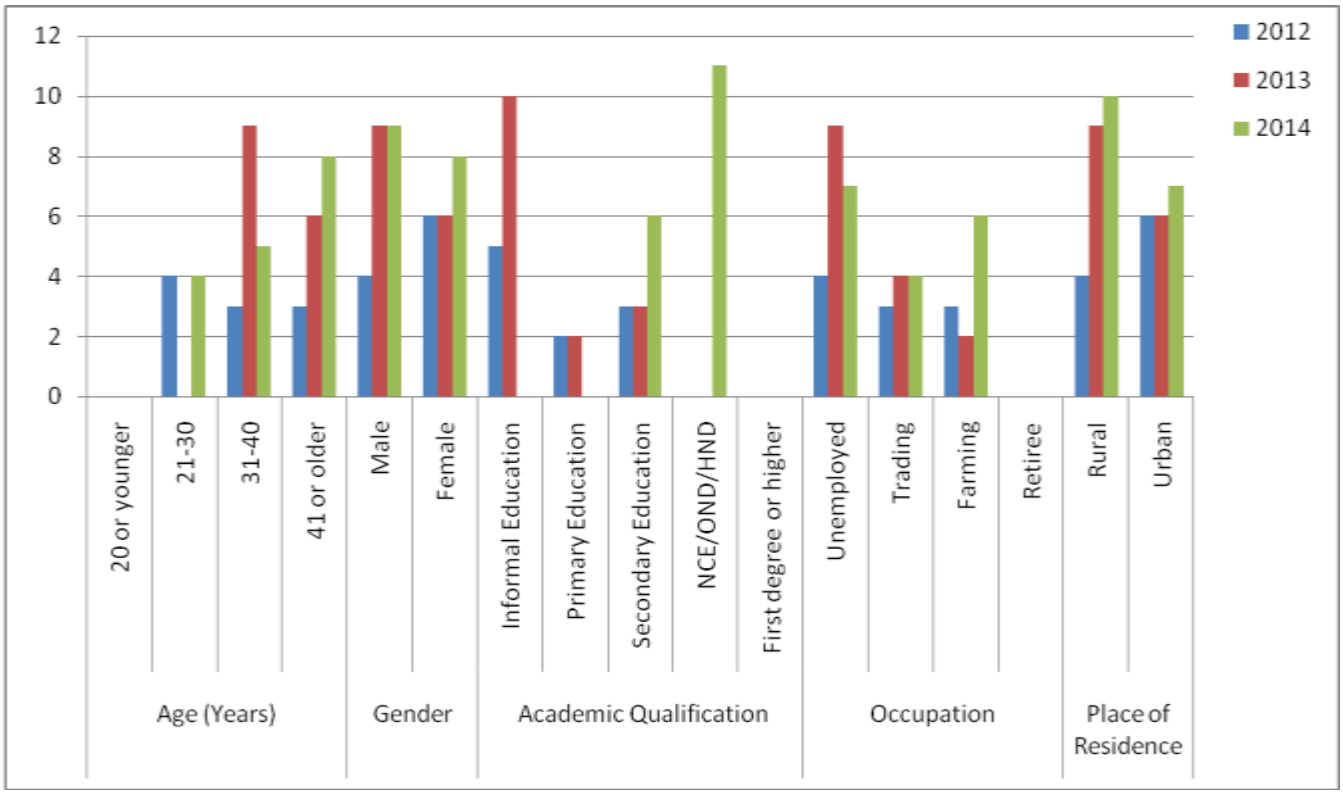
Source: Fieldwork, 2015

Hospital records as appeared in Figure 4.1.3 shows that 45 cases of medical errors occurred in 2010 against 22 cases in 2011. Age distribution shows that the victims within the age category 31-40 years constituted the majority among the victims of medical errors in 2010. Comparatively, the 2010 incident reports show that patients across age categories suffered medical errors than those in the year 2011. The gender distribution also indicates that males constituted majority of the victims of medical errors in 2010 against 2011 records, which indicate that females constituted the higher distribution victims of medical errors.

The distribution of the victims by educational qualifications shows that lower number of patients with informal education suffered medical errors as against a slight higher number of patients with informal education who suffered medical errors in 2011. The distribution also shows that victims with primary education were higher in 2010 than what was recorded in 2011. Similarly, higher number of patients with post secondary education suffered medical errors in 2010. The implication of these findings is that there is no relationship between patients' educational attainments and their involvement in the medical errors. The figure 2 further shows that most of the victims of medical errors in 2010 were unemployed; followed by those who engaged in farming, the retirees and those engaging in trading respectively.

The distribution by residence also reveals that most of the victims of medical errors in 2010 and 2011 were rural dwellers. Considering the unequal distribution of health facilities among rural and urban locations in Nigeria, the chances are higher for the patients' in rural areas to become victims of poor health facilities. In the end, the rural dwellers in Nigeria become more vulnerable to medical errors.

Figure 4.1.4: Hospital Records of Victims of Medical Errors in Osun State: 2012-2014



Source: Fieldwork, 2015

Hospital records as indicated in Figure 4.1.4 indicate that 10 cases of medical errors in 2012 as against 15 cases in 2013; while 17 cases of medical errors occurred 2014. Unlike the previous years (2008-2011), the years under review recorded lower reported cases of medical errors. The distribution shows that those whose age were within 30 years or lower constituted higher victims of medical errors in 2012; while the 2013 incident reports reveal that the victims within the age categories of 31-40 years constituted higher number of the victims. However, in 2014 a higher number of the victims were within the age range of 41 years or older.

The distribution of the victims by educational qualifications reveals that most of the victims of medical errors in 2012 and 2013 respectively were those who did not attain formal education. However, most of those who suffered medical errors in 2014 attained minimum of secondary education. The occupational distribution of the victims also shows that most those who suffered errors in 2012, 2013 and 2014 respectively were unemployed. The chart further indicates the rural dwellers constituted higher numbers among the victims of medical errors in the years under review.

In addition to the illustrations and narratives from the victims of medical errors, their relatives and the healthcare practitioners, this study further sought for hospital records on documented cases of medical errors from a tertiary health facility in Osun State. The table below therefore presents the breakdown of medical errors recorded in a tertiary between 2008 and 2014. The table further indicates frequencies and percentages of the victims who survived and those whose deaths were attributable to medical errors they suffered across the years.

Table 4.1.5: **Hospital Records on Types of Medical Errors Suffered by Victims in Osun State: 2008 - 2014**

Types and Frequencies of Errors

Year	Medication (%)	Surgical (%)	Diagnosis (%)	Injection (%)	Delay (%)	No of deaths (%)	No of Survivors	Total (%)
2008	15(42.9)	8(22.9)	7(20.0)	5(14.3)	-	5(14.3)	30 (85.7)	35(100.0)
2009	12(42.9)	-	8(28.6)	8(28.6)	-	8(28.6)	20 (71.4)	28(100.0)
2010	6(13.3)	-	9(20.0)	20(44.4)	10(45.5)	9(20.0)	36(80.0)	45(100.0)
2011	-	14(63.6)	2(9.1)	6(27.3)	-	5(22.7)	17(77.3)	22(100.0)
2012	6(60.0)	-	4(40.0)	-	-	-	10(100.0)	10(100.0)
2013	7(46.7)	3(20.0)	-	2(13.3)	3(20.0)	3(20.0)	12(80.0)	15(100.0)
2014	14(82.3)	-	3(17.6)	-	-	2(11.8)	15(88.2)	17(100.0)
Total	**60**	**25**	**33**	**41**	**13**	**32**	**140**	**172(100)**

Source: Fieldwork, 2015

Hospital records as indicated in Table 4.1.5 reveal that there were 172 cases of medical errors occurred in Osun State between 2008 and 2014. There were variations among the types of recorded medical errors but medication errors constituted major challenges suffered by the victims within the periods under review. For instance, 42.9% of the errors recorded in 2008 represented medication errors. Similarly, 42.9% of the victims suffered medication errors in 2009. The 2012 medical incidents record also indicate that 60.0% of the victims experienced medication errors. The medical incidents report further reveal that 46.7% and 82.3% cases of medication errors were recorded in 2013 and 2014 respectively. However, surgical errors constituted major medical incidents suffered by victims in a tertiary health facility in 2011, while injection and errors had the higher percentages (44.4% and 45.5%)

in the distribution of medical errors suffered by the victims in 2010. By implication, it could be deduced that patients had suffered different types of medical errors while seeking healthcare services in studied area. It is also instructive to state that statistics on the incidence of medical errors in the health sector are very difficult to come by. One of the factors attributable to this development is that the victims, healthcare practitioners' and members rarely report medical errors. This development notwithstanding, this study has demonstrated that cases of medical errors were common in Osun State and therefore exposed the victims to injuries and other complications.

In terms of severity, the record shows that most of the victims survived the errors they survived. By illustration, 85.7%, 71.4%, 80.0%, 77.3%, 100.0%, 80.0% and 88.2% constituted survivors of medical errors in 2008, 2009, 2010, 2011, 2012, 2013 and 2014 respectively. The findings indicate that the victims sought prompt treatment from health practitioners and therefore contributed to the recorded positive health outcomes. However, a few number of victims experienced deaths attributable to incident of medical errors they suffered.

4.2 Victims' and their Relations Description of the Problem and Intricacies of Medical errors

This section assesses the participants' knowledge of what constitutes medical errors from the perspective of the laypersons. Laypersons in this study are persons who did not have knowledge of medicine but clients. They included the victims of medical errors, their relatives and community leaders. The main variable of interest was medical errors experienced by the victims or someone in their household. This study also examined the nature of ailments for which the victims had sought medical help that resulted in the errors. The most common ailments for which treatment was sought are malaria, typhoid, fever, stomach/body ache, wounds and immunization services for the under age children. Others were hypertension, diabetes, tuberculosis, surgical services and pregnant related ailments. To ascertain the victims' descriptions of medical errors, they provided their own accounts of how the errors manifested during their care. Even though the laypersons who participated in this study lacked the knowledge of medical terminologies to categorize the errors they experienced, their descriptions were robust and comprehensive enough for the researcher to understand various medical errors suffered.

Literally, using their native language, most of the victims described medical errors as *asise awon dokita*, which means mistakes from medical practitioners, while some of the participants described medical errors as *akoba lati odo osise ilera*, which means misfortunes from healthcare practitioners. A few participants also perceived medical errors as *ise buruku lati owo awon dokita*, which means poor services from healthcare practitioners. Other participants considered medical errors as either *ise esu*,

which means devil's plan or *osise ilera ko mi sinu wahala*, which means healthcare provider expose client to misfortune.

Given the fact that medical errors were considered medical errors as medical failure by the laypersons, as their occurrence negated their expectations of being healed by the healthcare practitioners. Medical errors were unwelcome developments in the patients' care. For instance, a middle-aged woman who experienced error of diagnosis said: 'I felt embarrassed the day I noticed that healthcare providers were not as competent as I thought. My perception was based on the diagnosis error I suffered in a public healthcare facility in Osun State two years ago'. Similarly, a 25-year-old artisan who was a victim of injection error spoke: 'When healthcare providers committed medical errors against patients, it means that it was God that could provide care to patients. I am saying this because of what I suffered in a private-owned healthcare center where I was given wrong injection, which made me to experience convulsion…

In addition to the two illustrations, the following excerpts from of one of the victims of medical errors exemplify the negative feelings that the laypersons have towards medical errors:

> When patients go to a 'doctor' or a hospital for medical treatment, their hope was that they would receive the best care. Unfortunately, that is not always the case as medical errors occur while patients received treatments. …Some of these patients were injured or even 'killed' because of these mistakes. Healthcare providers, including doctors, dentists, nurses and hospitals need to be held accountable for the pain and suffering that they create after committing medical errors… Therefore, healthcare practitioners who committed medical errors are seen as incompetent, wicked betrayals.

This study sought for the experience of victims' knowledge about medical error. Most of the participants highlighted that their knowledge was based mainly on what they had seen, heard, or experienced (direct victims), others indicated that their knowledge was primarily based on the experience of friends and family. The descriptions provided by the laypersons demonstrated that they experienced various types of medical errors. These include medication error, injection error, surgical error, error of delay and referral error, among others. For instance, an aged man who experienced medication error in the hand of a patent medicine vendor spoke:' a 'doctor' (patent medicine vendor) prescribed and dispensed too many drugs for me for the treatment of 'iba' (malaria). After taking the drugs as prescribed, I became unconscious (lost control of my body) and was taken to a nearby public hospital for corrective treatment where I was rehabilitated.' From the description, the victim suffered dosage error (over-dose) attributable to the prescription made by a patent medicine vendor. Similarly, a middle-aged woman who suffered medication error in a primary health facility narrated: 'I visited a primary healthcare facility for the treatment of body ache where I was placed on admission for two days. During the treatment periods, some drugs were dispensed for me and I took them as prescribed by a nurse. A few days later, I noted that my blood pressure went down (hypotension) and I started feeling

weak. At this point, I returned to the hospital to lodge a complaint where one of the staff acknowledge that there was a problem with drugs combination.' From the narratives, it was noted that the victim suffered medication error.

A woman trader who was not given prompt treatment in a secondary health facility described the medical error she suffered as follows: 'The 'dokita' (healthcare provider) delayed my treatment processes. Subsequently, complications set in and I went into coma.' The description indicates that the victim suffered error of delay. Another participant, a mother of a five year old victim of referral error said: 'A few months ago, my daughter was sick and she was on admission in a private facility for five days. On the fourth day, I noticed that my daughter's condition was bad but the 'dokita' (the owner of the private health facility) kept assuring that she was manageable not until when the girl fainted before he referred her to the University College Hospital (UCH), Ibadan, Nigeria. It was at the UCH that a senior doctor observed that her treatment was delayed and therefore made her to experience complications, which manifested in forms of convulsion and loss of concentration.' Efforts made by the hospital workers to rehabilitate her yielded positive result, though I spent huge amount of money. From these illustrations, it was observed that the victim suffered error of delay (referral) as the healthcare provider who attended to her at the initial stage ought to have referred her to another hospital/clinic for a better attention. Another participant whose granddaughter suffered wrong dose described it thus: 'On June 10, 2004, I took my 'daughter' to a nearby private clinic when I realized that she was looking dull. Upon complaining to the 'doctor', she was prescribed with some drugs and advised us to administer them as instructed. A few hours after taking the drugs as prescribed, her body temperature rose and she became unstable and unconscious. Upon noticing that her condition became worst than what was witnessed before the intervention of the 'doctor', I took her to a tertiary health facility together with all the drugs presented for the 'doctor'. At the entry point into the hospital, a nurse was very sympathetic with her conditions and instantly took us to a senior doctor, who confirmed that the prescribed 'drugs' were meant for adult and therefore instructed that she should be taken to emergency unit for rehabilitation. …Four days later, she regained her consciousness and became stable.' From the descriptions, it was observed that the victim suffered error of overdosed prescription.

Some victims also described medical errors they experienced due to poor handling of injections by the healthcare providers. The victims in this category identified that the injections they received in the process of treatment resulting in further health complications. These manifested in various ways such as inactivity, fluid accumulation, swollen of legs, nerve pains, abscesses, fever and paralysis. The victims in this category also said that they were not allergic to 'syringe' (injections); rather, they attributed the injections errors to incompetence from the healthcare practitioners. For instance, an aged (retiree) described his experience of the injection error: 'A few months ago, I had fracture on my leg and therefore went for treatment in a secondary health facility located in a neighbouring town, where I was on admission for two days. In the process of treatment, I was given two injections simultaneously on the affected leg. However, two days later, my leg became swollen of painful to the extent that I could not walk freely. I therefore asked my son to take me back to the hospital for necessary follow-up treatment. One of the observations made by a nurse was that the injections were

given at wrong site of leg, which led to the complications. Upon noticing the complications, the nurse subsequently prescribed and dispensed anti-pain drugs for me, which neutralized the pains and therefore returned me into normal health conditions.' The Illustrations show that the victim suffered error of injection, which was attributable to the negligence by the health practitioner who had injected him. Another participant, a nursing mother whose son suffered injection error, which was attributable to immunization vaccine described it thus: 'My son was given immunization vaccine when he was 12 months old. The following day, he cried ceaselessly and I became confused as all efforts made to pacify him failed. As I found it very difficult to understand what was wrong with him, I took him to a nearby physician, who observed that the injection was given to him at a wrong site (nerve), which caused his illness. ……The physician subsequently prescribed some drugs, which finally suppressed the pains he experienced.' From the descriptions, it was noted that the participants had narrated injection error.

Another category of the victims described medical errors they suffered to include communication error and misleading instructions given by healthcare practitioners on them and their relatives. They also highlighted that competent healthcare providers were supposed to have good knowledge of the kinds of illnesses that patients were suffering from and as such recommend effective medical interventions. They further stressed that competent health personnel are supposed to provide clear instructions to patients, relatives and other members of the public on the likely side effects of all medications to guard against confusion whenever patients notice changes that they attribute to medical interventions. Subsequently, they attributed medical errors to failure of healthcare practitioners to have details of the health history of the patients before treatments were given, poor labeling of drugs, and poor attention to patients complaints, among others. Among the victims who belonged to injection, a relative of a victim (now deceased) narrated his experienced as follows:

> A few years ago, my father became sick and was on admission in a private health facility. The 'doctor' in-charge of his care prescribed some drugs for him and asked me to buy them at a nearby pharmaceutical shop. However, I noticed that my father was allergic to one of the recommended drugs and I inform the 'doctor'. He ignored my advice and asked me to keep quiet. …… A few minutes after the administration of the drugs, my father went into coma and died. Efforts made to seek clarifications failed as the 'doctor' insisted that he rendered the need care to my father (Relative of a victim of communication error).

The implication of the narratives above is that the concerned healthcare provider exhibited professional dominance over the patient and his relative by his refusal to honour the explanations provided by the relative. In the end, it provided avenue for the occurrence of medication error and the death suffered by the victim.

A middle-aged woman also described medical error she experienced thus:

> Three years ago, I visited a patent medicine vendor for stomachache treatment. The 'dokita' (a patent medicine vendor) dispensed some capsules and instructed me to swallow them within three days. Two days later and following the administration of the capsules, my body system became upset completely and subsequently referred to Obafemi Awolowo University Teaching Hospital (OAUTH) for further care. It was at the OAUTH that a medical doctor and upon observing the remaining drugs prescribed by the patent medicine vendor noted that I was not supposed to have taken the prescribed drugs without food in my stomach. He therefore attributed the problem to the negligence by the patent medicine vendor, who ought to have instructed me to eat before the administration of the drugs (Victim of procedural error).

Another victim revealed how poor handwriting/drugs labeling by a pharmacist in a tertiary health facility made her have an overdose as follows:

> I am hypertensive, being mismanaged in a tertiary health facility in Osun State. A few weeks ago, I went to the hospital for a check-up where a 'doctor' found that my blood pressure was high and therefore prescribed some drugs. When I took the prescription note to the pharmacist for dispensing, the pharmacist asked me to administer the drugs as prescribed. My interpretation of the prescription was that the drugs should be taken thrice daily, instead of twice daily. This was attributable to the pharmacist's illegible handwriting. Two days later, I became unconscious and taken back to the hospital for further care (A 56years old woman and a victim of medication error attributable to poor understanding of drug prescription).

From the illustrations above, it is noted that the laypersons had good knowledge of what tantamount medical errors. From the foregoing, it could be interpreted that what constitutes medical errors as described by the victims is a function of their experiences while receiving health services. The implication of these findings is that the victims of medical errors constituted key informants who could provide firsthand information on what they considered medical errors and how such errors manifested and affected their social and economic lives. Notwithstanding, there is need to understand what constitutes from the healthcare providers in order to have a comprehensive knowledge of the subject matter.

4.3 Health Practitioners' Description of the Occurrence and Complexities of Medical Errors

As part of the efforts to enhance data triangulation, this study examined health professionals' views on medical errors. The health practitioners included were surgeons, pharmacists, nurses, medical laboratory scientists and patent medicine vendors. Table 4.3.1 presents the distribution of health practitioners who were involved in the study;

Table 4.3.1 Distribution of Health Care Providers Involved in the Study

Specialty of Health Care Provider	**Frequency**	**Percentage**
Nurse	18	36.0
Surgeon	5	10.0
Pharmacist	7	11.7
Laboratory Scientist	7	11.7
Patent Medicine Vendor	10	20.0
Total	**50**	**100.0**
Type of Health Facility	**Frequency**	**Percentage**

Primary Care	15	30.0
Secondary Care	11	22.0
Tertiary Care	14	28.0
Private	10	20.0
Total	**50**	**100.0**
Years of Experience	**Frequency**	**Percentage**
5-10years	28	56.0
11years or more	22	44.0
Total	**50**	**100.0**
Academic Attainment	**Frequency**	**Percentage**
Primary Education	6	12.0
Secondary Education	8	16.0
Basic/ Post Basic Nursing	20	40.0
MBBS/BSc Nurs/Pharm/BSc Med Lab Scientist	16	32.0
Total	**50**	**100.0**

Source: Fieldwork, 2015

In table 4.3.1, most of the health workers were working in government owned healthcare facilities (primary, secondary and tertiary), while 10 were private healthcare providers. The table also shows that none of the healthcare providers had less than five years working experience. In terms of academic qualification, the study reveals that most of the health workers had basic nursing or higher, while a few were holders of primary school certificate. From the foregoing and given the fact that the healthcare providers had been in the medical profession for minimum of 11years, they possessed relevant knowledge and experiences needed for seeking answers to the research problem.

Preparing the background discussions on the subject matter, the health practitioners emphasized the purpose of medical care: centering on the ethos of improving patient health conditions through the application of their expertise. This notwithstanding, it was expressed that errors do occur while treating patients. This was attributable to many factors such as the inherent uncertainties in medical practice and the need to make decisions when information was not always available. Others are the technical difficulties of performing certain procedures and the complexity of patients' conditions. This "inevitability" makes an important contribution to the study of error and reflects Rosenthal's (1999) findings. Specifically, it suggests that medical work cannot always attain perfect level of care, but rather medical practice constantly involves working with the potential for something to go wrong. The study thus, found that there was a consensus among the healthcare practitioners regarding the occurrence of medical errors in the Osun health sector. The identified errors included surgical errors, wrong diagnosis, prescription errors, procedural errors and errors of injection. Others are administrative errors such as improper documentation of patient medical history and wrong documentation of patient files, among others.

In terms of causality, the health practitioners acknowledged that modern health care is extremely reliant upon technological devices to assist in making decisions and treating patients. These include diagnostic tools such as X-rays, haemotology tests or advanced scanning machines; while treatment could involve the use of machines to monitor the patient's conditions or provide pain relief. There was a strong awareness among the health practitioners about the role of medical equipment in the emergence of medical errors. While these machines perform tasks in their own right, they are seen as tools to inform, assist and secure medical decision-making and performance. It is the ability or inability of medical devices and instrument to perform the expected tasks that characterizes the medical perception and interpretation of equipment related errors. As well as direct harm to patients, it was also pointed out by the discussants that machines could go wrong and while not necessarily directly harming the patient, they can mislead the professional. For example, one surgeon said that absence or faulty equipment in surgery can lead to negative consequences, and can necessitate the reliance on more traditional practices. This creates problems, as the surgeon may not be as familiar with some of the older surgical techniques that may have been superseded by more recent equipment and in consequence, there may be greater chance of error.

The healthcare practitioners noted that medical errors were not intentional acts committed against patients, rather, errors were considered as the outcomes of complex nature of the medical profession. They also acknowledged that health institutions are complex environments, involving different medical and paramedical personnel. As such, the chances for the occurrence of medical errors are higher as treatments of patients involve many processes. The health practitioners also opined that medical errors were associated with patients with complex cases, illnesses requiring urgent care, and the use of interventions thought to be potentially lifesaving. While all the victims illustrated that medical errors were harmful, some health practitioners highlighted that there was no connection between medical errors and patients harms. The concerned health professionals opined that when errors were

identified immediately they occurred, their negative effects could be mitigated. One of the healthcare providers involved in the study explained:

'… As healthcare giver, my priority is to provide services to clients. However, errors do occur. These might be attributable to the influences of modern technology and human factors. It is also important to state that immediate interventions are required in order to enhance safety of the clients.' By this illustration, it could inferred that some errors do not produce injury because they are discovered in time, the patient is resilient, or because of good luck.

In terms of description of medical errors, there were variations among different professional groups (physicians, nurses, pharmacists, medical laboratory scientists and patent medicine vendors) involved in the study. Notwithstanding, there were consensus among the health workers that medical errors are injuries, complications and deaths sustained by clients attributable to medical interventions. 'Medical error' is generally considered as adverse events that happen in medical practice. They also described medical errors as unanticipated health outcomes such as questionable/suspicious deaths of patients, preventable injuries against patients. Medical errors are also perceived as poor health outcomes attributable to the application of orthodox medicine. They also considered medical errors as deviation by healthcare practitioners to abide by medical protocols and standards of care attributable to various reasons including poor medical knowledge, lack of proficiency and inexperience, among others.

Specifically, the nurses who participated in the study defined medical errors as 'administration of wrong treatment (drugs, injections or drips) on patient and therefore resulting in complications and injuries.' They also described medical errors as 'failure of a planned action to be completed as intended, or use of wrong plan to achieve an aim', practice variances and unfavorable outcomes.' Similarly, a medical doctor in a tertiary health facility considered medical errors as 'accidents/incidents and injuries committed by health practitioners against patients.' A private health consultant perceived medical errors as 'mismanagement of illnesses and wrong diagnosis of ailment such that wrong treatment is given to patient, as such, resulting in discomfort, pains, injuries and deaths of the patients.' A surgeon in a private health facility viewed medical errors as 'surgical errors, which manifest in forms of omission of surgical objects inside patient abdomen, wrong site surgical operation and premature discharge of patient from theatre.' Another surgeon in a public health facility described medical errors as 'professional negligence committed by surgeons while performing surgical operations.' They also described surgical errors as 'deviations from the normal post-operative course, including asymptomatic complications such as arrhythmia and atelectases.'

Additionally, the pharmacists who participated in the study considered medical errors as 'wrong prescription and administration of drugs (under dosed, overdosed and dispensing of expired drugs) by pharmacists to patients, thereby subjecting patients to injuries, pains, deaths and other poor outcomes.'

Contrary to the submission that medical errors occurred because the practitioners did not abide by the standards of care, a patent medicine vendor in Odeomu, one of the communities where the study took place perceived medical errors as 'failure of clients to abide by 'expert' advice and therefore

exposed themselves to injuries, complications or death.' The patent medicine vendor illustrated further: 'A few years ago, I prescribed anti malaria drugs for a patient. In addition to the written instructions, I gave verbal explanations on time, dosage, number of days and other necessary information that could enhance good health outcome. Notwithstanding, the patient deviated from the prescriptions, which led to hypertension. …

Consequently, my attention was called to the matter and I quickly referred the patient to a secondary heath facility in a nearby city'. In a similar view, an operator of a pharmaceutical shop in Osogbo described error as 'negligent acts committed by clients without the knowledge of health providers and subsequently resulted in pains, severe illnesses or deaths.'

From the foregoing, it is worth noting to state that medical errors constitute problem to patients' safety as illustrations from the healthcare practitioners show that errors are associated with pains, injuries or deaths of patients. The occurrence of medical errors is also an indication of treatment failure and thereby poses challenges for patients and their relatives. The narratives from the victims and the healthcare practitioners further reiterated the priority for this study.

CHAPTER FIVE

TYPOLOGY, CONCOMITANTS, CONSEQUENCES AND VICTIMS' RESPONSES TO MEDICAL ERRORS

5.0 Introduction

This chapter focuses on the analyses and interpretation of data collected from the participants on the various types of medical errors experienced by the victims, factors responsible for the medical

errors, social and economic consequences associated with the medical errors and the victims responses to the occurrence of the medical errors.

5.1 Typology of Medical Errors Experienced by Victims

To identify the typologies of errors, the victims were asked about the genesis of the errors made on them. Prompts were made to elicit the full context of victims' experiences of the medical errors. Most victims also presented stories of both their own errors and errors experienced by their friends and relatives. The narratives indicated that medical errors such as delay in treatment/errors of protocol, injection errors, medication errors, surgical errors and wrong discharge from hospitals as well as complications, pains, discomfort and deaths were common in the studied area.

The participants, who experienced errors of delay, said that the delays were attributable to some workers' poor habits of delaying treatment of patients to the extent of ignoring patients who need quick medical attention. They also complained that some healthcare workers did not accord respect to the human dignity of patients. Others perceived health workers as people who did not have human feelings at heart, especially, when it was expected that health workers were trained to save lives by rendering prompt medical services to the sick. Responses from the participants further revealed some of the challenges facing government-owned health institutions. These include health workers' poor attitudes towards their responsibilities, thereby exposing patients to suffer delays and other inconveniences. For instance, a participant narrated her experience in a public health facility said:

> I took my brother who sustained injuries from motorcycle accident to one of the teaching hospitals in the State. He was admitted into the Accident and Emergency unit. I expected that he would be given urgent treatment as his condition was very critical. To my surprise, I noticed that my brother was abandoned in one corner of the emergency unit for four days without any attention from medical staff. All efforts made to get medical attention failed as none of the staff gave him medical attention. This was in spite of the fact that I had deposited the scheduled amount he was asked to pay. On the fifth day, one of the health workers reluctantly attended to him. Upon medical diagnosis, the doctor observed that one of his legs had been infected by tetanus and subsequently my brother was on admission for four weeks for the treatment of tetanus. However, none of the staff claimed responsibility for the problem (a 49-year-old woman whose brother suffered error of delay).

Inference from the above narratives is that poor health workers attitudes towards patients in need of prompt attention exposed patients to experience medical errors. It also meant that health workers in the affected hospitals did not accord priority to the plight of their patients.

Similarly, a 28 years old nursing mother described how lack of prompt medical attention occasioned by bureaucratic protocol led to the death of her baby:

> My two-year old baby had malaria for which I took him for treatment to a community health center (primary health facility). On getting there, I was asked to wait for the nurse in charge to come. I waited for 30 minutes without sighting the nurse, then; I became furious and walked straight to one of the staff (administrative staff) and I asked him to assist me with the phone number of the nurse. He declined to give me the phone number on the ground that it was against the hospital protocol. I then asked him to call the nurse so that my baby could be attended to, yet, he refused. Before the nurse could return to the hospital, my baby had started vomiting and convulsion (giri) set in. As the nurse started the treatment, the baby gave up. The incident happened four years ago but fresh in my memory, as if it happened yesterday.

Other victims attributed the delays that resulted in negative health outcomes to excessive organizational protocols in various health facilities. The participants in this category cited instances where healthcare workers insisted on seeing official report from the security personnel before providing medical services (including first aid treatments) to survivors of road accidents and including patients in critical conditions, who died before security reports could be obtained. They further explained that no matter the position of the hospital management, health workers are supposed to render first aid medical attention to patients in critical conditions, while observing other protocol related issues. A participant narrated how such bureaucratic protocols in a tertiary health facility led to the death of a motor accident victim thus:

> My uncle was involved in a motor accident along Ibadan-Ife road in 1998. Though, I boarded a different vehicle, I got to the accident spot immediately after it happened. We then took the survivors to a tertiary hospital in Osun state. As we arrived the emergency unit of the hospital, we were asked to submit police report, to ensure that the victims were not armed robbers before they would be given medical attention. We pleaded that the victims were motor accident survivors but our pleas were ignored; saying that it was part of their professional ethics and protocols. As we tried to convince the health workers, my uncle became hypertensive and later died (a 65-year old man and relative of victim (now late) of error of delay).

Another participant described how lack of prompt response from a doctor led to the death of her husband:

> My husband became sick five years ago and he was on admission in a public health facility in Osun State. After a few days, I noted that his condition deteriorated, as he was in a state of coma. Considering his condition, I begged one of the nurses to help me call doctor's attention so that he could be resuscitated. The nurse obliged and acted accordingly. Surprisingly, the doctor did not come until after an hour. My husband died before the doctor's arrival. In his dispositions, he rationalized that he did not know that the condition was critical and that if he had known he would have come earlier than he did (a 45-year old widow).

The plausible explanation to the narratives above is that the health care setting is a complex structure, guided by rules. As such, workers in the public health facility follow protocols while carrying out their responsibilities. In this case, clients are at the receiving end. This backfires in form of delay of treatment and subsequent complications (medical errors).

Other participants, especially, enrollees of the National Health Insurance Scheme (NHIS) complained about the delays they experienced whenever they sought for medical interventions in various health institutions where they have been enrolled to be treated. These included poor response to laboratory test requests and deliberate refusal by personnel to dispense drugs to them, even when those drugs were covered and available in the NHIS pharmacies. The problems associated with delay in response to patients' requests as documented by this study were cases where patients developed complications such as fainting, unconscious state and including sudden deaths. A participant summarizes delay in a tertiary health institution as follows:

> I registered with the NHIS, including my wife in a Teaching hospital in the State. I hardly patronize the hospital but my wife utilizes it for antenatal and post-natal services. A few months ago, my wife was in labour and therefore on admission in the hospital. The doctor in-charge of her care prescribed some drugs. I took the prescription to the NHIS pharmacy unit. At the NHIS unit, I spent close to one hour as the staff in charge was said to have been on break and there was nobody to attend to me and other patients who came there for similar purpose. Eventually, the staff appeared and started shouting at us. When it was my turn to be attended to, he took another excuse that he left the key to the office where some drugs were kept somewhere and therefore went out to search for the key. Upon returning, he told everyone that it was time to close and that we had to wait for his colleague to take over. I was annoyed and threatened to slap him. In the course of arguments and exchange of abuses, another staff came in and attended to me. I then took the drugs to the ward where my wife was admitted. On getting there, the doctor attending to her had left because he felt disappointed that the drugs he prescribed for my wife ought to have been given to her immediately and therefore concluded that I was not serious. I later saw him and pleaded. He reluctantly came and told me that because my wife failed to be given the drugs immediately she was admitted; her system had become weak and therefore would not be able

> to deliver without surgical operation. He therefore recommended a surgical operation, which I consented to. Though, the operation was successful, I attributed the needless surgical operation to the delay at the NHIS unit (a 35-year old man whose wife suffered error of delay).

The implication of the data is that the health worker in-charge of the NHIS pharmacy had no respect for client right to prompt treatment, especially, as it concerns the approved government scheme. Consequently, exposed the patient to error of delay.

Some participants also reported that they suffered errors attributable to faulty administration of injections. These emanated from child immunization, wrong combinations of injections, and injections at the wrong sites of the bodies, among others. Interviews conducted with the victims' showed that errors related to immunization were attributable to lack of competencies on the part of the inability of adhoc personnel to render the services. The participants in this category said that the majority of the personnel employed to render the immunization services were appointees of political stakeholders and people who had not acquired any skills in any of the medical sub professions. The participants also alleged that healthcare providers in most of the communities were not certified. The narratives from the participants revealed that it was a common practice to see people who did not acquire any training related the medical profession rendering medical treatment to clients in various communities in Osun State. The participants attributed this to paucity of well-trained medical practitioners in various communities. Very poorly qualified people therefore provide medical services for serious ailments such as malaria, antenatal, typhoid and even delicate services like heart related illnesses, among others. One of the victims' father recalled how the immunization of his son resulted in injection error:

> Government says vaccination is good for the under-age children as vaccination is capable of providing immunity against childhood deadly diseases. Upon this conviction, I instructed my wife to take my son to a nearby health center for vaccination. Upon returning from the hospital, the boy became weak and we thought it was a normal reaction to immunization, not until the following day when the boy cried persistently. My wife and I became confused, and then took him for medical attention in another hospital. It was at the second hospital that a doctor noted that he was given injection at the wrong part of his leg, which had tampered with his veins, and therefore subjected him to experience pains and crying subsequently (a 52-year old man).

Similarly, a 35-year old nursing mother narrated how immunization error exposed her child to medical complications:

> A few months ago, I took my baby to a community health centre. She was given injection at the left side of her hand for immunization. Two weeks later, I noticed that the injection spot was swollen. She cried whenever I touch the

> injection site. The pain was so much that she was unable to sleep or interact normally with members of the family. …… I therefore returned her to the health centre for incision to drain the fluid.

The narratives above explain the manipulation by the political elites and other stakeholders, who accord little or no attention to professionalism and competency while recruiting ad hoc personnel for important national health programs such as the immunization programme. The action of the political elites and other stakeholders portends health risks to the under-five children and other clients. Thus, the immunization related errors suffered by the identified victims was a reflection of the actions of the political elites who always maintained that their perceived interest override that of the public. When such action is sustained, the clients safety is compromised.

Apart from the immunization vaccines related errors, some participants reported cases where healthcare providers either gave them wrong injection or injected them at wrong sites. One of the participants who experienced error of injection recalled:

> Six weeks ago, I went to a clinic close to my house when I noticed that I had malaria symptoms. The nurse on duty at the clinic told me that I would receive four different types of injection, though I cannot recall their names. I received all the injections as recommended (simultaneously). Three days later, one of my legs started swelling. … I did not understand what went wrong, until my daughter; a medical student came home the affected leg based on my explanation of the illness. She concluded that the nurse who gave me the injection had committed error, as she was not supposed to combine the injections (a 53-year-old man who suffered error of injection).

Procedural errors in this study, which some victims suffered include failure of healthcare providers to embark on thorough diagnoses of patients' before services are rendered and failure of healthcare providers to refer complicated illness to appropriate levels of care where required. Others are wrong documentation of patients' record, wrong diagnoses, surgical error and poor handling-over of patients' medical details to other health personnel. It is worth noting that the major trust in the medical profession is the need for the providers to adhere to protocols while rendering services to patients' to advance standard of care. Here, the participants gave graphic accounts of how healthcare providers breached protocols while rendering healthcare services to them. A participant described procedural errors that occurred during the medical treatment of his son:

> My son had symptoms of malaria in the last three months and therefore was on admission in a primary healthcare center in the community. The nurse caring for him prescribed some drugs. I purchased the drugs in a nearby pharmaceutical shop. He took the drugs as prescribed by the nurse but a few hours later, he started breathing speedily and persistently. I called my

> husband; who later suggested that we should return to the clinic. On getting there, in addition to the nurse who had prescribed the drugs, we met another nurse who affirmed that there was error of drugs combinations and as such, the victim reacted accordingly. He therefore gave him some drugs to neutralize the adverse reaction. The nurse further acknowledged that if the problem was not addressed promptly, the boy would have died. However, the nurse who committed the error tendered apology (a 34-year-old woman whose son suffered drug error).

A 65-year-old woman who experienced surgical error narrated:

> I had goiter on my neck and I was asked to undergo surgical operation in 1983. The operation was conducted in a General hospital in the then old Oyo State (now Osun State). The operation was said to have been successful and I was discharged from the hospital after a few days. However, few months after my discharge, I started having trouble in my vocal cord. It got to the peak when I could not speak out as my voice became inaudible. It was at this point that my husband returned me to the hospital, where it was confirmed that the operation was not done properly as it had affected my vocal cord. …. I was later referred to a Teaching hospital in the State for corrective surgery.

A 45-year-old man also narrated his experience:

> My younger brother became ill few years ago and he was on admission in a private clinic in Osun State. He was given treatment based on a palpation conducted by a doctor. Few days later, my brother develop partial stroke in the clinic and subsequently was transferred to a public health facility in Osogbo. Upon medical examinations at the hospital, it was revealed that the doctor who initially treated him was a quack and therefore breached the treatment protocol. However, the second doctor was able to correct the mistake and restored my brother back to normal health condition, but it took longer time.

A 39-year-old man also illustrated complications he suffered as a result of what he described as a professional negligence:

> My travails began in February 2015 shortly after I went to a tertiary health facility in Oyo State, with a complaint of stomachache. Following a diagnosis of appendicitis, I was promptly booked for an appendectomy (surgical removal of the appendix) at the hospital, which was claimed to have been successfully executed. …. Despite the successful removal of the appendix, a catheter (rubber tube) was negligently abandoned in my private part for several hours,

> which ought to have been removed within 24-48 hours. It was when my private part became swollen, bleeding and fluid coming out that the catheter was removed. Now, I urinate with great discomfort as I am always feeling a peppery sensation in my urethra. Worse still, I am unable to have an erection.

A 56-year-old woman whose sister was a victim of a delayed antibiotic treatment recalled:

> My sister was admitted into a government-owned hospital due to stomachache. The medical workers in the hospital recommended that she would undergo surgery. The surgery was done but infection set in after few days while she was still in the hospital. She later became septic and died in the hospital……. Comments from one of the senior doctor indicated that antibiotic drugs were not given to her immediately after the surgery.

Other victims of medical errors also narrated how some healthcare providers on the pretence that their health conditions had improved, wrongly discharged them from the hospital. The victims in this category noted that healthcare providers, especially in the public health facilities were always in hurry in taking certain decisions. It was noted that whenever certain decisions (such as when and how patients should be discharged from the hospital) were decided wrongly, patients were at the receiving end as some of them ended up developing complications. These included the resurgence of body infections and pains, abnormal headache, stomachache, coma and even deaths. Some interviewees cited instances where failure on the parts of healthcare providers to observe protocols before discharging patients either led to sudden deaths of patients or serious complications. For instance, a participant narrated his experience of the subject matter thus;

> My uncle had a heart surgery in a government-owned health institution that was claimed to have been successful. He was discharged after a few days. Few weeks later, my uncle developed complications and died when we were taking him to the hospital. However, he died as we were approaching the hospital. ….. I lodged a complaint and sought for clarifications from one of the doctors in the hospital. From the explanations by the doctor, we were made to understand that the doctor who handled the operation ought not to have discharged him so soon and. …….if we had returned the victim to the hospital immediately, the errors would have been corrected. The family members accepted the incidence in good faith (a 35-year-old man).

Similarly, a 33-year-old woman who experienced procedural error narrated her ordeal elaborately:

> I had a severe stomachache five years ago and I was on admission in my school health center. A nurse asked me to conduct an x-ray in a private medical laboratory. The test was done and the result was given to the nurse. Upon diagnosis of the medical result, she administered some drugs and injections on me and subsequently discharged me. Few hours later, my conditions became worse and deteriorated to the extent that I did not know when I was returned to the clinic by my friends. I became conscious after three days when I noticed that I was being attended to by another medical staff (a medical doctor, I guess) in the health centre. The doctor asked me to explain what happened and to specify where I received the initial treatment. When the man heard my stories, he shouted; who asked you to do this? I said it was 'madam' (a nurse). He then asked me to go and call 'madam'. When she got to his office, he asked her the following questions: who gave you permission to do that, don't you know that you are a nurse and not authorized to recommend or prescribed drugs/injections to patients? Therefore, you wanted to kill this young woman. Why did you misinterpret the laboratory result? Well, it was not part of your specialization. Please, you must know your limit.

A narrative by a 42-year-old man on how his father died in a tertiary healthcare facility went as follows;

> My father (now late) suffered stroke and therefore was on admission in a tertiary hospital in Osun State. While in the hospital, I was asked to go and buy some drugs for him. While I was away, I learnt he attempted to stand up on his own and in the process; he fell down and sustained head injuries. He subsequently died from the complications associated with the injuries. None of the health workers in the hospital claimed responsible for his death. I confirmed from one of the nurses about what could have been responsible for the death. He alleged that my father did not comply with medical instructions, and therefore fell down from the sick bed, while attempting to pick an object on the floor and died subsequently. I later got the information from a passer-by security staff of the hospital, who revealed that the death was attributable to the injuries he sustained when he fell down. I became confused and fainted.

Another participant reported a similar experience:

> My brother was scheduled for surgical operation in a public hospital. He was left alone in the theatre and subsequently fell down from the porter. It was when he shouted that people became aware of the mishap. He fainted and died two hours later. …. I sought for clarifications from the doctor who was supposed to do the operation. The doctor alleged that my brother fell down in the hospital.'

The narratives from the research participants connote many interpretations. Firstly, there are cases of patient neglect by health workers and therefore exposed the patient to unforeseen event and further complications. This was against the expectation that a sick person in the custody of health personnel deserves closer attention. Secondly, some health workers carelessly rendered services to the affected patients and therefore exposed them to experience complications. The implication of the identified gaps is that the health facilities utilized by the patients compromised their safety.

Other victims of medical errors, especially those who patronized patent medicine vendors (PMVs) narrated their own experiences too. This study noted that the affected victims in this category were those living in rural areas and suburbs where there were no modern healthcare facilities. This is in addition to the challenge of transportation to facilitate their movement to communities where health facilities were located. The study also observed that the victims in this category were those from poor socio-economic backgrounds, and therefore found it difficult to patronize certified healthcare practitioners. Most of the participants in this category also stated that the PMVs served as their first point of contact whenever they were ill. They justified their stance by highlighting that the PMVs provided them medical treatment promptly at affordable prices. The identified factors, among others enhanced higher patronage of the PMVs by the participants. One major revelation from this study was that majority of the PMVs had no formal training in any field of medicine. Rather, the participants explained that the PMVs obtained their training as apprentices and on the-job-training. The study also revealed that the PMVs operated as general practitioners and therefore claimed to be able to treat various categories of illnesses such as malaria, typhoid, antenatal/post-natal services, dysentery, tuberculosis, and hypertension, among others. For instance, a patent medicine vendor said:

> I did not complete secondary education when I started this job. However, I learn how to dispense drugs gradually with the knowledge I acquired from my 'boss'. Today, I am an expert in this job because I had cured various illnesses suffered by clients' in this community (a 42-year woman and patent medicine vendor).

Another PMV said:

> This job does not required serious academic qualifications because it is routine in nature. For instance, some drugs were manufactured for the treatment of malaria, typhoid, hypertension and infertility, among others……. So, whenever clients' complaint of any of the identified illnesses, I know the drug(s), which I was supposed to give them…. Of course, one should be able to read and write in order to function optimally in this business (a 54-year-old PMV).

Given the fact that most of the PMVs did not possess requisite medical trainings, although working as general practitioners, it was not surprising that the PMVs were among the drivers of medical

errors in Osun State. Notable errors committed by PMVs include wrong calculation of drugs, resulting in under dosed or over-dose, errors of diagnosis, wrong injection and errors of dispensing. Narrating how negligence on the part of PMV, a participant spoke elaborately:

> My five-year old son suffered from typhoid three years ago. I took him to a nearby patent medicine vendor, who also has one small room where he normally attends to nursing mothers and women of childbearing age. Upon physical assessment of my son, narratives from me, the PMV concluded that the health condition of my son would require series of injections in order to recover from the typhoid. I agreed with him but I asked him how many injections he needed. He said the boy needed ten injections or more and that everything must be received in one day so that the typhoid could be completely treated. I consented and asked him to go ahead with the treatment. My son received five injections simultaneously and he fainted suddenly. I was left with no other option than to look for a motorcyclist to take us to a private clinic in the neighboring city. Luckily, my son was revived in the clinic. It was after the treatment that the doctor in the clinic started asking me about the treatment that was received by him. I told him that a 'doctor' in my village gave him five different injections. The man started laughing and said 'how an under-age boy could be given five injections simultaneously! ……Your son was very lucky, otherwise, he could have died' (a 31-year-old nursing mother).

The explanation from the narratives is that the patent medicine vendors did not possess competence to provide appropriate health services to clients. In spite of lack of such skills of the patent medicine vendors, they were highly patronized by members of the public. This is attributable to failure of the government to either provide better health facilities to people in various communities or lack of public awareness on the problem associated with the patronage of PMV for every illness.

The study further revealed that in a resource constrained country like Nigeria, characterized by weak healthcare regulations, the chances for the occurrence of medical errors in patients' care is very high. While recognizing the occurrence of medical errors, it was noted that some of the health personnel stated that they had been involved in medical errors. For those who indicated that they had been involved in the occurrence of medical errors, they highlighted that the errors were not disclose to either the clients, their relatives, colleagues and the health institution. The healthcare workers interviewed also highlighted that career threatening disciplinary actions, fear of litigations by wronged clients, the need to maintain among the confidence of the public in doctor-patient relationship were other factors responsible for the non-disclosure of medical errors to victims, their relatives and health authorities. A recurrent issue in participants' statements is the lack of a culture conducive for disclosing medical errors openly, as the discussants did not feel comfortable to speak of their errors within their work environment, for fear of being either blamed or stigmatized as incompetent. For instance, a Matron in a secondary health facility summarizes the unfriendly healthcare environment thus;

> In the medical environment, the culture of feedback is lacking. However, there is a competitive atmosphere where showing any sign of weakness makes members of staff become the weak link… Therefore, it is very difficult for healthcare providers to publicize errors in patient care (a 45-year old and Matron in a public health facility).

Health personnel who owned up to having ever committed medical error also described the support or rather the lack thereof she received after an error leading to a patient's death said:

> The Head told me what had happened (i.e. that the patient had died), without any tact. Then, she showed me a chart portraying the physiology of the various kinds of shocks. I could not resist, and I started crying. I asked whether I was dangerous, but she did not answer me. I told her I should perhaps stop this job and find another career. At that point, she told me: yes, maybe. I nearly resign… (a 28-year-old physician in a general hospital)

Buttressing the culture of silence towards medical errors among healthcare practitioners, a senior consultant in a tertiary health facility said:

> …Whoever disputed the occurrence of medical errors in Nigeria is a liar but I want you to note that medical errors are rarely disclosed, to either the clients or the health care management. As a consultant in a public hospital, I could not rule out the possibility of occurrence of medical errors. Importantly, whenever you are working with other human beings, you cannot out-rule the fact that somebody would act wrongly. However, this may not be intentional; because we are not trained to kill or create additional problems for clients.

Another health worker gave detail account of the prevalence of medical errors:

> I have been in the profession of medicine for about 30 years. Categorically, it would be good to state that medical errors are real and they occur on regular basis in different hospitals, clinics and pharmaceutical shops, among others. Instances of medical errors are very common in Nigeria. There was an occasion when one of my colleagues in the surgical unit forgot objects inside patients' bodies. There was also a case of a diabetic patient who was given insulin related drugs and thereby worsening her health conditions and died subsequently. I was also a member of a disciplinary committee set up to investigate and sanction erring doctor who performed caesarian surgery on pregnant woman suffering from high blood pressure (BP) without suppressing the BP. The disciplinary committee noted that there was an act of negligence perpetrated by the doctor against the patient. The woman eventually died

because of complications associated with the surgery (a Surgeon and official of the Nigerian Medical Association, Osun State Branch).

From the narratives above, it is could be stated that medical errors are real. However, the various health workers who committed medical errors found it very difficult to disclose the occurrence of errors. The problem was attributable to many factors, such as constraints from authorities and fear of litigations, among others. With the culture of silence developed by the healthcare providers against the disclosure of medical errors, it could not an over-statement to state that curtailing the re-occurrence of medical errors is a very huge task.

5.2 Factors Responsible for Medical Errors Suffered by Victims in Osun State

This section presents data on the specific factors that contributed to the occurrence of medical errors suffered by victims. The major assumption among the participants is that patients' low socio-economic status predisposed them to medical errors. Given the fact that most of the victims of medical errors were from low socio-economic background, this study revealed that the factors responsible for the medical errors suffered were social and economic in nature. These were poverty among the victims, victims' ignorance of useful healthcare information, poor access to effective modern healthcare facilities and attitudes of healthcare providers towards patients' health conditions. The distribution of the victims shows that 49.5% of the participants attributed the occurrence of medical errors to the challenge of poverty; while 30.1% of the victims illustrated that, the medical errors they experienced were attributable to their ignorance of useful health information, and subsequently influencing them to patronize incompetent healthcare practitioners. 20.0% of the victims also identified that lack of access to responsive health facilities, which manifested in forms of inadequate health personnel and other health facilities and lack of prompt responses to patients' conditions responsible for medical errors in their care.

The specific factors responsible for medical errors suffered by the victims are presented using three sub-themes. These are the relationship between clients' economic status and vulnerability of medical errors, relationship between ignorance and patients' vulnerability to medical errors and the relationship between poor access to competent health facilities and patients' vulnerability to medical errors. To highlight victims' views about the factors responsible for medical errors, this study compared the results obtained from the victims with those of healthcare practitioners.

5.2.1 Clients' Economic Status and their Vulnerability to Medical Errors

The victims in this category illustrated that the challenge of low economic status, which is indicated by the combinations of unemployment, irregular/non-payment of monthly salaries, low-income among others made them vulnerable to medical errors. The major trend among the victims in this category lack definite and sustainable source of economic livelihood, and subsequently affecting their health seeking behavior. Faced with the challenge of poverty, the victims said that they relied on supports from relatives, philanthropists, religious bodies and friends to settle costs of treatment. Therefore, in the event of sickness, such as malaria, typhoid, body ache, and even routine clinic visit like antenatal and postnatal care and child immunization, the participants mentioned that they patronized patent medicine vendors, pharmaceutical shops and any available healthcare providers within their neighborhoods. Some participants in this category also said that the financial costs of treatment in most of the patent medicine stores and pharmaceutical shops were affordable, which encouraged their patronage. The challenge of medical errors is greater for vulnerable populations such as low-income individuals and uninsured persons. For instance, a 35-year-old man who attributed the medication error he suffered recalled:

> Whenever I had malaria, I visited a patent medicine vendor in my neighbourhood. I consider it the best place for medical treatment because I could not afford the services of 'expensive doctors' in cities. However, the last time I visited the patent medicine vendor for the treatment of malaria, I regretted my action as the vendor administered wrong dose on me.

Similarly, a 48-year-old woman and relative of a victim of injection error stated:

> A few years ago, my younger brother was ill and on admission in a private health facility in Akure, Ondo State. The doctor in the hospital asked the family members to deposit the sum of ₦25,000 for his treatment, which we could not afford. Instead, we took him to another hospital in a nearby community, and were asked to pay ₦5,000. ….. The only 'doctor' in the hospital gave him five injections at once and discharged him, two days later, he started having pains all over his body. As the pains persisted, we took him to a community health centre where it was noted that he was given a wrong injection.

The implication of the narratives is that patients' inability to afford the services of competent health practitioners predisposes them to patronize less competent ones who charge lower fees. In the end, the patients may suffer medical errors and associated complications. The medical errors noted in this context could said to economically induced as the victims clearly stated that their financial incapacity made them patronize patent medicine vendors, who were drivers of medical errors suffered by the concerned victims.

Other participants identified the patent medicine vendors and owners of pharmaceutical shops accorded them the privileges of deferred payments. It is worthy of note to state that the health services

in the organized health sector are rendered based on fees for service. Given the fact that most of the victims in this category stated that they could not afford basic services, including health, it was not surprising that the victims considered the health services through an 'unwritten agreement' with the proprietors of the patent medicine stores and pharmaceutical shops for medical treatment as the best options. The victims also maintained that with the privilege of deferred payment at these sources, they considered them as healthcare providers with 'human face'. With this conviction, the victims perceived such 'healthcare practitioners' as experts in the treatment of illnesses and therefore patronize them routinely. However, the victims also observed that their 'partnership' with the owners of patent medicine vendors and pharmaceutical shops for utilization of health services made them suffer medication errors. Narrating how poverty made him consider a patent medicine vendor 'a competent doctor', a 59-year-old female victim of medication error said:

> A few months ago, I had body ache, which was attributed to work stress. I had no money, therefore I visited a patent medicine vendor. …. I asked the vendor to administer drugs worth ₦100.00 for me to suppress the pains. He acted based on my request… I took the drugs as prescribed. I went into coma a few minutes later. Subsequently, I was taken to a primary health centre located in another community for resuscitation.

A community leader, who suffered medication error, also narrated how the activities of unqualified healthcare providers committed medical errors in a community:

> Most of the medical errors experienced by patients in this community are attributable to incompetent healthcare personnel who are rendering services to the clients. The medication error I experienced was attributable to an unqualified healthcare provider who dispensed over dose of a particular capsule for me… There was also a case of a patent medicine vendor who dispensed wrong dose to a pregnant woman, who later experienced complications. There were many of them like that in most of the communities (A 56-year-old man and community leader in Osun State).

The plausible explanation of the above findings is that victims' economic financial handicaps influenced their health seeking behavior, such that they found it impossible to patronize competent health facilities. Their poor economic status coupled with the monetization of health services in the country encouraged them to visit patent medicine vendors and operators of pharmaceutical shops for the treatment of their ill health. The poor economic status in addition to the poor skills of the patent medicine vendors predisposed the concerned victims' to suffer medical errors.

Corroborating the responses from the victims, a health staff in a tertiary health facility said:

> The challenge of poverty had made some clients to experience various medical errors. This manifested when clients could not afford costs of medical services and thereby causing delay for the healthcare practitioners to provide urgent treatments. …The inability of some patients and their relatives to afford the costs of healthcare services had affected their safety in the hands of healthcare practitioners… Few weeks ago, a pregnant woman was on admission in my hospital for delivery and the health workers in charge of her care prescribed some drugs but there was delay in procuring the drugs. This was attributable to her difficulty in making money available for the prescribed drugs. The delay led to complications, which manifested in form of body weaknesses. In the end, the woman underwent caesarian section, which could have avoided (A matron in a tertiary health facility in Osun State).

Similarly, a senior physician in a secondary health facility illustrated the relationship between poverty and patient' vulnerability to medical error as follows:

> …As a public healthcare provider, I interact with patients from different socio-economic backgrounds. On many occasions, I have had problem with poor patients because of their inability to pay for recommended drugs. A few weeks ago, a patient on admission absconded because he could not afford to foot the hospital bills. A few days later, he was returned to the hospital as his condition deteriorated. … There are also occasions that in a bid to reduce the costs that patients prefer seeking treatment from unqualified health personnel, where the necessary facilities were not available. In the end, they become victims of medical errors.

Contrary to the responses by the victims and some healthcare practitioners, some patent medicine vendors interviewed stated that they were not drivers of medical errors. Rather, they maintained that they were contributing positively to the health sector in Osun State by providing door-to-door services to their clients at affordable costs. Justifying the contribution of patent medicine vendors to the health sector, an official of the patent medicine vendors association in Osun State said:

> …. We (patent medicine vendors) were assisting patients' in various ways, as our presence was visible in different parts of the State. We provide health services to patients suffering from different illnesses, such as malaria, typhoid, sexually transmitted diseases and antenatal services for pregnant women, among others. These services were also being provided at affordable costs. Our presence in the State mitigates the impact of strike embarked upon by health workers in the public health institutions……..We also refer some patients to public healthcare facilities for emergency treatments (Secretary, Osun State Association of Patent Medicine Vendors).

An officer of the patent medicine vendors association in Osogbo Local Government Area of Osun State corroborated the responses above:

> People should appreciate the presence of patent medicine vendors and pharmaceutical shops in the Nigerian health sector. Otherwise, the poor would have found it difficult to access health facilities. …. Our services to clients were numerous and invaluable. My members had rescued poor patients at affordable costs. We also gave medical advice to people in various communities at no cost. …. Our services are also of high standard and in the interest of clients (Chairman, Association of Patent Medicine Vendors/Pharmaceutical Shops, Osogbo Local Government Area).

Interpretation of the findings above is that the failure of the Nigerian State to prioritize the provision of effective health services at affordable costs to all and sundry created avenue for patent medicine vendors and owners of pharmaceutical shops to consider themselves as key stakeholders in the Nigerian health sector. Left with no better options, the patients from the low economic backgrounds patronize the existing medical facilities in their neighbourhoods. Given the fact, that individual's level of income influence the types of health services utilized by clients.

Results from this study have shown that most of the victims of medical errors in Osun State were from low economic status; hence, they could not afford the services of competent health practitioners. In order to salvage their health conditions, they patronized patent medicine vendors, owners of pharmaceutical shops, among others at costs they could afford.

5.2.2 Patients' Level of Awareness and their Vulnerability to Medical Errors

Some (30.1%) of the participants opined that the medical errors they suffered were attributable to poor awareness about quality of health facilities prior to their patronages. This manifested in form of victims poor knowledge of where effective medical services should have been sought, victims' difficulty in understanding medical instructions and failure to seek for clarifications on issues related to illnesses and treatments. The combinations of these factors were responsible for medical errors experienced by the concerned victims in Osun State. The findings further established that health information and patients' awareness were important determinants of patients' vulnerability to medical errors. Subsequently, in a situation where patients' did not have information on health care providers from which to make choice, the chances are higher that such patients' might experience medical errors. In this regard, the victims were mostly ignorant of basic relevant health information, which could have prevented them from being vulnerable to medical errors. Therefore, rather than attributing medical

errors, they suffered due to negligence from healthcare providers; they stated that ignorance on their parts served as the major driver of the medical errors. One of the victims explained:

> …….I did not know that the '*dokita'* (patent medicine vendor) was not a competent doctor until I became a victim of wrong dose while receiving malaria treatment from him. …. I was not the only victim as most people in my community had similar experiences from the same '*dokita'*. Although I am a survivor but the problem was attributable to my ignorance (a 43-year-old man who survived medication error by PMV).

Similarly, a 46-year-old woman; a survivor of injection error stated:

> I thought I could get better treatment from an operator of a pharmaceutical shop in my neighbourhood until I realized that the injection I received led to paralysis. However, I was lucky to have been taken to a secondary health facility in Osogbo for rehabilitation.

Interpreting the findings above, it is worthy of note to state that patients' access to competent health facilities is a reflection of their awareness about the competencies of the existing health facilities in their environments. This means that highly educated people are also susceptible to medical errors.

In addition to the responses on how lack of awareness predisposed patients to suffer medical errors, some victims linked the medical errors, they suffered to their difficulty in understanding instructions from healthcare providers and inability to seek for clarifications on issues related to their illnesses. The major challenge among the victims was that they were not literate enough to understand basic health tips that could have mitigated the occurrence of medical errors they suffered. For instance, a victim of medication error recalled:

> The patent medicine vendor prescribed two dosages of some capsules, to be taken at four-hour interval. … Out of my ignorance, I took three dosages within two-hour. Subsequently, my body system became weak and inactive for complete three days. I did not understand source of the problem until I called the attention of the patent medicine vendor…….. (A 65-year old man who experienced medication error).

Similarly, a 35-year-old woman whose child suffered medication error narrated:

> A few years ago, my son had malaria and was on admission in a primary health facility. After a nurse in the hospital had carried out observations, some drugs were prescribed and I was asked to buy them in a nearby pharmacy shop. … I made mistake while administering the drugs thereby worsening my son's

> health conditions. These manifested in forms of body weaknesses and inactivity. I returned him to the hospital for reassessment, where it was established that I had administered the drugs wrongly.

The findings explain how some medical mishaps were self-inflicted inflicted by patients themselves because of inability to adhere to medical instructions. This also meant that beyond factors attributable to health facilities, patients' level of literacy serves as driver to their involvement in medical errors. Actually health care providers who give patients drugs to administer by themselves unsupervised should ensure that the clients understand the instructions in terms of timing and dosage especially those who are not literate and means to determine time other than sunrise and sun setting.

Corroborating the relationship between ignorance and patient' vulnerability to medical errors, a medical practitioner in a tertiary health facility in Osun State reported:

> ….. Patients' need adequate information on where to obtain treatment. It is a common practice nowadays to see unqualified healthcare personnel rendering services to patients. As such, most of the victims of medical errors in various communities were deficient about information on what constitutes quality health services. Subsequently, they patronize any available health practitioner and therefore become victims of medical errors (a Matron in a tertiary health facility in Osun State).

In a similar light, a junior nursing officer in a rural primary health facility revealed:

> The major challenge we have with our clients here is their difficulty in the administration of drugs. In most cases, nurses would prescribe doses but when the patients got to their various homes, they forget the instructions, thereby exposing themselves to poor results. ….A few months ago, a pregnant woman complained of backache and she was asked to take some tablets for the period of seven days. She took the prescribed drugs within three days, believing that she would recover faster. She started experiencing complications, which almost affected her pregnancy. A family member brought her to the clinic and it was established that she had overdosed herself. We gave her first aid but she was referred to a general hospital in Ikire, Osun State.

However, a senior consultant in a tertiary health facility presented a contrary opinion on the relationship between ignorance and patients' vulnerability to medical errors. He attributed the occurrence of medical errors to government's failure to checkmate the proliferations of medical quacks:

> Just like in other professions in Nigeria, there are large numbers of fake nurses, physicians, laboratory scientists deceiving people and disguising as

> competent healthcare practitioners. They expose patients to medical errors. Unfortunately, our professional bodies, such as the Nigerian Medical Association, the Nursing and Midwifery Council and the government are not doing anything to curtail their proliferation. I wanted to tell you that majority of the incidences of medical errors in this State and any other parts of the country are attributable to fake health workers. (a Senior Consultant in a Tertiary Health Facility in Osun State).

A pharmacist in a secondary health facility also said:

> Rather than blaming the innocent victims of medical errors, we should blame the government and other regulatory bodies for their failure to get rid of quacks from the healthcare environment. ….. The reason for prevalence of medical errors is that fake 'doctors' are allowed to continue…….. (A Pharmacist in a Secondary Health Facility in Osun State).

The foregoing observation implies that a combination of ill-informed clientel and the proliferations of ill-equipped health facilities created avenue for the occurrence of medical errors suffered by the affected victims. This scenario also explains the failure of the government and other relevant stakeholders to equip health consumers with adequate information that could enhance their patronages of competent and efficient health facilities.

The results of the focus group discussions with health practitioners further revealed that there is a relationship between ignorance and patients' vulnerability to medical errors. FGD participants (nurses) agreed that patients' who found it difficult to understand medical instructions and seek for clarifications from health workers were likely administering drugs and other treatments wrongly. They also identified that effective interaction between patients' and health practitioners depend on their ability to understand each other while seeking and providing treatments. The discussants further alleged that some patients and their relatives rarely respond to useful medical instructions, rather, they acted based on their wishes. These manifested in various ways, such as patients' failure to administer as prescribed by health practitioners and delay in consulting health workers for disease treatment, among others. When these happened, the chances are higher that patients would experience medical errors. The discussants also illustrated instances where ignorance from patients while seeking healthcare served as the driver for the occurrence of medical errors. For instance, a consultant with one of the public health facilities in Osun State recalled:

> …… Most victims of medical errors were responsible for their problems. On many occasions, some patients ignored instructions from medical experts on when, where and how to source for healthcare services. …. A few years ago, I prescribed some drugs for a patient but a few days later, the patient was returned to the hospital due to some complications. A thorough investigation

> revealed that the patient refused to administer the drugs as prescribed and which led to complications. ….. Few weeks ago also, I referred a diabetic patient to Obafemi Awolowo University Teaching Hospital, Ile-Ife, Osun State but I was surprised that the patient went to a different clinic where a nurse administered drugs meant for a mental patients. Subsequently, the patient became unconscious, inactive and went into coma…… He was later referred to my hospital for resuscitation and was lucky to have survived the problem.

A senior physician in a tertiary health facility also stated:

> Some of our clients were not informed about the nefarious activities perpetrated by unqualified, ill-equipped and quack health practitioners operating in various communities in Osun State. Consequently, clients patronized them on routine basis. …. On many occasions, they did not considered well-equipped health facilities as the best places to seek medical treatment. Rather, they preferred to patronize the poorly structured, with inadequate health personnel and ill-equipped clinics and pharmaceutical shops as best and subsequently suffer many injuries and deaths attributable to poor medical treatments. ….. It was when they noticed complications that they visit a well-structured healthcare facility.

Deduction from elicited data is that there is a connection between the costs of care, patients' ignorance of constitutes competent care, poverty and patronage of substandard health facilities and victims vulnerability to medical errors. Thus, patients' prior knowledge about quality of health facilities could serve as a driver for their involvement in medical errors. In other words, the social and economic statuses of the patients influenced their health seeking behavior and where medical interventions are sought. The combination of these factors determines patient vulnerability to medical errors.

5.2.3 Inadequate Access to Competent Health Facilities and Patients' Involvement in Medical Errors

The victims in this category illustrated that medical errors they experienced were attributable to either inadequate or lack of access to competent health facilities. Competent health facilities were perceived as those delivered by skilled personnel and in line with laid down medical protocols. Out of the 85 victims of medical errors interviewed, 20.0% belong in this category of causal factor of medical errors. The participants said that the medical errors they suffered were due to non-availability of qualified personnel, medical laboratories, and health workers' poor response to patients' conditions. The central message from the victims in this category was that when the health sector lacks basic

facilities, it would be difficult for health workers to provide effective services to clients, thereby subjecting clients to medical errors. The findings further revealed that the health services in Osun State, especially, at the primary health centers' where most of the affected participants received treatments were in 'chaotic conditions', with inadequate staff, lack of regular electricity power supply, outdated technologies and poor record keeping system, among others, which do not guarantee safety of the patients. For instance, A participant recalled how erratic power supply in a public hospital contributed to the death of her baby:

> My baby was admitted in the intensive care unit in a public hospital because of a serious illness (not disclosed). While receiving the treatment, he went into coma and therefore needed to be placed on oxygen. Unfortunately, there was power outage without alternative source of electricity. Complications set in as the baby could not be given oxygen as scheduled. The baby died when the hospital management was sourcing for alternative power supply (a middle-aged woman whose child died because of inadequate facility in hospital).

In a similar vein, a 45-year-old man narrated how the problem of inadequate facilities in a hospital made his wife experience prolonged hospitalization:

> My wife was undergoing an operation in a public health facility; there was a sudden power outage in the hospital. In the process of completing the operation in spite of the power outage, one of the doctors tampered with her bladder. This led to the perforation of her bladder as disclosed by one of the doctors…. The problem was rectified but she remained on the sick bed for five months.

Inference from the findings is that in a resource constraint environment, such as the study area, the chances are higher for patients to suffer medical errors while receiving in poorly equipped health facilities. This is because beyond workers' skills and competencies, other exigencies such as irregular electricity and water supply to the health care institution influence the patients' health outcome. As such, the absence or insufficient supporting facilities in the concerned health centers exposed the patients to medical errors.

The results of the focus group discussions conducted with the healthcare providers also indicate that the challenge of inadequate personnel and other health facilities served as driver to the occurrence of medical errors. There was a consensus among the discussants that the major problem facing the health sector in Osun State was inadequate health personnel, which was attributing to the failure of government to fill the existing vacancies in various health units and departments. These make it difficult for the existing personnel to meet the needs of the large numbers of clients'. The study also revealed that the problem of shortage of health personnel was not limited to the public health institutions in Osun State, the private health institutions were also faced by the challenges of shortage of qualified

health personnel. The discussants described the private healthcare providers as 'general practitioners' whereby a single health worker performed the roles of physician, nurse, pharmacist and laboratory scientist simultaneously in various clinics. The participants also pointed out that on occasions when the private healthcare providers employed staff; they hardly employ competent persons as a means to reduce the cost of labor. These practices by the private healthcare givers constitute pathways to medical errors. The implication is that poorly qualified workers are more prone to make mistakes while providing services to clients. Justifying the assertion by the health practitioners, a nursing mother described how medical treatment received from a private health practitioner resulted in medical errors during the treatment of her baby:

> A few weeks ago, my baby was ill and I took her to a nearby private clinic. Upon medical examination by the 'doctor', the baby was diagnosed of typhoid. The 'doctor' therefore prescribed some drugs and vaccines, which were given to the sick baby. After a few minutes, the boy went into a coma. The explanation provided by the 'doctor' was that it was a temporary reaction and that the problem would soon be over. I was not satisfied with the explanation, took the boy to the emergency unit of a public health facility, where it was noted that the first doctor had compromised standards of care; indicating that there was error of injection, which made the boy to go into a coma. However, the boy was resuscitated after series of efforts by the medical team in the hospital (a 29-year-old nursing mother).

Another victim explained how the breach of protocols by a private health practitioner made her to experience surgical error:

> A few years ago, I had chronic stomachache and therefore on admission in a private health facility in Osun State. Upon diagnosis, the doctor had concluded that I would undergo surgical operation. The operation was done as scheduled and I was discharged few days later. However, in the process of recuperating, I started experiencing pains whenever I wanted to urinate. I told my husband. As the problem persisted, my husband took me to another private hospital at Ibadan, where it was discovered that the first doctor had tampered with my bladder, which was responsible for the problem. Subsequently, I underwent a corrective surgery (a middle-aged woman and survivor of surgical error).

The narratives from the participants' signify cases of incompetency and failure of the concerned health workers to follow medical protocols while rendering services to the affected patients. These and other salient factors exposed the victims to suffer medical errors. These findings reiterate the role of human factors in the occurrence of medical errors and patient safety.

The discussants (health practitioners) also cited cases where shortages of personnel and other supportive facilities led to the occurrence of medical errors. For example, a discussant recalled:

> A few weeks ago, a pregnant woman was on admission in my hospital. She needed urgent treatment to stabilize her conditions but the staff strength in the hospital was very bad. There were three nurses attending to more than ten patients. While the woman was supposed to be attended to, other patients equally deserved urgent attention. Delay was inevitable. Subsequently, complications set in and therefore she was referred to another hospital for urgent and effective medical attention. We later found that the woman lost her baby resulting from the complications (A Matron in a secondary health facility in Osun State).

Another health worker narrated how lack of ambulance led to the death of a patient on admission in a primary healthcare centre:

> A few years ago, we sent a request to an international non-governmental organization for financial assistance to procure ambulance and other medical equipment for the hospital. The request was granted and millions of naira were released to the Director of Primary Healthcare for the Local Government Area but the money was misappropriated by a few individuals in the local government. Subsequently, we were operating without ambulance. … Few days ago; a patient was on admission and needed to be taken to the University of Ibadan Teaching Hospital for scanning. In the absence of an ambulance, we asked a family member to provide alternative means of transportation. It was in the process of looking for a vehicle that the patient's condition deteriorated and died subsequently (A junior nursing officer in a primary health facility in Osun State).

Generally, corruption portends danger to consumers of basic health facilities in Osun State. Based on the narratives above, the challenge of corruption with specific emphasis on health sector does not allow clients and members of the public to have access to basic health facilities. This is because resources meant for public health are diverted and misappropriated by few individuals. When this happens, it creates gaps in terms of public health needs, such that the needed facilities for the delivery of service are not feasible. In the end, the patients become victim of circumstances, manifesting in forms of poor quality of service and occurrence of medical errors.

In a similar vein, a participant whose younger brother was mismanaged in a public health facility recalled:

> My brother was on admission in a public health facility when a doctor prescribed some drugs, which were not available at the hospital pharmacy. He was advised to go to a private pharmacy close to the hospital. I bought the drugs as prescribed but unknown to me the pharmacist dispensed the wrong medicine. I handed-over the drugs to a nurse for administration. A few hours

> later, my brother's condition became worse, he found it difficult to speak clearly. Upon noticing this, the doctor who prescribed the drugs was given a distress call to ascertain the underlying factors. A medical review conducted indicated that he had been given wrong drugs. He led me to the pharmacist who sold the drugs. The pharmacist brought out the prescription note and stated that the doctor's handwriting was not readable and therefore responsible for the error. Subsequently, the doctor asked for another set of drugs to mitigate the complications. A few days later, my brother got well (A 49-year-old man whose brother suffered medication error).

Inference from the interviews conducted on the participants indicated that the health sector in Osun State is faced with the inadequate and incompetent personnel, shortages of facilities, among others. This study therefore affirms that there is relationship between the state of healthcare facilities and the occurrence of medical errors in Osun State.

Plausible deduction from the elicited data is that factors responsible for the occurrences of medical errors are multiple in nature. It is worth mentioning that the existing health facilities in the study areas are located in either the local government headquarters, State capital or few cities. For instance, there are three tertiary health facilities in Osun State; located in the cities of Osogbo, Ile-Ife and Ilesha. The study also revealed that there are fifty-five secondary health facilities in the State, mostly located in major towns and local government headquarters, with little or no regards for rural dwellers and other residents. The study also revealed that the existing facilities in most of the communities lack the necessary infrastructure needed to provide decent services as most of them operate without basic items such as surgical equipment, needles, syringes, drugs, and basic necessities such as water and power supply (municipal infrastructure).

5.3 Consequences of Medical Errors on Victims' in Osun State

One of the objectives of this research was to identify the consequences of medical errors on victims in Osun State. It is worthy of note that being hospitalized is enough to expose clients and their relatives to pains, displeasure and discomfort all of which affect the social and economic lives of the concerned individuals. Furthermore, this study reveals that medical errors cause enormous suffering to victims and their relatives. Medical errors also impose substantial cost monetary losses to the victims, in the form of lost man-hours and increased medical costs associated with the treatments needed to remedy the pains caused by the medical errors. In addition, the victims suffer a conflict between their lives prior to the incident of medical errors and the aftermath of the medical errors. However, despite the initial burden of hospitalization medical errors increase the social and economic burdens for victims and their relatives. The burdens take various forms. These include prolonged hospitalization, disruption

of routine activities such as sports, performance of religious rites and obligations, educational programmes, hobbies and exposure to economic challenges.

5.3.1 Social Consequences of Medical Errors on Victims and their Relatives

A major complaint among the victims was that the medical errors suffered had affected their lives. They pointed out that medical errors had reduced their scope of lives and as such, life became worthless and unbearable. Some victims stated that the occurrence of the medical errors had affected their educational pursuits; while others narrated that the occurrence of medical errors affected their daily routines within the neighborhoods. Contextualizing the reduced scope of life suffered by victims, the participants reported a general retrogression in their plans in life. For instance, a victim recalled:

> Since the time I was given wrong drugs by a patent medicine vendor, which resulted in high blood pressure, life had been meaningless and dissatisfying. I no longer have passion for most of my daily routines, such as singing, engaging in physical exercise and visiting friends….. I felt uncomfortable (a 32-year-old man who suffered medication error).

Another participant, whose father death was attributable to mismanagement in a public health facility stated:

> ... Anytime I remember the incident, I feel very angry and depressed and find it difficult to carry out my social responsibilities. On many occasions, I found it difficult to interact with my friends and co-workers because I considered the incident as tragic and unwelcome development (A 31-year-old man whose father died due to medical mismanagement).

Expressing how medical error had led to social effects, a victim of a surgical error, which affected her vocal cord said:

> A few days later (after goiter operation), I found it difficult to speak. Subsequently, I returned to the hospital where it was confirmed that my vocal cord was wrongly tampered with in the process of the surgical operation, making it difficult for me to speak properly. I was later referred to a tertiary health facility for corrective surgery. After the second surgery, the problem was not over because I could only speak through a tube that was fixed on my neck; connecting my mouth to the vocal cord. … with the development; it had been very difficult for me to take part in activities within the neighborhoods. There are occasions when people make disparaging comments about the way I speak (A 65-year-old woman).

In a similar vein, a participant whose child had suffered injection error in the course of immunization summarized the social effects suffered by the child in the following words:

> I noticed that since my baby was given injection on a wrong part of the body during the immunization exercise, she has been feeling lonely, as she had lost the enthusiasm she was known for in the neighbourhoods. Before the incident, my baby hardly disturbed me because she enjoyed playing with members of my household. However, for many days now the pains she experiences have made it difficult for her to interact pleasantly with others apart from me. I find it difficult to engage in other daily routines as scheduled (a 45-year-old woman).

The results also indicate that some victims attached importance to religious practices, and therefore expressed displeasure over what they considered 'hindrances' against their quest to participate in religious rites. This study noted that the medical errors have made the affected victims to pray at home instead of attending congregational prayers. In addition, it was revealed that the incidence of medical errors had acted as obstacles against involvement of victims' in religious activities capable of uplifting their faithfulness to God. The concerned participants stated that spiritual well being goes hand in hand with mental well being and therefore the medical errors had denied them the opportunity to exhibit their faithfulness to God. Illustrating how wrong medication, which was prescribed by a 'quack', did not avail her opportunity to attend a special crusade organized by her religious groups a patient expressed:

> I am a Christian and I worship at the Redeemed Christian Church of God at Oke-Fia, Osogbo, Osun State. I am also a choir leader. I play an active role in the church. However, since I was given wrong medication, which resulted to high blood pressure, it has been difficult for me to take part in the church activities. In addition, other members of the choir were unable to continue from where I stopped before the occurrence of medication error. … A fortnight ago, we had a special crusade, where I would have received a special blessing from 'men of God' but unfortunately; I could not attend the programme because of the complications of this medication error (A 26-year old woman who suffered medication error).

Similarly, a patient who was wrongly diagnosed revealed how the wrong treatment he received in a private healthcare facility prevented him from daily congregational prayers as follows:

> As a Muslim, it is obligatory to observe prayers in congregation. Nevertheless, since I was given a treatment for diabetes, instead of malaria by a 'quack' operating a private health clinic; my entire body system had never remained

> the same. Specifically, I could not explain how my body system was reacting; all I could say was that I had no strength to engage in any serious activities, including congregational prayers. My house is far from the mosque and the energy was not there for me to trek the long distance. Based on this, I had not been performing the obligatory prayers. ….. Worsen enough; it was difficult for me to attend weekly 'Jumaat' (Friday) prayers (A 38 year-old cleric who suffered error of medication).

Explaining how the incident of medication error had become an obstacle against her religious interest, a patient explained:

> There was a congregation prayer organized by my church leaders to mark the 2015 Esther celebration but I was unable to take part in the exercise. My inability to participate in the exercise was attributable to the wrong medication prescribed for me by a poorly trained health provider in a community primary health center. I went to the hospital to receive treatment for a minor headache and the health worker dispensed some drugs not meant for the problem I was faced with. I did not know this, not until I took the drugs as prescribed. A few hours later, my body became very weak to the extent that I found it difficult to move around. I was taken to a secondary healthcare facility in a nearby community where it was found that the drugs that were initially prescribed for me were wrong and responsible for the poor outcomes. In a bid to neutralize and mitigate the problems associated with the wrong medication, I was placed on admission for five days. It was within this period that the congregational prayer took place. I perceived the situation as one problem too many (a 31-year-old survivor of medication error).

Inference from the victims' reveals that in spite of the religious commitment and devotion to religious rites developed by various religious faithful, the occurrence of medical errors had made it difficult for the victims to actualize their religious zeals. In other words, the incidences of medical errors had reduced the scope of religious consciousness among the victims in Osun State.

Findings from this study also revealed that there is a relationship between medical errors and victims inability to carry out their scheduled educational activities. This manifested in various ways. Some victims claimed that the incident of medical errors made it difficult for them to perform their responsibilities in schools. The implication of this is that medical errors did not provide a better platform for the victims to pursue their educational desires and wishes. The participants narrated how medical errors affected their educational desires. For instance, a victim of diagnosis error:

> I can recall that when I was in 300 level at the Obafemi Awolowo University (OAU), Ile-Ife, Osun State, I had a terrible fever and therefore sought for treatment in a private clinic in Ile-Ife. I was asked to submit blood sample for

> laboratory test in the clinic, where it was found that I needed blood transfusion. I was taken in the clinic and the doctor started the blood transfusion. After a few hours, I went into coma and taken to the OAU Teaching Hospital for medical attention. The result of medical investigation showed that I had been given the wrong blood group, which was responsible for the complication. It was recommended that the blood had to be evacuated and replaced with the correct blood. In the process, I spent two weeks in the hospital and within the period, some lecturers had conducted continuous assessments in the department. …..Some lecturers in the University refused to give make-up tests. In the end, I failed some courses, which eventually did not allow me to graduate with a second-class upper division (2.1) (A 44-year-old man who survived wrong blood group transfusion).

Similarly, a participant highlighted how the incident of medication error and the subsequent high blood pressure suffered by her father affected her sibling's school programme thus:

> ….. My father, a widower, sought the services of a quack doctor in a village who was given drugs, which made him suffer from hypertension. I felt that he needed somebody to support him. This was because 'baba' was very nice. I therefore asked my youngest son to relocate his school from Akure where he was a boarding student to Akinlalu in order to be assisting him. After few months, I noted that my son was performing poorly in the school. This was because he had associated with bad peer groups, who distracted his focus from reading to unimportant activities. I am in a dilemma on what to do in order to save his future (a 45-year-old woman whose father suffered wrong medication).

Beyond personal challenges faced by the individual victims, the occurrence of medical errors also exposed victims' family members to various social challenges. These manifested in forms of moral and social obligations such as devotion of time to cater for the needs of the victims, spending time commiserating with the patients at the expense of commitments to personal responsibilities. These social requirements made some family members overwhelmed with the challenges that accompanied the medical errors experienced by their relatives. Illustrating how the incident of medical error experienced by a beloved parent predisposed her to such hardships, a woman explained:

> My sick mother was on admission in a nearby private health facility. The doctor prescribed and dispensed some drugs for her. She took the drugs as prescribed but a few days later, she went into coma. Subsequently, she was referred to the University College Hospital (UCH), Ibadan, where a doctor informed her that the drugs recommended for her were too powerful, considering her age then (75 years) the drugs were said to be responsible for the coma. She was taken to the intensive care unit of the hospital, where she had been for the past three weeks. I am now faced with moral and financial

> obligations, especially being the only child of the family. … I do not have enough time to spend with my husband and the children because I had spent all my salaries to take care of my aged mother. I shuttle between my place of work (Ibadan) and Ilesha where my immediate family members live to provide for her medical needs. Even though my husband displays some understandings, the pressure has significant consequences on my five -year old marriage (a 37-year-old woman whose mother illness was mismanaged).

Some parents/guardians feared permanent disabilities for the children who particularly suffered medical errors. For instance, a mother whose child had a complication related to immunization, which made the child suffer partial paralysis on one of the legs complained:

> My worry was that the boy might find it very difficult to play football with his peers and especially, he complains a lot about the pains on the leg. I also observed that he has been too quiet since the occurrences of the injection error.

Another participant said:

> Since the occurrence of the medication error suffered by my father, due to the treatment he received in a private healthcare facility, which made him develop chronic high blood pressure; I rarely go out of my residence. This is because he needed close attention, and since he was placed on drugs, I had no option than to stay indoors regularly. …….. I had reduced my scope of social activities such as watching football, attending political party campaigns/meetings, among others. I had no knowledge of when the problem would be over.

Furthermore, a victim whose penis was swollen because a medical doctor failed to remove a catheter after a surgical operation complained:

> I am a sportsman. Before this problem, I was active and played games such as table tennis as recreation. I jogged on daily basis. However, since the occurrence of the incident, I can hardly walk for ten minutes without resting…….. My worry is that I do not know if I would be able to engage in those routine activities.

Recalling the social effects associated with the death of a friend resulting from poor treatment received in a private clinic, a man said:

> Two years ago, my friend had stomachache and was taken to a community primary healthcare facility. A nurse admitted her and asked us to go and buy some drugs in a pharmaceutical shop. We bought the drugs as prescribed, which were administered by the nurse. A few hours later, we were asked to buy another set of drugs as the stomachache continued. The new set of drugs were given to her but there was no relief. At this point, I was suspecting that the nurse was not competent and requested that she be referred to a tertiary healthcare facility at Ile-Ife. The nurse ignored the request insisting that the pains would soon be over. However, when the nurse realized that the patient's situation was getting worse, she asked us to visit another hospital at Ile-Ife. We went to the hospital at Ile-Ife where the doctor told us that the drugs given to her at the community health centre had affected her intestine badly and therefore she would undergo surgical operation. In the process of arrangements for the prescribed operation, my friend died. Being her closest friend, I was saddled with the responsibility of visiting her aged mother at the risk of performing my responsibilities in the church and other associations that I belong in (A 34-year-old woman whose friend died due to medical mismanagement).

These responses suggest that medical errors portend significant consequences on the social lives of the victims, relatives and friends. These manifested in forms of the inability of the victims and their relatives to pursue their education, religious as observed and other activities.

5.3.2 Economic Consequences of Medical Errors on Victims and their Relatives

Findings from this study also revealed that patients who suffered medical errors incurred extra financial expenses. These manifested in forms of prolonged hospitalization, extra costs of medication and other necessary expenses related to the management of complications occasioned by the medical errors. This study revealed that some of the victims spent large amount of money to manage the effects of the medical errors. Others said that errors affected their sources of income in form of days of labour lost and absence from work. For those who experienced serious complications, they complained that they had to borrow money from friends or cooperative societies to treat the complications that accompanied the medical errors. The study further found that some relatives and victims of medical errors sold valuable belongings such as motorcycles, cars, household gadgets and landed property, to augment hospital debts incurred in the course of managing the effects of the errors. It was further revealed that family members were more concerned about their loved ones who suffered medical errors and therefore were financially affected, especially when the problems involved. For instance, a victim of error of diagnosis error stated:

> ….As a pensioner with irregular monthly stipend, I spend a minimum of ₦10,000.00 monthly to manage my high blood pressure, which occurred as a result of a careless nurse who prescribed overdose of certain drugs for me. At times, I borrow money from my church members and neighbors in order to obtain the drugs needed for me to be physically fit. The moment I buy drugs from my little monthly stipend, I am usually left with too little amount of money to feed the family members and myself (A 72-year-old man who suffered error of diagnosis).

Another participant whose child suffered injection error during immunization narrated her financial ordeals as follows:

> I am a junior civil servant in one of the ministries in Osun State. Since the occurrence of the incident, I had taken my son to several hospitals with the thought that the pains being experienced by him could be minimized. Even though I observed some positive changes, I would say that I had spent more than ₦50,000.00 on medications and transportation. The larger part of the amount was loan that I received from a cooperative society, which attracts interests monthly. In the end, my net salary is not enough to take care of the family. As you can notice; the State government had not been able to pay workers' salaries for over five months. The implication of this is that I am faced with huge financial difficulties (A 28-year-old nursing mother whose child suffered injection error).

Similarly, a participant whose brother suffered an error of delay in a tertiary healthcare facility and subsequent complications explained:

> I am a trader and I collected a loan of ₦200,000.00 from my friends so that I could travel to Ibadan to buy some products to sell. The day I set out for the business trip, I received a phone call from my husband, telling me that my younger brother was involved in a motorcycle accident. I suspended the journey and went to the hospital where he was taken to for treatment. Unfortunately, the health workers had abandoned him for four days. He had already been infected by tetanus in one of his legs. There were other complications. In a bid to save his life, I transferred him to another hospital at Ile-Ife where he spent about four months. In the end, I spent the sum of ₦570,000.00, which paralyzed my business. ….. Had it been he received prompt treatment at the hospital where he was initially taken to, the financial expenses would have been. I am still indebted to many people in my community (A 54-year-old woman whose younger brother suffered error of delay).

Another victim narrated her experienced on the financial distress incurred on her medical error:

> A few years ago, I had malaria and went to a pharmaceutical shop for medication. The attendant prescribed and dispensed some drugs for me. Upon taking the drugs, I went into coma. Subsequently, I was taken to a tertiary hospital where I spent a hundred thousand naira. Part of the amount had been said to pay my school fees. In the end, I had to borrow money from my friends to settle the school fees (a 25-year-old woman who suffered medication error).

Probing questions posed to the victims and their relatives revealed that they were dissatisfied with the extra expenses incurred to manage the complications associated with the medical errors, which they expected to bring caregivers to bear. The victims further revealed that had it been they gone to more competent health facilities, they would not have undergone financial hardships. As such, they opined that errors they suffered were responsible for their economic predicaments.

Some victims also reported that the incidents of medical errors exposed them to labor loss and absence from their places of work, leading to loss of incomes. The victims in this category included artisans, traders and farmers. The findings further revealed that the victims had difficulties in managing their source of economic livelihoods. As such, the victims either suffered loss of patronage or collapse of businesses. It was reported that the victims who did not have sales persons/apprentices or grown up children to look after the businesses were more affected economically. The victims reported being overwhelmed by the dwindling income and medical bills. Illustrating how the diagnosis error suffered by a relative and the subsequent complications led to the collapse of a small-scale business, a participant spoke:

> I owned a small-scale business at Ikirun where I sold phone accessories. I was living on the business before my father developed high blood pressure, attributed to the wrong medication he received from a 'quack'. At the initial stage, I used part of my capital to take him to the University College Hospital, Ibadan. I later realized that the money would not be enough and borrowed the sum of ₦60,000.00 from a friend and a cooperative society. As the problem persisted, I could not go to the shop to monitor the sales. Because of this, I employed a sales girl to take care of the business on my behalf. Unfortunately, the sales girl ran away with the sum of ₦75,000.00. In the end, the business went into bankruptcy (A 29-year-old man whose father suffered medication error).

Another victim who suffered error of delay narrated his ordeals as follows:

> As a butcher, I know how much I used to make weekly. My business had been completely paralyzed since February 2015 when the incident occurred. This

> was because I was just staying at home, unable to function economically as my health is suboptimal (A middle-aged man who suffered error of delay).

Similarly, a victim of surgical error narrated how the management of the predisposing error ended her business:

> I am a retired civil servant but I took a loan to set up a business. Prior to the retirement, I had fibroid, which was removed through surgical operation in a private clinic at Ipetumodu, Osun State. A few months after the operation, I started experiencing stomach pains and sought medical help in another hospital at Ibadan, Oyo State. The medical reports indicated that the operation was poorly done and a corrective surgery is needed. The surgery cost ₦150,000.00. In the end, the capital was exhausted on the management of the complications caused by the error (a 56-year-old woman who suffered surgical error).

Contrary to the above responses, a victim opined that the medication error he experienced was not the major factor that led to the collapse of his business. Instead, he attributed it to indiscipline of his children who seized the opportunity provided by his long period of recuperation from a medical error to deplete his capital:

> A few years ago, I was on admission in a private health facility where I was given overdosed. In the end, I suffered partial stroke. My personal physician advised me to stop engaging in any serious work. Incidentally, I owned a shop where I sell spare motor parts. I asked two of my children who had just completed their university education to manage the business. Within two months of their involvement, they misappropriated the sum of ₦600,000.00. That was how the business collapsed and I started living from hand to mouth (A 65-year old man who was mismanaged in a community health centre).

This study also found how medical errors made some victims to be indebted such that they sold valuable assets of high utility value, which include landed property, cars and motorcycles, among others to rectify medical errors. Some victims claimed that monies that should have been spent to buy school materials for their children were diverted to take care of hospital bills. The victims revealed that the unplanned healthcare expenditure made them either borrow money or sell their valuable assets in order to settle the debts. This was compounded by poor economic status of most of the victims prior to the occurrence of medical errors during their care. During the interviews conducted, a participant narrated his ordeals:

> In a bid to meet the costs of medications attributed to a 'quack-doctor' who inflicted hypertension on me, I sold one of my motorcycles. In addition, I withdrew two of my children from private secondary schools to public schools. …. In spite of those options, I am still indebted to friends and neighbours (a 57-year-old man who suffered medication error).

The general consequences are that victims of medical errors and their relatives were exposed to various degrees of economic effects. Importantly, the challenge of poverty among most of the victims further exposed them to economic hardships.

5.4 Victims and their Relatives Responses to Medical Errors in Osun State

The victims attributed the medical errors to failures on the part of healthcare providers who they consider incompetent and careless. They therefore expressed their disappointments by using very derogatory and insultive words such as 'careless and incompetent' to describe perceived healthcare providers who committed the errors against them. In spite of the demonstrations of disappointments by the victims, it is instructive to note that most of the victims did not make formal complaints in courts against the erring healthcare providers. Therefore, none of the victims instituted legal actions against the 'erring' health workers to seek redress. The inability of the victims to institute legal actions was attributable to many factors. Firstly, the study found that there were no provisions for the aggrieved clients to seek redress whenever they perceived that healthcare providers had violated the standard of care. This is because there were no institutions/bodies responsible for sensitizing members of the public about the rights of aggrieved patients to seek legal redress in the studied area. Finally, patients lack knowledge about their rights when it comes to medical errors, and it is sometimes difficult for them to prove that they have been the victims of a medical error. This is due to many factors such as patients' lack of knowledge in medical practices, the lack of standardized medical records, organizations' capability of potentially manipulating patient records, and the complexity of the system where the error might have occurred. The study also found that the health workers failed to disclose or claimed responsibility for the medical errors in their care, the victims were therefore left in the dark. For instance, a victim of injection error stated:

> …….. It did not occurred to me that clients could institute legal actions against health workers. I considered such actions as unpopular because nobody had ever told me about it. …… If I had known, I would have reported the doctor to the police so that he would be arrested and detained for many days (A 67-year-old man who suffered medication error).

Similarly, a nursing mother recalled:

> Nobody had ever informed me that clients could take 'doctors' to court of law. I thought that medical personnel's decisions and actions were not questionable…… I always entertaining fears whenever I had encounter with doctors not to talk of using police to arrest them. In the case of the error I suffered, the doctor did not even tell me anything….. (A 34-year-old woman whose son suffered medication error).

In addition, a nursing mother whose son suffered an injection related injury explained:

> The health worker who committed the error did not disclose it until I consulted an experienced doctor, who told me that he was given wrong injection, which resulted in crises in his veins… The doctor said that it was too late to correct the mistake unless if I to take him to a hospital in Germany for corrective surgery. Meanwhile, I had reported the case to the Director, Primary Health Care of my Local Government, but no action was taken. Then, I gave up.

The results of the focus group discussions also indicate that the healthcare practitioners rarely disclose medical errors to victims, relatives, colleagues or superiors in the health institutions. The major explanation among the discussants was that medical errors were not welcome developments, and as such, they found it difficult to disclose their occurrence. It was also revealed that the Nigerian healthcare environment was not conducive for voluntary disclosure of medical errors. The factors responsible for the difficulties in the disclosure of medical errors include the non-adversarial mood of the victims, misconception about the causes of medical errors and lack of institutional supports to staff who voluntarily disclose medical errors. The combinations of the identified factors, among others made health professionals' to maintain 'a culture of silence' towards medical errors. A selection of the study participants' (nurses) statements is as follows:

> If we report errors either to the victims or our superiors, they will be used against us. There will be no legal protection for us. Our problems will be examined in the Medical Council. Physicians will vote against us and in favor of their own interest. We are afraid of being ousted from our job. Continuous warning comes from the nursing office. We are not treated right, we are humiliated. They establish feelings of incompetence in us.

A senior consultant captured the reasons for non-disclosure of medical errors as follows:

> Medical errors are very sensitive and as such, health workers hardly disclose them. We do this in order to protect ourselves against litigations and to safeguard our jobs……. The moment patients or their relatives know that a nurse, physician or other health workers committed errors; they lose

> confidence in you and in your services. Some victims might even institute legal actions against the perceived erring health worker or make the erring staff dismissed from the work…. The working environment is not conducive for the disclosure of medical errors here.

Corroborating the responses above, an official of the Nigerian Medical Association, Osun State chapter stated:

> Medical errors are underreported generally in Nigeria. This was because the healthcare environment is not conducive for health workers to come out confidently and report errors committed by them. The government and other regulatory bodies are not also creating awareness to members of the public about the medical errors. This leads to low public awareness about medical errors. However, medical errors occur frequently in our various health institutions and health centers.

The implication of the health workers' attitude towards the disclosure of medical errors to the clients is that it would be difficult to achieve reasonable level of quality health services in the study area. This is because when medical errors are not publicized, then it becomes difficult for the government and non-governmental bodies to initiate policies aimed at advancing patient safety in healthcare.

This study also found that poverty was another factor responsible for some victims' inability to institute legal actions against the erring healthcare providers and institutions. In addition, the legal Aid System in Nigeria is not very effective and not everybody may be eligible for Legal Aid. Considering the issues surrounding the Nigerian legal system, it was difficult for most of the victims to initiate legal actions against erring health workers. A participant while expressing how wrong diagnosis she suffered had led to financial hardships said:

> Considering the fact that I am indebted to my friends in the bid to settle the cost of drugs for my son, instituting legal actions against the health worker that committed the error would amount to nothing. This was because I did not have money to pay lawyers and police for effective prosecution and conviction (A 45-year-old man who suffered diagnosis error).

Other victims attributed their inability to institute legal action to religious convictions that every mishap is because of the will of God, which no human being stands to challenge. As such, they claimed that instituting legal action against health workers was considered disobedience to the will of God. For instance, a patient whose vocal cord was damaged during a surgical operation said:

> As a Christian, I had faith in God and therefore considered my problem as my destiny. Instead of hiring the services of lawyers, I resorted to fate and thanked God that I am still alive.

A mother whose child suffered vaccine injection error also said:

> I thank God that my son survived the threat; I considered what happened as the devil's work. Subsequently, I organized special prayers for the members of my family. I trust God that such an incident would not reoccur again.'

Contrary to the statement above, a victim felt that legal procedures in Nigeria were very cumbersome, requiring submission of exhibits by plaintiffs to establish the occurrence of medical errors. He therefore considered instituting legal proceeding against erring healthcare providers as waste of time and money. He said:

> In Nigeria, it could take 5-10 years for judges to deliver the judgment over a minor legal case, as parties involved would be adjourning case arbitrarily. I was advised by a friend to arrest the 'quack doctor' who dispensed wrong medication for me that resulted in high blood pressure. I assessed the advice and concluded that instead of wasting time and other resources to pay the services of lawyers, I would rather focus on how to manage my life (A middle-aged man who suffered medication error).

This study also found that a few victims expressed grievances against erring healthcare providers by verbal and violent physical attacks. The concerned victims complained that the attitudes of the health workers towards their complaints influenced their actions. Recounting how a woman was sterilized through an erroneous caesarian section operation (CS), the husband said:

> My wife underwent surgical operation in a private health facility in the course of delivery. The doctor claimed that the operation was successfully done. She was therefore discharged. A few days later, my wife started experiencing stomachache and general body pains. I took her to a University teaching hospital in Osun state, where it was established that the doctor had left a surgical object in her stomach. Thus, a corrective surgery was done in order to remove the instrument. She was later discharged after four weeks when it was observed that she was medically fit. … Few days later, I went to lodge a complaint in the clinic where the error was committed. Instead of acknowledging the error and tender apology, the doctor started threatening me with Police. It was at this point that I became infuriated and slapped him.

> The entire clinic became rowdy, until some clients in the clinic and passers-by intervened. In the end, he was asked to tender apology (A 45-year-old man whose wife was poorly managed).

Similarly, an emotion-laden relative whose sister was reportedly died because of perceived wrong treatment said:

> I felt angry about the way my sister died, especially the fact that we took her to a private hospital where we spent thousands of naira. I thought something went wrong somewhere because she complaint of abdominal pains a few after days she left the hospital. I suspected that the problem was due to the treatment she had received in the clinic and I felt that there was the need to seek revenge. ….. I quickly mobilized some youths to avenge the death of my sister by assaulting the health workers in the hospital. The first thing we saw at the premises was an ambulance, which 'my boys' started destroying before intervention by the police. I was arrested and detained for two days in the police custody. I was asked to tender a proof how the health workers contributed to the death of my sister (A 48-year-old man whose sister died due to perceived mismanagement).

A community leader also gave detailed accounts of violent reactions from angry relatives of victims of medical errors:

> I had experienced many violent reactions from angry patients and the relatives against suspected health care providers in this community. In most cases, the police made arrest of violent victims, their relatives and health workers. I can recall, a few years ago, some group of youth ganged up to kill a patent medicine vendor who sold abortion pills that killed a young girl in this community…… If not for the quick intervention of community leaders, it would have turned to 'war against all' and possibly send everyone out of this community. We quickly advised the patent medicine vendor to leave the community, while appealing to the youth to consider the act as the wish from Allah (A community leader in the study area).

Discussions with healthcare providers further revealed that aggrieved patients and relatives do react violently to incidents of medical errors known to them. This study however found that it was very difficult for clients to prove the occurrence of medical errors on the victims. The discussants stated that clients understanding and perception of what constitutes medical errors differed from the healthcare providers as clients have a pre-conceived notion that their contact with the health professionals should result in good health outcomes at all the time.

While illustrating how victims react to incidents of medical errors, a matron in a public health facility said:

> On many occasions, we receive complaints against our colleagues on alleged medical errors and malpractices. Some complaints were genuine, while others were not genuine…… If our professional association confirms that the concerned health workers had violated the medical protocols, necessary disciplinary actions would be applied. Apart from official reports, we in the health sector do receive informal complaints about professional misconducts by other colleagues. The only problem was that some of the complaints were very difficult to prove.

Corroborating the responses above, an official of the Nigerian Medical Association, Osun State said:

> …….We do not take reported cases of medical incidents lightly and we always encourage clients to report erring health practitioners to the appropriate authorities. …… A few months ago, the practicing licenses of two private health personnel were withdrawn for violating the standard of care in their hospitals. However, we always encourage clients to patronize competent health practitioners so that their safety is guaranteed.

Corroborating the statement made by an official of the Nigerian Medical Association that the regulatory body do not take reported cases of medical errors lightly, enquiries into the responses of the authority of a tertiary health facility where incident of medical errors were reported show that some erring health workers had been dismissed, while some workers had been issued queried based on the gravity of their offences. It was also reported that some personnel were suspended pending the outcome of the investigation being conducted by the medical tribunal within the hospital. The healthcare practitioners also stated that the occurrence of medical errors should not be perceived as deliberate actions by healthcare givers. They opined that medical errors are reflection of systemic errors (poor budgetary allocations, inadequate facilities, shortage of skilled personnel and executive corruption, among others). They therefore cautioned that patients and members of the public needed to be better educated and well informed on what constitutes errors in the course of health care delivery, to distinguish it from normal side effects of a medical intervention.

Inference from the health personnel responses are that medical errors constitute burdens for victims and their relatives. The victims considered errors in their care as solely attributable to medical personnel. However, in the opinion of the health officials the occurrence of medical errors negates victims' expectation.

This study also sought whether the medical errors suffered by the victims' affected their patronage of modern health facilities should the need arise. Responding to this question, most of the victims opined that they still consider modern health facilities as the best for the cure of illnesses such as malaria, typhoid, headache and antenatal/postnatal services, among others. The victims however stated that they would be very vigilant when seeking health care, such that the treatments are not received from incompetent health facilities. Most of the victims also opined to seek expert advice from well-informed friends, relatives and neighbours before taking decision on where they can receive a better treatment. These steps, among others are considered as preventive measures against falling into the hands of error-prone medical care providers.

5.5 Discussions of the Research Findings

This study examined the social and economic contexts of medical errors in Osun State, Nigeria. This section discusses the research findings in line with the study objectives and theoretical framework as follows:

Firstly, this research examined the socio-demographic profiles of the victims of medical errors in Osun State, which revealed that most of the victims were from the low social and economic backgrounds characterized by poverty, low level of educational attainment. These were accompanied with low awareness and poor access to competent modern health facilities. Most of the victims either found it difficult to afford the costs of better health services or the effective services were not available attributable to geographical factors as most of the victims resided in rural/semi-urban areas at the time they suffered the medical errors. The combinations of the identified variables exposed the clients to suffer medical errors. Thus, the clients who found it difficult to obtain services from the existing government health institutions because of proximity and financial difficulties patronized patent medicine vendors, and other incompetent and poorly coordinated health facilities available in their communities for the treatment of malaria, typhoid, body pains and other illnesses. Subsequently, the clients' become vulnerable to medical errors. In other words, in a resource-constrained health care environment like that of Osun State-Nigeria, the occurrence of medical errors in patients care becomes realities. It is worthy of note that most of the victims of medical errors identified in this study were people from low socio-economic backgrounds. The victims were characterized by poor awareness about quality assessment of health facilities prior to patronages, low income and rural dwellers who found it difficult to obtain treatment from competent health facilities and therefore sought medical treatments from available incompetent health practitioners. This finding reflects the political economy of health services in Nigeria, which encourages biased and discriminatory health policies, which favour urban to the disadvantage of rural areas. The political economy of the health care services in Nigeria also made it difficult for the patients with low economic status to access effective health facilities as the payment for health services in the country is user fees for service.

The findings above corroborate that of Atiyeh, Gunn and Hayek (2010) who established that poverty plays a significant role in the occurrence of medical errors among patients in sub-Saharan Africa. Atiyeh, et al (2010) concluded that the socio-economic factors mean that some patients were not likely to afford multiple interventions necessary as part of their care. The findings are also in tandem with one of the theoretical propositions, which explains the failure of the political elites in Nigeria to manage the available resources to advance the social and economic interests of the citizens. The scenario therefore partly explains why patients from the low socio-economic backgrounds patronized incompetent but cheaper healthcare facilities and thus become vulnerable to medical errors.

Findings from this research also indicate that victims suffered different types of medical errors in Osun State. The results revealed that medical errors manifested in various ways. The most notable were errors of medication (over-dose, under-dose and wrong prescription), injection errors, errors of diagnoses and unjustifiable long delays in attending to patients. Others are procedural errors, surgical errors and blood transfusion errors. In terms of distribution, medication and injection errors were more prevalent than other categories of medical errors. The major factor responsible for this development was that most of the victims patronized unqualified health practitioners such as patent medicine vendors, operators of pharmaceutical shops and poorly managed private/public health centers that rarely carry out comprehensive investigations and accurate diagnosis of patients before prescription of drugs and injection before treatment. It was also noted that the activities of these healthcare practitioners were not properly regulated. Other studies had affirmed the proliferations of patent medicine vendors (PMVs) in Nigeria. For instance, Brieger, et al. (2004) defined patent medicine vendors as "persons without formal training in pharmacy who sell orthodox pharmaceutical products on a retail basis for profit", and provide the main source of medicine for many common illnesses. The findings were also similar to the findings by Arulogun, et al. (2011), which identified the following errors; prescription errors, errors of illegible abbreviations and illegible writing, errors of wrong dose and errors of irrational use of drugs. However, findings from this study were slightly different from those of Burroughs, et al (2005) who reported the mistaking of a patient for another patient, in addition to the identified categories of medical errors. From the political economy theory, one could clearly state that the major factor responsible for the prevalence of the PMVs and other less qualified health practitioners in Osun State is the failure of the government to make healthcare facilities available and accessible to all members of the public. When the services are available, they are not within the reach of the poor. The consequences are that many members of the public patronize the PMVs for various health challenges, as such portends dangers to the clients. The political economy theory also reiterates the failure of the government and other regulatory bodies to monitor the activities of the health practitioners such that the clients would not be subjected to experience medical errors.

This study also identified the factors contributing to the occurrence of medical errors in Osun State. These were poverty, victims' lack of awareness of basic information on health safety prior to the patronage of existing health facilities and victims' inability to access better healthcare services. Given the fact that most of the victims were from low socio-economic backgrounds as earlier described, they patronize incompetent health practitioners who are deficient in knowledge, skills, facilities and health

practitioners who pay little attention to medical protocols. In addition, some of the health services provided by the practitioners were rendered at what the clients considered 'affordable', with little or no concern for quality and patient' safety. Discussions with the health practitioners also indicated that the challenge of poverty among patients' and the proliferations of ill-equipped health facilities contributed to the incidences of medical errors in Osun State. The implication of this development is that clients were vulnerable to medical errors. Corroborating these findings, a study conducted by Ezejofor, Okafor and Okoro (2013) found that the Nigerian health sector is characterized by mushroom health centers that were inadequately equipped and often manned by only one doctor who serves as a nurse, a pharmacist, a laboratory scientist and record officer. The study further indicated that most of these outfits have providers that are not licensed to perform their functions. They also explained that unskilled providers diagnose, analyze and prescribe administer treatment. Therefore, chances of medical errors to occur are higher in the Nigerian healthcare environments. However, findings of this study differ from the study conducted by Smits, et al (2010) that identified the predictors of medical errors to include emergency admission, surgical procedures, patient risk factors (age, gender), and unit discharge. Theoretically, it could be argued that the occurrence of medical errors in the health sector is influenced by various factors embedded in the structure of the society. A society characterized by endemic poverty and unequal distribution of health facilities to the vulnerable populations, the chances are higher for clients to seek medical help from unqualified health practitioners and therefore fall victims of medical errors.

Findings from this study further reiterate the theoretical postulation, which established that the combination of many factors, inherent in the Nigeria social system facilitate the occurrence of medical errors. These findings imply that it becomes imperative for society to come up with strategies for reducing the occurrences of medical errors. By implication, the findings established that the bases for the occurrence of medical errors are embedded in the social and economic conditions faced by the victims. For instance, in a situation where clients experience poverty, they cannot afford the services of competent healthcare providers.

This study also identified the consequences of medical errors on victims. Ordinarily, hospitalization interferes with other activities as might be scheduled by the affected patients. However, when hospitalization exposes patients to clinical iatrogenesis, it increases the scope of consequences suffered by the victims. The consequences may take social and economic dimensions. Socially, medical errors reduced the scope of social lives of the victims. These manifested in form of their inability to participate fully in religious activities, sports, educational pursuits and other routine activities and therefore exposed the patients to constraints their urge towards social needs. The findings of this study corroborated that of Bark (2011), who established that the medical errors experienced by patients in various hospitals in the United States of America affected their social lives in various ways. These include their participation in religious activities and recreational programmes, among others. The findings were also in consonance with the study conducted by Walburn, et al. (2009), which revealed that victims of medical errors either remained indoors or suffered prolonged hospitalization and therefore unable to give full attention to their favorite programmes on social and mass media.

Beyond the social effects of medical errors on victims, medical errors also affected victims' relatives and friends. This occurred because of the existing social ties and relationships between the victims' and their relatives. This manifested in form of the need to provide social and emotional supports for the patients whose conditions had made them to occupy dependant patient roles. This finding corresponds to the study conducted by Schwappach and Boluarte (2009), which revealed that the relatives of the victims of medical errors in Canada were unable to carry out their social activities as designed. The study highlighted that social activities such as recreation, sporting and those being performed with the neighbours were deferred until their beloved were recuperated.

This study also found that victims of medical errors and their relatives were faced with economic challenges. In a bid to meet the costs of hospitalization and other expenses required to restore their well-beings, most of the patients resorted to borrowing from friends, religious groups and associates. The findings further revealed that some patients and their relatives sold valuable property such as land, vehicles and motorcycles, among other items. Saddled with the challenges of dwindling sources of livelihoods and poverty, the victims were unable to carry out their obligations such as payment of children school fees and other household needs. A study conducted by Orkuma and Ayia (2014) also affirmed that the victims of medical errors suffered prolonged hospitalization, and the additional expenses on drugs, feeding and other items. While the identified studies provided the platform for understanding the economic consequences suffered by the victims of medical errors, their studies neglected the economic challenges faced by the relatives of the victims. Based on the identified gaps, this study had expanded the debates on the consequences of medical errors on patients and their relatives.

With the occurrence of medical errors during patients' care in Osun State, one expected that the victims and their relatives would react by instituting legal actions to seek redress against the erring healthcare providers. Evidence from this study however shows that none of the victims went to court. One of the reasons for this was that most (54.5%) of the victims were ignorant of the existence of health litigations. Secondly, 30.5% of the victims attributed their unwillingness to institute legal actions to the challenges of poverty facing them, and the general high costs of litigations. Others (8.0%) attributed their passivity to religious fatalism; that is they considered the errors to god's will. The current study also found that there was culture of silence among the health practitioners and victims of medical errors. Contrary to what is obtainable in most of the developed and some developing countries of the world, such as The United States of America, Canada, Britain, India, Japan, Malaysia and Australia, among others, where aggrieved healthcare consumers institute legal actions against erring health workers and institutions, the same could not be said of Nigeria, particularly of Osun State. The current findings also reiterated that of Ushie and Ugal (2014), who found that most of the Nigerians were not aware that they could seek legal redress whenever they perceived that healthcare givers breach the protocols while delivering healthcare services. Findings from this study were also similar to a study conducted by Studdert, et al. (2000) which established that the great majority of patients who sustain medical errors in developing countries do not institute legal action against the erring health workers. Rather, most of them resorted to violent actions against health workers and institutions. However,

findings from this study were in contrary to that of Mello and Brennan (2001) who found that Taiwan stands out as a jurisdiction where medical errors are treated as criminal offences on routine basis. From the political economy theory, the inability of most of the victims to seek legal redress could be attributed to the failure of the Nigerian healthcare environment to provide awareness about the dangers associated with medical errors, and therefore the need to seek clarifications through legal procedures whenever they occur. The system had also failed to encourage voluntary reportage of medical errors by the victims and the healthcare providers who committed medical errors. The implication of this is that there is culture of silence among the perpetrators and the victims of medical errors in Osun State.

In spite of the poor knowledge and interest in medical errors litigations among the victims and their relatives, this study found out that some victims (7.0%) vented their disappointments by engaging in violent actions against the erring healthcare providers. These occurred in forms of the use of abusive and derogatory words, and destruction of health facilities in the institutions where medical errors were alleged to have occurred. This finding serves as additional contribution to the existing literature as some victims might considered the occurrence of medical errors as betray of trust and confidence reposed in the healthcare practitioners.

CHAPTER SIX

SUMMARY, CONCLUSION AND RECOMMENDATIONS

6.1 Summary of the Key Research Findings

Findings from this study show that most of the victims of medical errors in Osun State were from low socio-economic backgrounds, characterized by poverty, low academic qualifications, poor awareness of the intricacies and drivers of medical errors, and poor access to mainstream health services. Given that most of the victims were from poor socio-economic backgrounds, and in a bid to mitigate costs and other barriers to health services, they patronized unqualified healthcare providers such as patent medicine vendors, operators of pharmaceutical shops and other sub-professional health practitioners who hardly observe medical protocols to the latter while rendering services to clients. In the end, they become victims of medical errors. The study also established that some victims suffered medical errors from poorly coordinated and managed private and public health institutions with unskilled staff and inadequate health facilities.

This study also found that clients suffered different types of medical errors in Osun state. Notable among them were injection errors, medication errors (wrong dose, wrong prescription, over-dose and under-dose), surgical errors and delays in attending to patients that worsen the patients' conditions. Others were errors of diagnoses and referrals. Among the identified errors, medication errors were the most prevalent among the victims. This was followed by errors of injection. Given the fact that most of the victims patronized unqualified health practitioners, it was not surprising that medication and injection errors were the most frequent in the study area.

In terms of the predisposing factors for the occurrence of medical errors, this study revealed that the socio-economic attributes of the victims constitute drivers for the occurrence of errors in their care. The factors were poverty, ignorance and geographical barriers to utilize appropriate health services. The identified factors predisposed them to patronize quack and patent medicine vendors in different communities.

The findings further revealed that the medical errors subjected the victims to various social and economic hardships such as inability to engage in productive activities, delayed hospitalization with extra costs, collapse of business activities and other financial constraints. The hardships occurred when the errors caused pain, prolonged illness, which placed patients at greater risk of other harms. In a bid to meet the financial expenses, most of the victims incurred debts, while others sold valuable property. Saddled with the challenges of dwindling source of income and means of livelihood, some victims found it very difficult to provide basic needs for their families. The study also found that the victims had difficulties in carrying out their religious congregational activities, educational pursuits and difficulty in engaging in other routine activities. Victim's relatives were also affected by the medical errors suffered by their benefactors.

With the occurrence of medical errors in the clients' healthcare, one expected that the victims would institute legal actions against the erring healthcare providers; but none of them did so to

complain either to legal authorities or to the regulatory bodies in the state. Major factors responsible for this include ignorance of health litigations fatalism, and the challenges of poverty faced by most of victims. In addition, victims avoided courts in order to maintain a cordial relationship among families on matters that relate to life and death. The results also indicate that some of the victims and their relatives considered the occurrence of medical errors as acts of God, and resigned themselves to fate. Notwithstanding, a few victims vented their disappointments through violent actions and retaliations against the erring healthcare providers, and thereby taking law into their own hands.

6.2 Conclusion

Medical errors constitute serious problems in the health system and therefore threatening safety of patients. The deleterious implications of medical errors is understood to be a central challenge to the integrity of public health systems around the globe, as well as a direct threat to individual's health and welfare. This study therefore provided evidence on the extent and gravity of medical errors suffered by health consumers in Osun State. Findings revealed that medical errors have significant economic and clinical consequences and are great challenges for the victims and their relatives in Osun State. Specifically, the systemic factors, which include shortages of competent health personnel, non-conducive working environment, weak regulation, poor awareness among patients' and professional negligence, among others predispose patients to medical errors. Findings from this study revealed that patients who are able to access medical services receive sub-standard care in many cases due to negligence on the part of one health care provider or the other, even in tertiary health establishments. Those who cannot afford the services of professionals go to quacks that may provide cheaper but sub-services, but a greater risk of harm or damage to the patients and their families. The occurrence of medical errors in patients' care is therefore a serious public health problem with major implications for health policy, planning and resource allocation. Healthcare providers are prone to commit medical errors but the existence of comprehensive structure and framework could mitigate such occurrences.

6.3 Contributions of the Study to the Stock of Knowledge

This study contributes to the stock of knowledge as follows:

1. The study established that patent medicine vendors operate as general practitioners. As such, they treat patients for various categories of illnesses even though many of them do not have sufficient training required to do so.

2. There is no proper channel of reporting medical errors by both victims and medical practitioners. There is also a challenge of transparency concerning cases of medical errors in the State. This is because

there is hardly an investigation into the cause of deaths attributed to medical errors, procedures created to prevent such deaths in the future.

3. Poverty and ignorance among the public is associated with the occurrence of medical errors in Osun State as many people patronize patent medicine vendors because they are always available to render services at cheaper rates.

4. There is lack of awareness and often resistance to, on the part of the victims to the possibility of seeking for payment of damages from perceived erring medical practitioners and institutions.

5. There is a lack of confidence in the legal system, which has hampered people from taking legal action against erring medical practitioners due to the cumbersome nature of litigation in Nigeria.

6.4 Recommendations

Based on the research findings, the following recommendations are made to minimize the occurrence of medical errors in Osun State, Nigeria:

1. Members of the public and patients need to be informed through enlightenment programmes by mass media, especially radio and television about the prevalence of medical errors in various health facilities and the challenges they pose on the social and economic well-beings of the victims and their relatives. This approach will empower patients and members of the public through education aimed at enhancing health literacy. This could also be enhanced through the distribution of patient education material such as flyers and brochures, to help patients adhere and comply with clinical guidelines and improves quality of care.

2. Members of the public should be sensitized on what constitutes quality care. Thus, clients should be encouraged to seek for clarifications from health practitioners whenever they notice that the quality of treatments they received fall below the standard. This will encourage a follow-up treatment and therefore neutralizing the side effects of inappropriate medical treatments.

3. Victims of medical errors or their relatives should also be encouraged to report any erring healthcare providers to the appropriate regulatory bodies, government agencies and non-governmental organizations for clarifications, compensation and redress. This will not only serve as deterrent to the erring healthcare practitioners but also serves as checks and balances among the various healthcare providers in Osun State.

4. Regulatory bodies such as the Nigerian Medical Association, Nurses and Midwife Council of Nigeria, the Pharmaceutical Council of Nigeria and Medical Laboratory Scientists, among others should set up effective regulatory mechanisms aimed at discouraging incompetent health practitioners from practicing

in the Osun State. The existing private and public health facilities need proper monitoring by these regulatory bodies to ensure that the practitioners operate with competence, skills and on the platform of medical professional protocols. Effective monitoring must be in place to routinely observe medical inventories of public and private hospitals. This will enhance safety of patients and therefore reduce the occurrence of medical errors in various health facilities.

5. In view of the fact that the factors such as inadequate health personnel, lack of effective regulatory mechanisms and inadequate health facilities contribute to the occurrence of medical errors, patients should be more proactive in their health and medical treatment; while medical personnel should take more responsibility for the cases that they handle. The government should also begin to take citizens health more seriously by building more hospitals and better equipping the existing ones, in order to see a decline in cases of medical errors. Government should be concerned about the Primary Health Care and execute it as recommended at its onset in the declaration at Alma Ata (WHO, 1978).

6. Government must prioritize the provision of better health facilities to the citizens to discourage people from patronizing incompetent healthcare practitioners. This will not only reduce the proliferation of incompetent health practitioners but also mitigate the occurrence of medical errors.

7. Since good quality of healthcare delivery encourages individual to seek for health care promptly, clinicians and healthcare providers should because of their obligations endeavor to deliver safe and ethically sound clinical care always even in the face of adverse economy. Clinicians should also be aware of the existence of the basic human rights and equity considering the values and dignity of patients before making decisions or taking actions that may affect them.

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APPENDICES

APPENDIX 1

INTERVIEW GUIDE FOR THE VICTIMS OF MEDICAL ERRORS AND THEIR RELATIVES ON SOCIAL AND ECONOMIC CONTEXTS OF MEDICAL ERRORS IN OSUN STATE, NIGERIA

Section A: Profiles of the Victims of Medical Errors

Probe:

a. Age

b. Gender

c. Highest Educational Attainment

d. Occupational Status/ Source of Livelihood

e. Place of resident

f. Available modern health facilities

g. Access to modern health facilities

h. Source of Healthcare Services (Government, Private, Patent Medicine Vendors)

i. Health seeking behavior

j. Priority for quality of health services while seeking medical treatment

k. Relationship between educational attainment and health seeking behavior

l. Relationship between source of income and health seeking behavior

m. Relationship between place of resident and health seeking behavior

n. Other factors influencing the participant health seeking behavior

Section B: Types of Medical Errors Experienced by Victims

Probe:

a. Description of illness prompting the patronage of health facilities

b. Type(s) of healthcare facilities patronized

c. Factors influenced the choice of healthcare facilities

d. Complications noticed at the aftermath of medical intervention(s)

e. Description of the medical error(s)

f. Manifestations of medical errors

g. Perception of medical errors

Section C: Specific Factors Responsible for Medical Errors

Probe:

a. Whether the medical error(s) could have been prevented

b. The relationship between poverty and vulnerability to medical errors

c. The relationship between level of education and vulnerability to medical errors

d. The relationship between place of resident and vulnerability to medical errors

e. The relationship between attitudes of health practitioner and the occurrence of medical errors

f. Relationship between standard of health facilities and the occurrence of medical errors

Section D: Consequences of Medical Errors on Victims

Probe:

a. Severity of medical errors

b. Effects of medical errors on victim's participation in sports and recreational activities

c. Effects of medical errors on victim's participation in religious activities

d. Effects of medical errors on victim's relationship with friends, relatives and neighbours

e. Effects of medical errors on victim's ability to carry out other daily routines and activities

f. Incident of medical errors and prolonged hospitalization

g. Incident of medical errors and effects on sources of economic livelihoods (Businesses, farming activities and official duties)

h. Incident of medical errors and economic hardships on victim/family

i. Incident of medical errors and effects on payment of children's school fees and other financial obligations

j. Victim's source(s) of supports to mitigate the effects of medical errors

Section E: Victims Responses to the Phenomena of Medical Errors

Probe:

a. Victim reaction(s) to incident of medical errors

b. Reportage of medical errors to security agents

c. Reportage of medical errors to regulatory bodies

d. Reportage of medical errors to hospital management

e. Instituting legal action to seek for redress

f. Barriers against legal actions- Economic, Religious and Lack of awareness

g. Violent actions attributable to medical errors

APPENDIX II

FOCUS GROUP DISCUSSION GUIDE FOR HEALTHCARE PRACTITIONERS ON SOCIAL AND ECONOMIC CONTEXTS OF MEDICAL ERRORS IN OSUN STATE, NIGERIA

Section A: Profiles of the Healthcare Practitioners

a. Professional qualification

b. Specialization

c. Year(s) of experience

d. Place of work

Section B: Healthcare Practitioners' Description of Medical Errors

Probe:

a. Meaning of medical errors

b. Manifestations of medical errors in patients' care

c. Prevalence of medical errors in patient care

d. Health workers' perception of medical errors

e. Health workers' attitudes towards errors disclosure

f. Factors influence the disclosure of medical errors

Section C: Types of Medical Errors

Probe:

a. Nature of medical errors

b. Patterns and manifestations of medical errors

c. Health practitioners' experience of medical errors

d. Type(s) of healthcare facilities where the medical errors occurred

Section D: Causes of Medical Errors

Probe:

a. Clients induced factors (poverty, ignorance and awareness)

b. Healthcare Practitioners induced factors (educational attainment, skills, proficiency)

c. Facilities induced factors

d. The role of policy and regulatory failures

e. Proliferations of unqualified healthcare providers

Section E: Consequences of Medical Errors on Victims

Probe:

a. Prolonged hospitalization

b. Social consequences

c. Economic consequences

d. Effects of medical errors on clients health seeking behavior

Section F: Responses to the Phenomena of Medical Errors

Probe:

a. Roles of professional bodies in mitigating the occurrence of medical errors

b. Responses to reported cases of medical errors

c. Institutional responses to medical errors (Nature and outcomes)

d. Disciplinary actions against erring health practitioners (Nature and outcomes)

APPENDIX III

INTERVIEWS GUIDE FOR COMMUNITY LEADERS ON SOCIAL AND ECONOMIC CONTEXTS OF MEDICAL ERRORS IN OSUN STATE, NIGERIA

1. Are there modern health facilities in this community?

2. If yes, what are the types of modern health care facilities available in your community?

3. Are there medicine stores or chemists in this community?

4. Do you make use of the existing health care facilities?

5a. If yes, what categories of diseases/illnesses can be treated in the existing health care facilities?

b. If no, where do you seek medical services?

6. What is your expectation when seeking health service from health workers?

7. Do you seek information about patient safety and quality of care performance when choosing a hospital or physician for their care?

8. Do you pay attention to safety concerns when they make decisions on where they will be hospitalized?

9. Are you aware of medical errors in healthcare delivery process?

10. If yes, what constitutes medical errors?

11. Which of the existing health care facilities in the community are prone to medical errors?

12. Can you please describe type(s) of medical errors you are familiar with?

13. Do medical errors constitute important problem in your community's healthcare system?

14.a How frequent do medical errors occur within the healthcare facilities in your community?

b. How frequent do medical errors occur within the healthcare facilities in your neighbourhood?

15. Has any community member experienced medical errors in the course of receiving modern health care treatment?

16. If yes, can you give details of the characteristics of the victim(s) and where the medical errors occurred?

17. Please, outline various factors attributed to the occurrence(s) of medical errors

18. Please, outline negative consequences of medical errors on members of the public/community

19. How do 'victims' react to medical errors made on them?

20. What are the community attitudes about the seriousness of medical error problems in health care sector?

21. Are there instances when members of your community engage in violent actions against any erring health practitioners or institutions because of medical errors?

22. If yes, kindly give detail narratives of the scenario

23. Are you aware of any legal apparatus put in place to protect patient safety in health care?

24. If yes, to what extent does such apparatus champion public interest against occurrences of medical errors?

25. Are there occasion(s) when a victim of medical error(s) or relatives institute legal actions against erring health worker or institution in your community?

26. If yes, provide in details the outcomes of the action

27. Assuming you notice that health practitioner(s) commit error(s) against you or any of your relatives, what action would you take?

28. In the event of medical errors, what action would you take to mitigate their incidences?

29. What do you think could be done to reduce occurrences of medical errors in your community?

APPENDIX IV

INTERVIEW GUIDE FOR OFFICIALS OF THE NIGERIAN MEDICAL ASSOCIATION (NMA) ON SOCIAL AND ECONOMIC CONTEXTS OF MEDICAL ERRORS IN OSUN STATE, NIGERIA

1. What is the Nigerian Medical Association position on protocols for granting license to practicing doctors in Osun State?

2. What is the Nigerian Medical Association position for registration of hospitals/health care units in Osun State?

3. What is the position of the NMA towards the regulations of activities of medical practitioners in Osun State?

4. Do activities of NMA cover activities of patient medicine vendors, quacks and chemists?

5. If yes, to what extent?

6. What is the position of the NMA towards elimination of quacks in the Nigerian health care sector?

7. Do professional ethics safeguard the occurrence of medical errors?

8. What constitutes medical errors in health care?

9. Do medical practitioners' in Osun State commit medical errors?

10. If yes, how frequently do medical practitioners commit medical errors in Osun State?

11. What are the categories of medical practitioners commit medical errors?

12. What are the various types of medical errors commonly made by medical practitioners' in Osun State'?

13. What are the factors responsible for medical practitioners' to commit medical errors?

14. Do the professional ethics allow for disclosure of medical errors to patients and their relatives?

15. If yes, to what extent do medical doctors' disclose the medical errors made to the public

16. Are there cases of medical errors instituted against medical practitioners in the State?

17. If yes, how was the case concluded?

18. Are there instances when medical practitioners' reported medical errors made by them to the NMA?

19. If yes, what was the nature of the error(s)?

20. How does NMA deal with reported medical errors?

21. Are there occasions when members of the public reacted to medical errors?

22. If yes, how did they react?

23. In the event of occurrence of medical errors, what are the responsibilities of medical doctors', institutions and the professional body to the victims or their relatives?

24. How do you assess level of public knowledge on medical errors in Osun State?

25. Does the NMA sensitize members of the public on medical errors?

26. Are there measures put in place by various NMA to curtail the occurrences of medical errors in Osun State?

27. If yes, kindly give details about the various measures in place to curtail the occurrence of medical errors

28. Would you encourage victims of medical errors to take legal action against erring health workers and institutions to mitigate occurrences of medical errors?

29. If no, what options are available to seek redress against medical errors made on them?

30. What are the efforts put in place by NMA towards enhancing patient safety in Osun State?