# ASSESSING THE ATTITUDE AND PERCEPTION OF RADIOGRAPHERS TOWARDS HIV/AIDS PATIENTS IN SELECTED HOSPITALS IN EDO STATE.

**BY**

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## CERTIFICATION

This is to certify that the project titled ASSESSING THE ATTITUDE AND PERCEPTION OF RADIOGRAPHERS TOWARDS HIV/AIDS PATIENTS IN SELECTED HOSPITALS IN EDO STATE was duly carried out and written by OBASI EDITH with matriculation number BMS1907347 in partial fulfillment of the Bachelor of Radiography (B.Rad) degree in the Department Of Radiography, School Of Basic Medical Science, College Of Medical Sciences, University Of Benin.

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## DEDICATION

This project is dedicated to God Almighty, My Family and as many that stood by and supported me in the course of my academic journey.

## ACKNOWLEDGEMENT

I would like to express my sincere gratitude to all those who helped me complete my progress successfully, first and foremost, I would like to thank my heavenly father and my project supervisor Mrs OKEH for her valuable guidance and encouragement throughout the process and also to my friends who helped me through the process.

Finally I would like to thank my family who motivated me and boosted my morale all through the journey.

## ABSTRACT

The paper determined the attitudes and perceptions of radiographers towards patients with HIV/AIDS in the selected hospitals within Edo State, Nigeria. The cross-sectional was a descriptive design and 60 registered radiographers were selected, which included the University of Benin Teaching Hospital, Edo Specialist Hospital and Raytouch Diagnostics. The structured and self-administered questionnaire was used to collect data which were analyzed using descriptive and inferential statistics using the Statistical Package of the Social Sciences (SPSS) version 30.0. The findings showed that the attitude and perception of radiographers towards HIV/AIDS patients were generally positive as indicated by high mean score of compliance to universal precautions (Mean = 4.07) and fairness to patients (Mean = 3.78). However, some neutral answers revealed some remaining fear, lack of trust in regular routine HIV care and difficulty with poor facilities. The correlation between the years of practice (Spearman = 0.016, p = 0.902) and attitude was not significant, which indicated that the years of experience did not define positive attitudes alone. The research established that the radiographers are characterized by a commendable professionalism with regard to HIV/AIDS patients but need the unceasing training and enhanced institutional subsidies to uphold this standard. It suggests continuous professional growth, enhanced infection-control facilities, and stigma-reduction measures in order to boost the confidence and quality of care delivery of radiographers.


Keywords: Perception, Attitude, Registered Radiographers, Poor Facilities, Professionalism, Stigma Reduction

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# CHAPTER ONE

# INTRODUCTION

## 1.1 Background of the Study

AIDS (acquired immunodeficiency syndrome) is the last and fatal phase of an infectious disease that is provoked by HIV (Human Immunodeficiency Virus). It is a severe condition, which undermines the immune system and exhibits various symptoms. Transmission of the virus occurs when body fluid of an infected person contacts that of a healthy person (Stevens et al, 2010). HIV infection and subsequent development to AIDS is a global pandemic that is all-inclusive (Jackson, 2002). Health workers are also supposed to be exposed to AIDS victims and this exposes them to the risk of being subjected to HIV at work (UNAIDS, 2003).

Acquired immunodeficiency syndrome (AIDS) is one of the world-wide public health issues that have been taken as one of the most serious ones in recent decades (UNAIDS, 2012). It exerts an increasing burden on community health and causes other socioeconomic burdens on people, families, communities, and governments in most of the countries (Walker et al., 2004; Beck et al., 2001). Human immunodeficiency virus (HIV) infection has become an epidemic with millions of deaths which ever since 1981 when the first cases of AIDS were reported (UNAIDS, 2006). As of 2022, the estimated number of individuals with HIV was more than 39 million, including 331000000 to 457000000 individuals; and 630000 AIDS-related deaths were recorded in the year 2022 (van Schalkwyk et al., 2024).

The burden of HIV is the most significant across the entire Sub-Saharan Africa, with more than 1.9 million individuals living with the virus (National Agency for the Control of AIDS, 2019). Around 49,000 deaths in the country were estimated in 2020 alone due to AIDS related diseases, irrespective of age (UNAIDS, 2021). Even

though Sentinel Surveillance System is being used in Nigeria, it has also adopted the Nigeria National Response Information Management System (NNRIMS), which is the monitoring and evaluation framework used in the national HIV/AIDS response (NACA, 2007).

The general awareness now is that every person with HIV/AIDS ought to be given medical care as one of the measures of curbing the disease which exposes health workers to HIV infection hazard in the course of their work (UNAIDS, 2003). The spread of Acquired Immunodeficiency Syndrome (AIDS) pandemic has both raised discrimination and perverseness towards HIV-infected patients (Jayasinghe and Weerakoon, 2014), and made healthcare professionals highly concerned with the possibility of patient-to-patient transmission. Research done in other developed countries has found the absence of training (Weinberger et al., 1992), a relative deficiency in medical knowledge (Samuels et al., 1993; Weinberger et al., 1992), and a shortage of experience in working with HIV-positive patients, among the reasons to provide care. HIV/AIDS patients in the healthcare setting tend to experience difficulties accessing care especially because of discrimination by the hospital staff and denial of care to them as well as their families.

Radiographers are getting exposed to HIV/AIDS-related conditions in their practice and aids in attending to people with the disease. As part of the interdisciplinary team, they participate in the treatment and management of HIV/AIDS people. This staff is also involved in formulation and implementation of policies and strategies that are intended to fight HIV/AIDS, as well as improving the health of the people. Commonly thought is the fact that, without a vaccine, the most efficient method of stopping the proliferation of the pandemic is by educating people about HIV/AIDS prevention measures. Healthcare professionals have a big share of

this burden (Mungherera et al., 1997). The strategy involves informing people and society on safety against diseases and injuries (Calderon et al, 1997).

**1.2 Statement of the Problem**

Although the world has been fighting the spread of HIV/AIDS pandemic over the last decades, the problem remains a major challenge to the health of the population, particularly in Nigeria where the infection is quite high. Radiographers, are progressively being exposed to taking care of people with HIV/AIDS thus exposed to occupational exposure. Nevertheless, a lot of Radiographers do not have enough knowledge and experience of dealing with HIV-positive patients (Mungherera et al., 1997). This usually creates fear, stigma and discrimination in the medical care whereby one may end up providing poor care or even denying services to those most required. There is limited information on their attitudes and perception of those people living with HIV/AIDS. This is not only a threat to the quality of healthcare delivery but also a way of compromising the spread of the virus and improving citizen health. Thus, to inform future training, policy, and practice, there is a necessity to investigate the attitude and perceptions of radiographers regarding the HIV/AIDS care, to outline the current barriers and inform them.

**1.3 Research Question**

The following questions are used in this research:

1. What are the attitudes of radiographers towards attending to HIV patients in the Edo state?

2. What is the perception of radiographers towards HIV patients in Edo state?

**1.4 Hypotheses**

Null Hypothesis ($H_0$): The is no significant relationship between Radiographers years of practice and their attitudes towards patients with HIV/AIDS.

Alternative Hypothesis ($H_1$): The is a significant relationship between Radiographers years of practice and their attitudes towards patients with HIV/AIDS.

**1.5 Aim of the study**

This research will determine the attitudes and the perception of the radiographers towards the HIV patients in Edo state.

**1.6 Objectives of the Study**

1.To determine the attitudes of radiographers towards HIV patients in Edo state.

2.To determine perception of radiographers on HIV patients in Edo state.

**1.7 Significance of the Study**

The study is important because its findings are applicable to radiographers, healthcare administrators, educators, and policy makers in the area of HIV/AIDS management and the general health of the population. It is aimed at evaluating the attitude and perception of radiographers towards the patients with HIV. The findings of this research will be of use in:

1. The research contributes to making radiographers more conscious of their attitudes and their prejudices towards patients with HIV/AIDS. It fosters more caring, ethical, and professional care, which encourages fair treatment and less stigma in clinical care.

2. Findings provide the hospital and clinic managers with essential knowledge on how to prevent stigma, training the staff, or work policies to increase care delivery to HIV/AIDS patients.

3. To medical and radiography educators, the study comes in handy to either update or support the content of the curriculum in terms of professional ethics, patient-centered care, and cultural sensitivity in the context of infectious diseases such as HIV/AIDS.

4. The study results can guide policymakers to make decisions about these healthcare regulations, anti-discrimination laws, and health promotion to the population. It also

directs the resources to be distributed on training, HIV/AIDS awareness, and stigma reduction programs.

### 1.8 Scope of the study

The paper is aimed at measuring the attitude and perception of radiographers in Edo state towards HIV/AIDS patients. The research will only cover radiographers who are already working in a few public and private healthcare institutions in Edo State, Nigeria. This consists of The University of Benin teaching hospital, Edo specialist Hospital and Raytouch Diagnostics.

### 1.9 Operational definition of terms

1. Attitude: The emotions, notions and inclinations that radiographers have towards the patients with HIV/AIDS, either positive, negative, or neutral.
2. Perception: How radiographers perceive, understand and mentally process information about HIV/ AIDS patients.
3. Radiographer: Registered medical workers who are trained to carry out diagnostic imaging procedures.
4. HIV/AIDS Patients: The patients who have been medically diagnosed with the Human Immunodeficiency Virus (HIV) or Acquired Immunodeficiency Syndrome (AIDS), and receive care or diagnostic services within the hospital establishment.

# CHAPTER TWO

# LITERATURE REVIEW

## 2.1 Conceptual review

Radiographer's attitude and perception plays a key role in the outcome of healthcare services and patient's satisfaction in the hospital. This chapter reviews important standard literature on this study, exploring conceptual and empirical literature.

### 2.1.1 Attitude of Healthcare professionals

Attitudes of health professionals have not been studied so much until recently. This was much attributed to what Marteau and Johnston (1991) refer to as an implicit model of health professionals attitudes and beliefs- the assumption that such attitude is based on knowledge and is always consistent. The traditional interpretation of the role of health professionals was to possess a collection of empirically acquired, common beliefs. But recent literature shows very much variation of their attitudes. Such variability is huge notably, as depicted by numerous researches showing how it affects the way treatment choices are presented, the decisions made by professionals, access to services, and the overall results of the patients and the practitioners (McGee, 2007).

The attitudes of health professionals would often be inferred as opposed to being directly measured. An instance is that, past experiences are usually compared to the present behavior with the attitudes then inferred out of the relationship. It is explained by one study that revealed that general practitioners who had prior specialist training in infectious diseases were more prone to refer cases of childhood gastroenteritis to hospitals (McGee and Fitzgerald, 1990).

There are also variations in attitudes in regard to particular types of health professionals and also to the particular health issue that is under consideration. In

most cases, health professionals are reluctant to attend to patients with chronic conditions or those who have a less promising prognosis (McGee, 2007).

Health professionals usually act and think in certain ways depending on their expectations of certain individuals or illnesses. Indicatively, an analysis of literature on the under-diagnosis of mental health problems in physically ill patients and the other way around illustrates a dualistic approach to physical and mental health (Lopez, 1989). This implies that the existing healthcare strategy might not serve patients with both forms of conditions appropriately. To be more general, the placebo effect studies demonstrate that the attitude of health professionals to patients and their conditions could have a significant influence on the recovery process, be it positive or negative (Di Blasi et al., 2001).

### 2.1.2 Perception

The way we see other people is conditioned by our values, emotions, feelings, and personality. Our perception of individuals makes us act in a certain way towards them and this may lead to how they will respond towards us. Stereotyping is one of the main factors that can make us wrong in our perception. Stereotypes are general impressions people have of each other after making some generalizations about a group such as believing that women are more cooperative or a man is more assertive. These stereotypes are either positive, negative or neutral. Human beings have the habit of sorting information to come up with a sense of its environment. Nevertheless, stereotypes form a type of perceptual bias and possible discrimination when we put the generalization concerning a group on individual people. To illustrate this point, when an individual believes a man to be more assertive than a woman and chooses him instead of an equally or more qualified female candidate, this decision is biased, and it might be unlawful and unfair (Spector, 2021).

In most cases, stereotypes make the so-called self-fulfilling prophecy. It occurs when one behaves as a stereotype is accurate which results in a counterresponse by another person which reinforces the initial stereotype (Snyder et al., 1977). E.g. when you believe that Asians are friendly, then you may act friendlily with someone who happens to be an Asian. They, in their turn, can act in a positive way, which will support your initial assumption. On the other hand, when you suspect that young employees are idlers, you will not give them significant or demanding tasks. Consequently, the young employee can become disinterested and begin to slack thus supporting your original assumption.

The process of maintaining stereotypes is known as selective perception, which is the ability to concentrate on particular things within the environment and ignore others. Basically, we are likely to see what fits us and reject what does not. An impressive scenario of the role of context in forming perception is a social experiment carried out by the Washington Post in 2007. It was an experiment of a nationally known violin artist, Joshua Bell, playing in a Washington DC station. He used a violin which was worth 3.5million dollars and tickets to his shows going around 100 dollars. Even after 45 minutes of playing in the rush hour, he was only known by one person, few people valued the quality of the music, and he received only 32 tips.

This brings in the question, in case you spotted someone playing in a metro station, would you anticipate them to be extraordinary? (Weingarten, 2007). The expectation, beliefs and our personal background determine what events we focus on and what we ignore. As an example, the functional background of an executive can determine the kind of environment change that such an executive is expected to experience (Waller et al., 1995). Sales-marketing experienced executives are likely to realize fluctuations in product demands and information technology experienced executives are more

sensitive to fluctuations in the tech systems in the company. Also, stereotypes can be strengthened during selective perception because we tend to notice less often the things that prove the correctness of our existing beliefs. Indicatively, a person who believes that men are better drivers than women might be more willing to observe poor driving by women, as opposed to men. Consequently, the stereotype becomes perpetuated due to the fact that the conflicting information can be filtered out even before it registers (Spector, 2021).

**Factors Influencing Perception**

Perception is influenced - and sometimes even distorted by a number of factors. These forces may be or include: (i) the individual perceiver, (ii) the situation of occurrence of perception, (iii) the features of the object/target under consideration.

**Perceiver Characteristics**

Several characteristics of the perceiver would also impact the way perception is formed. When an individual is watching and interpreting another individual he or she is greatly influenced by the personal qualities of an individual. Some of the major characteristics that affect perception are:

1. Attitudes: Factors such as attitudes of a perceiver determine how he or she perceives others.

2. Moods: Moods are important with regard to their influence on perception. As an example, when people are happy, they interpret situations and other people in a positive way, whereas when they are down or upset, they do it in a negative way.

3. Motives: The lack of needs or internal motives may severely influence the perceptions of a person towards other people or circumstances.

4. Self-concept: This is how an individual views him or herself and this influences the way people view him or her. As an example, a person who sees him/herself as a

good person may be more apt to pick out the negative characteristics in others. When one understands themselves better, there is a tendency to have accurate perceptions of the people surrounding him or her.

5. Interests: Interests assist us in focusing. Due to too much difference in personal interests, individuals can observe various things on the same situation.

6. Expectations: Our expectation of what we expect to see, can result to what we see and very often we tend to interpret what we see the way we have already thought it would be.

**Target Characteristics**

Perception is also influenced by characteristics of the object or person that is being perceived. To give an example, physical appearance is a significant issue- very attractive or unattractive people will attract more attention within a group than those who have average appearance. Also, the aspects like motives, sounds, size, and other properties of the target also influence the perception of the target object.

### 2.1.3 Concept of HIV/AIDS

The initial cases of the AIDS were found in the United States in the year 1981 (CDC, 2001). The life expectancy of people with AIDS at that time was only six months in average (Satriano et al., 2005). But following the medical innovations, mostly the introduction of the combination anti-retroviral therapy, HIV/AIDS has become a chronic and treatable condition. An individual who has been diagnosed with HIV at the age of 35 years is now expected to live by an average of 32 years, based on the lowest counted CD4 count (Hogg et al., 2008). In spite of these developments, HIV victims still face a lot of problems. Age related health complications like cardiovascular disease, diabetes, osteoporosis among HIV patients are also increasing as the number of HIV-positive individuals who survived increases. These

complications can be the result of long-term medication treatment, or they can be the permanent inflammatory process triggered by the very virus. Further, the persistence of self-care needs and the rigorous practices of the complex HIV treatment regimens also act as a great doom to many. Notably, these treatment advances have minimal value on people who are not available to high-end medical services, such as required treatment of illnesses caused by HIV. The CDC additionally indicated that in 2006, more than 56,000 new HIV infections were recorded in the U.S. and it was the latest data accessible at the period (Hall et al., 2008). As the rate of death has reduced with better treatment, the number of people living with HIV/AIDS has been on a continuous increase. In the year 2006, an approximate of 1.1 million individuals were living with the virus in the U.S. (CDC, 2008). The HIV/AIDS prevalence has increased in the United States over the last decade among some groups of races and ethnic groups. The African Americans constitute a bit more than half of all HIV-positive people and the Hispanics/Latinos constitute 18 percent (CDC, 2007). Moreover, the proportion of new HIV infections among adolescents and young adults is growing. Though the group of 13-29-year-old people occupies 29 percent of the entire population who experience HIV/AIDS, they constitute 34 percent in the list of new HIV identifications (Hall et al., 2008).

**Pathogenesis of HIV**

HIV weakens the immune system in two major mechanisms: (1) by depleting the count of CD4+ T- cells(CD4 cells) which are essential to the functioning of the immune system; and (2) by initiating the general immune system reaction and inflammation. The resultant effects expose persons with HIV to a higher risk of diverse infections, cancer caused by virus, and many noninfectious diseases. In

addition to such secondary complications, HIV may directly enter the nervous system causing neurocognitive impairment (Grant, 2008).

**Management of HIV/AIDS**

During the beginning of the AIDS epidemic, scientists and clinicians had difficulties in determining the nature of the immune deficiency and the virus that was causing the same. After the identification of HIV as the causative organism of AIDS, the work on the creation of drugs, which would affect the key stages of the life cycle of the virus, increased. The first treatment of AIDS to be approved was the nucleoside analogue zidovudine (ZDV or AZT) in 1987. Even though it initially enhanced patient outcomes, its effect was short lived because the virus had the power to develop resistance to monotherapy. Other nucleoside analogues were soon to follow with other classes of antiretroviral medication developed such as nonnucleoside reverse transcriptase, protease, fusion, entry and integrase.

The main goal of combination antiretroviral therapy (or highly active antiretroviral therapy or HAART) is to inhibit the replication of the virus and avoid the destruction of the immune system. OnceHAART became popular in the United States in the mid-nineteenth nineties, the mortality rates caused by AIDS decreased substantially. This is because ongoing success is highly dependent on early diagnosis of HIV, early involvement of infected individuals in care and adherence to treatment. It has been proved that patients receiving combination therapy at the time when their CD4 count is not lower than 350 cells/mm3 are doing better in comparison with those who start treatment later (Egger et al., 2002). The quick multiplication-rate (around 109 particles per day) of HIV coupled with the high mutation rate of one of its enzymes (reverse transcriptase) (approximately one mutation per genome) makes viruses form many variations every day in an infected individual. Despite the fact that the majority

of variants are probably defective, only a single mutation is enough to cause resistance to a certain drug. Combination therapy can significantly decrease the possibility of resistance because two or more simultaneous mutations would be necessary. During the single or dual therapy period, the problem of resistance was of great concern, but is not as serious with the powerful combination therapy (Bangsberg et al., 2000; Bangsberg et al., 2003; Bangsberg et al., 2004). Even as certain viruses nowadays develop resistance to all drugs currently available, the rate of these strains abundant in the future may increase. The key laboratory indicators of HIV disease progression are the number of CD4 cells and the viral load; other indicators such as hemoglobin, indicators of inflammation and coagulation are also independent indicators.

## 2.2 Empirical Review

### 2.2.1 Related Literature

- Assessment of Attitudes and Behaviors of Healthcare Professionals toward HIV Positive Patients

A cross sectional study by Jacob et al. (2022) was carried out on Federal teaching hospital, Ido-Ekiti, Nigeria. A total of 250 medical workers participated in the investigation in this study, including 148 males (59.2) and 102 females (40.8). The majority of respondents (153 or 61.2 percent) reported 0 to 10 years of work experience and most of them were aged between 30-40 years. On the whole, the attitude and behavior of the healthcare professionals (HCPs) towards patients with HIV/AIDS were rather positive. Nevertheless, very few HCPs showed negative attitudes, they agreed to the statements like not wanting to share the office with HIV-positive people, thinking that the beds of HIV-positive people had to be marked, and that their relatives should not be allowed to marry a person with HIV. Similarly, in a

different study by Jayasinghe and Weerakoon (2014) concerning the Knowledge and Attitudes of the Radiographers about AIDS/HIV Patients visiting Radiology Units in Sri Lanka. A structured questionnaire was pre-designed and pre-tested to administer the study through the use of anonymous self-administered, pre-tested and anonymous self-administered structured questionnaire, which was sent out to a total of 562 available radiographers. They found that the response rate of the study was 37.9% above. The respondents were aged 30-39 on average and majority were males (72.3). It is interesting to note that 93.4% of the respondents had never undergone any occupational training in regard to HIV / AIDS prevention. The mean total knowledge score was 66.41 which shows that the level of knowledge is good-66.17 percent among the males and 68.42 percent among the females. The majority of the respondents exhibited a good knowledge of the ways of spreading HIV with 96.71% agreeing on sex and contamination of blood as the major ways of transmission. Nevertheless, there were still certain misunderstandings. With regards to attitudes, the average was neutral (66.8) with only 23% of the respondents with professional (positive) attitudes towards HIV/AIDS. One out of every three (37.56) was of the opinion that healthcare workers infected with HIV should not be permitted to work in areas where they have direct contact with patients. There were no significant differences in the scores of knowledge or attitude between genders, education level, and years of professional experience ($p < 0.05$). Okaro et al. (2010) conducted a cross sectional prospective study to determine the Knowledge and Attitudes of Radiographers towards HIV/AIDS Patients Attending Radiology Clinics in Enugu State, Nigeria. All the radiographers employed within the hospital and radiology clinics of Enugu State were the target population of the survey. A data-gathering instrument of the 25 items self-administered questionnaire was used during the study.

A very high percentage of 85 of the distributed questionnaires were properly filled and returned leading to a high response rate of 34% of the distributed questionnaires. The results showed that most radiographers had an adequate level of knowledge of the subject of HIV/AIDS and that they had a generally positive attitude toward the individuals with HIV/AIDS (PLWHA). Nevertheless, a limited number of participants continued to have negative orientations.

- Evaluation of the Perception of clinical students on the care of HIV Positive Patients

A research conducted by Fente et al. (2023) on Perception of clinical students about treating HIV Positive Patients in a Federal medical centre in Yenagoa, Bayelsa. The researcher used the 21-item questionnaire that was split into four parts (A-D). Section A had 6 questions, Section B consisted of 9 questions, Section C had 3 questions, and Section D consisted of 5 questions. One hundred and twenty respondents were used in the study; they were nursing, medical and medical laboratory students on their clinical posting at the Federal Medical Centre in Yenagoa, Bayelsa State. Table collection and analysis with simple frequency count and percentage calculation were used to collect and analyse data. The results showed that these groups of the students had diverse views on HIV and AIDS. Many of them were revealed to have stigmatizing attitudes, discomfort, and fear in dealing with HIV/AIDS patients. Their key issue focused on the threat of accidental needle piercing that might cause infection.

- Assessment of Healthcare providers' intention to discriminate against people with HIV

The intention of healthcare providers to discriminate against individuals with HIV is another cross sectional survey conducted by Idris et al. (2025) that was conducted in government hospitals in the Kassala State, Sudan. The survey involved 387 medical

professionals who included 223 doctors and 164 nurses. The findings showed a comparatively large readiness of the participants to discriminate against those people living with HIV (Mean = 5.19, SD = 1.34 on the 7-point scale). The participants also stated significant amounts of prejudice (Mean = 4.70, SD = 1.29), internalized HIV-related shame (Mean = 5.19, SD = 1.34), fear of HIV (Mean = 4.65, SD = 1.39) and the opinion that people with HIV do not deserve good care (Mean = 4.90, SD = 1.35). The researchers found out that these prejudiced attitudes, internalized stigma, fear, and negative beliefs regarding care entitlement were largely associated with the intention to discriminate. Moreover, there were higher degrees of discriminatory intent among female workers in the health care, nurses, postgraduate qualification, and fewer years of professional experience.

# CHAPTER THREE

# METHODOLOGY

## 3.1 Research Settings

This study was conducted at selected hospitals in Edo state. Edo State is situated in the South-South geopolitical zone of Nigeria and is known for its excellent healthcare infrastructure comprising federal, state, and private health institutions. The state capital, Benin City, hosts several tertiary and secondary healthcare facilities that offer a wide range of medical services, including radiological imaging and HIV/AIDS care. The selected hospitals for this research included both public and private health institutions to ensure a representative sample of radiographers working under various healthcare settings. These includes:

- University of Benin Teaching Hospital (UBTH) – a tertiary referral center and teaching hospital affiliated with the University of Benin, which serves as a major training ground for healthcare professionals including radiographers.
- Edo specialist Hospital (ESH), Benin City – one of the largest state-owned hospitals in Edo State offering radiological services and HIV/AIDS treatment.
- Some private diagnostic centres in Edo state were also included in this research

## 3.2 Study Design

This study adopts a descriptive cross-sectional design. The design is appropriate for systematically collecting data at a single point in time to evaluate the attitudes and perceptions of radiographers towards HIV/AIDS patients.

## 3.3 Target Population

This study's target population comprises of registered radiographers currently practicing in the selected hospitals in Edo State, Nigeria. These include radiographers

working in tertiary, secondary, and private healthcare facilities where radiological services are provided and where contact with patients living with HIV/AIDS is expected.

### 3.3.1 Inclusion Criteria

Licensed Radiographers registered with the Radiographers Registration Board of Nigeria (RRBN).

- Radiographers must be actively practicing in one of the selected hospitals in Edo State.
- Radiographers must have at least six months of experience in the current hospital.
- Radiographers must be willing to participate and provide informed consent.

### 3.3.2 Exclusion Criteria

- Healthcare professionals who are not Licensed Radiographers
- Radiographers who are not practicing in Edo state

### 3.4 Sampling techniques/Sampling size

The sampling technique for this study was a census method, which included all Radiographers within the scope of the study, This include licenced Radiograpgers currently practicing at The University of Benin Teaching Hospital, Edo specialist Hospital, Raytouch Diagnostics and other private diagnostic centres The sample size was 60 Radiographers.

The census method of sampling was found to be more convenient and scientifically wise to use all the population instead of choosing a sample as there were only 60 radiographers available in Benin City as at the time of the study. This strategy ensured that the study achieved a comprehensive and accurate representation of radiographers' knowledge, attitudes, and perceptions regarding resuscitation procedures. By utilizing

the census method, the potential for sampling bias was eliminated, and the results accurately reflected the characteristics of the entire population under investigation. Additionally, the validity and generalizability of the findings were enhanced, as the perspectives of all radiographers within the study area were considered.

However, the census method has notable limitations. It is both labor-intensive and logistically challenging, as researchers must reach out to every potential participant, some of whom may be assigned to different hospitals or departments. There is also the risk of non-response; certain radiographers may be unavailable or unwilling to participate, which can result in gaps in the data collected.

### 3.5 Instrument of Data Collection

The instrument that was used for data collection in this study is a structured and self-administered questionnaire.

### 3.6 Validity of Instrument

To ensure that the instrument that was used for the study accurately measures what it is intended to assess, the questionnaire underwent both face validity as it was given to experts in the field of radiography and research such as the research supervisor and the ethical review board and content validity checks were also carried out as the items of the questionnaire were compared to see if they really satisfy the intended objectives.

### 3.7 Reliability of Instrument

To assess the reliability of the instrument to be used, the questionnaire underwent pilot testing with a small group of radiographers (5-7) from hospitals not included in the main study. The responses from the pilot test will be analyzed using the Cronbach's Alpha reliability coefficient to determine the internal consistency of the questionnaire items, particularly those measuring attitudes and perceptions. The final version of the instrument was used for data collection in the main study.

### 3.8 Method of Data Collection

The data for this study was collected using a structured and self-administered questionnaire distributed to radiographers working in selected hospitals across Edo State. The questionnaire have 4 sections (Sections A-D) which will be focusing on the following respectively; Demographic information, Knowledge of HIV/AIDS, Attitude Towards HIV/AIDS Patients and Perception and Workplace Practices. The researchers first obtained official permission from the hospital management and ethical clearance from relevant bodies before commencing data collection.The process of data collection involved the following steps:

- Distribution of the questionnaires to the Radiographers who meet the inclusion criteria via Printed formats was shared through a digital medium such as google forms.
- Informed consent was gotten from the participants of this study prior to the administration of the questionnaires
- There was a time frame of about 7 days for the which the participants must have completed the questionnaire and the researchers collected the completed forms in person or digitally
- There was Confidentiality Assurance where all responses will be treated with strict confidentiality. No names or personal identifiers will be included on the questionnaire to maintain anonymity.

### 3.9 Method of Data Analysis

The data collected from the questionnaires will be analyzed using descriptive and inferential statistical methods, with the aid of the Statistical Package for the Social Sciences (SPSS) software, version 27.0.0.

### 3.10 Ethical Consideration

Throughout the course of this study, All information collected from radiographers during this study was treated with the highest level of confidentiality and anonymity. The University of Benin Health Research Ethics Committee reviewed and approved the research protocol before data collection began. The study fully complied with all relevant data protection laws. Prior to participating, each individual provided verbal consent to complete the questionnaire, and anonymity was maintained as no personal identifiers such as names or email addresses were recorded at any point during the study.

# CHAPTER FOUR

# RESULTS AND DISCUSSION

## 4.1 Data presentation

### 4.1.1 Demographic characteristics of Respondents

**Table 4.1: Demographic Information of Respondents (N=60)**

| Variable | Category | Frequency | Percentage (%) |
|---|---|---|---|
| Sex | Male | 38 | 63.3 |
| | Female | 22 | 37.3 |
| Age | Below 20 | 0 | 0.0 |
| | 20-30 | 53 | 88.3 |
| | 31-40 | 7 | 11.7 |
| | 41 and above | 0 | 0.0 |
| Highest Degree | DCR/DIR | 0 | 0.0 |
| | B.Sc | 60 | 100.0 |
| | M.Sc | 0 | 0.0 |
| | PhD | 0 | 0.0 |
| Years of practice | Less than 1yr | 19 | 31.7 |
| | 1-5yrs | 39 | 65.0 |
| | 6-10yrs | 2 | 3.3 |
| | More than 10yrs | 0 | 0.0 |
| Place of work | Private Hospital/Center | 9 | 15.0 |
| | Specialist Hospital | 4 | 6.7 |
| | Teaching Hospital | 45 | 75.0 |
| | Others | 2 | 3.3 |

Table 4.1 displays the demographic characteristics of the participants involved in this study, The findings reveal that majority of the respondents at the time of the study were male radiographers (63.3%) and female radiographers were the minority with a sum total of 22 respondents. The table also shows that a large percentage of the participants (88.3%) were aged between 20 years to 30 years. The table further illustrates that all of the participants were B.Sc degree holders only. 31.7% of the participants had less work experience, having practiced for less than 1 year, (65.0%)

of the participants were quite experienced with 1-5 years of practice. The table also shows that majority of the respondents at the time of the study worked at a Teaching Hospital with a total of 45 (75.0%) participants selecting this.

### 4.1.2 Analysis of section B: Attitude Towards HIV/AIDS Patients

Research question: What are the Attitudes of radiographers towards attending to HIV patients in the Edo state?

This section was designed to answer the above research question, it consisted of 8 Likert scale items to evaluate agreement, and the means scores and standard deviations of the items are presented in Table 4.2

**Table 4.2: Mean scores of participants' responses to Likert scale items on Attitude Towards HIV/AIDS Patients (N=60)**

| Item | Mean score | Standard deviation | Reamrk |
|---|---|---|---|
| Are you confident in providing services to HIV/AIDS patients without being infected. | 3.58 | 0.96 | Agree |
| Do you have adequate skills/knowledge to manage HIV-infected patients. | 3.42 | 1.03 | Agree |
| Are HIV/AIDS patients entitled to the same care as any other patients. | 3.78 | 0.98 | Agree |
| Would you gladly accept attending to HIV/AIDS patients on a regular basis | 3.12 | 0.96 | Neutral |
| Does your knowledge about HIV/AIDS affects your attitude towards HIV-positive patients. | 2.68 | 1.07 | Neutral |
| Does it take more time to attend to HIV/AIDS patients compared to other patients. | 2.63 | 1.15 | Neutral |
| Do you feel sorry or pity for people who are HIV positive | 3.23 | 0.89 | Neutral |
| Do you believe attending to HIV/AIDS patients should not be influenced by personal feelings. | 3.52 | 1.17 | Agree |

Table 4.2 shows the mean scores of the responses of the subjects on their attitudes towards HIV/AIDS patients. The general review of the analysis showed that

radiographers had a mostly positive attitude, as the majority of the respondents agreed to the statements which depicted the professional care and accommodation of HIV-positive patients. The mean scores were between 2.63 and 3.78 showing that the responses were between neutral and agree on the Likert scale. The statement with the most mean score was the one that said that HIV/AIDS patients warrant the same attention as other patients (Mean = 3.78, SD = 0.98), as there was strong agreement and the feeling of ethical responsibility to provide fair care to the patients. Equally, the respondents affirmed that they were not afraid of being infected when offering services to HIV/AIDS patients (Mean = 3.58, SD = 0.96) and that professional care should not be affected by personal feelings (Mean = 3.52, SD = 1.17). Nonetheless, neutrality was found in such items as the willingness to accept working with HIV/AIDS patients on a regular basis (Mean = 3.12, SD = 0.96) and the knowledge about HIV/AIDS (Mean = 2.68, SD = 1.07). The lowest mean score (Mean = 2.63 SD = 1.15) was used to suggest that respondents were not sure, whether attending to HIV/ AIDS patients is more time- consuming than attending to other patients. Generally, the results indicate that radiographers in Edo State had a relatively positive and professional attitude towards HIV/AIDS patients, but a certain proportion of them was neutral in their responses, which implies that the attitude has to be reinforced through continuous training to enhance the compassionate and unbiased attitude towards a patient living with HIV/AIDS in the future.

### 4.1.3 Analysis of section C: Perception of HIV/AIDS Patients

Research question: What is the perception of radiographers towards HIV patients in Edo state?. This section was designed to answer the above research question, it consisted of 7 Likert scale items to evaluate agreement, and the means scores and standard deviations of the items are presented in Table 4.3

**Table 4.3: Mean scores of participants' responses to Likert scale items on Perception of HIV/AIDS Patients (N=60)**

| Item | Mean score | Standard deviation | Reamrk |
|---|---|---|---|
| Is your knowledge of HIV/AIDS sufficient to give advice to patients' families and friends. | 3.52 | 1.02 | Agree |
| Can HIV be transmitted through casual contact such as handshakes or touching. | 2.05 | 1.10 | Disagree |
| Do you communicate with HIV/AIDS patients in the same manner as other patients. | 3.75 | 0.91 | Agree |
| Do you follow universal precautions in your daily patient care. | 4.07 | 0.69 | Agree |
| Do Inadequate facilities prevent you from following universal precautions. | 3.23 | 0.99 | Neutral |
| Is cleaning and disinfecting equipment after use with HIV/AIDS patients necessary. | 4.32 | 0.89 | Strongly agree |
| Does Incomplete knowledge about HIV/AIDS increase fear when attending to such patients. | 3.57 | 1.08 | Agree |
| is your knowledge of HIV/AIDS sufficient to give advice to patients' families and friends. | 3.52 | 1.02 | Agree |

The descriptive statistics of the respondent on their perception of HIV/AIDS patients are presented in Table 4.3. The results showed that radiographers usually had a favorable and enlightened understanding of the treatment and management of HIV-positive patients. The average scores were between 2.05 and 4.32, which are indicators that have differing responses as to disagree to strongly agree with the various items of perception. The statement with the highest mean score was the following one: Cleaning and disinfecting equipment after use with HIV/AIDS patients is necessary (Mean = 4.32, SD = 0.89): the greatest percentage of respondents agreed with it, and it is possible to state that a high level of knowledge was achieved in terms of awareness about infection control and professional hygiene practices. On the same note, the participants responded that they observe the universal precautions when

attending to patients (Mean = 4.07, SD = 0.69) and that limited information concerning HIV/AIDS enhances fear in dealing with such patients (Mean = 3.57, SD = 1.08). Respondents also evidenced that they were confident in their knowledge of HIV/AIDS, with the approval that they felt they had adequate knowledge to advise the families and friends of patients with HIV/AIDS (Mean = 3.52, SD = 1.02) and that they equally communicated with the HIV/AIDS patients just like they would with the rest of the patients (Mean = 3.75, SD = 0.91). On the other hand, the respondents did not agree that they could transmit HIV when using handshakes or touching (Mean = 2.05, SD = 1.10), which indicates that they have a correct perception on the route of the virus transmission. Nonetheless, there was a neutral reaction to the possible inability to follow universal precautions because of insufficient facilities (Mean = 3.23, SD = 0.99), which indicates that sometimes the issues of infrastructures or resources can influence the implementation of the best practices in infection control. Generally these findings indicates that radiographers in Edo State had a fairly high level of awareness and perception of patients with HIV/AIDS, and focused on safety in the clinical process, the ethical expression of attitude, and scientific knowledge of how the disease is transmitted and prevented.

### 4.1.4 Hypothesis testing

Null Hypothesis ($H_0$): The is no significant relationship between Radiographers years of practice and their attitudes towards patients with HIV/AIDS.

Alternative Hypothesis ($H_1$): The is a significant relationship between Radiographers years of practice and their attitudes towards patients with HIV/AIDS.

**Variables used:**

Years of practice: This variable was measured using responses to item 4 of the demographic section of our structured questionnaire.

Attitude: This variable was measured using all item of Section B, "Attitude Towards HIV/AIDS Patients" in our structured questionnaire.

**Test of Hypothesis using Spearman's correlation test.**

Because the variables under investigation: years of practice and attitude toward HIV/AIDS patients are ordinal or non-normally distributed continuous variables, Spearman's correlation test was chosen for this analysis. In particular, a Likert scale was used to gauge the respondents' views, which results in ordinal data that defies the presumptions of parametric tests like Pearson's correlation. Without assuming a normal distribution, Spearman's rho is a non-parametric test that evaluates the direction and strength of a monotonic association between two ranking variables. As a result, it is appropriate when data are obtained from ordinal scales, contain outliers, or are not normally distributed, as in this study. Consequently, Spearman's correlation was the most suitable method to ascertain the existence of a statistically significant relationship between radiographers' years of professional experience and their attitudes toward patients with HIV/AIDS.

**Table 4.4: Spearman's Correlation between Years of practice and Radiographers' attitude towards HIV/AIDS Patients**

| Variable | ρ(Spearman's rho) | p-value | N | Decision |
|---|---|---|---|---|
| Years of practice vs Radiographers' attitude towards HIV/AIDS Patients | 0.016 | 0.902 | 60 | Insignificant Retain $H_0$ |

Null Hypothesis ($H_0$): The is no significant relationship between Radiographers years of practice and their attitudes towards patients with HIV/AIDS.

Spearman's Correlation Result: $\rho = 0.016$ $p = 0.902$; Since $p = 0.902$ is greater than 0.05, we fail to reject the null hypothesis $H_0$.

Conclusion: There is a very weak positive and statistically non-significant correlation between Radiographers' years of practice and radiographers' attitude towards HIV/AIDS patients. This suggests that the number of years practiced had no significant effect on Radiographers' attitudes towards HIV/AIDS patients.

**4.2 Discussion**

The conclusions of this research that was conducted to evaluate the attitude and perception of radiographers in relation to patients living with HIV/AIDS in selected hospitals across Edo State shows that, there is an overall positive professional orientation although with significant areas of neutrality or uncertainty. The mean scores of statements related to the attitude subject, e.g., "HIV/AIDS patients should receive equal treatment as any other patients" (Mean = 3.78), and "I am confident I can offer patients the same level of care as I would provide to any other patient" (Mean = 3.58) demonstrate that radiographers have a strong sense of fairness in care and feel quite confident about the ability to offer its services to HIV/AIDS patients. These findings are consistent with the literature that clearly indicates moderate positive attitudes of healthcare workers towards individuals living with HIV, but not evenly strongly positive (such a systematic review of HCWs in Africa showed that attitudes were found to be moderately positive at an average of slightly over 46 ) (Femi-Lawal et al., 2025).

Nonetheless, the impartiality of the answers to such items as "Would you gladly accept attending to HIV/AIDS patients on a regular basis' (Mean = 3.12) and "Does your knowledge about HIV/AIDS affect your attitude toward HIV-positive patients" (Mean = 2.68) indicate that radiographers support the idea of professional care, but

still feel reluctant about the idea of providing services to HIV-positive patients on a regular basis without any components and without the impact of underlying knowledge. This ambivalence can also be related to anxiety relating to occupational risk, the perceived complexity of care, or insufficient confidence in dealing with HIV-related cases, all of which the prior studies (Adal et al., 2023) indicated resulted in weak knowledge and practice of HIV-related cases.

The radiographers were in unison in the perception domain with the items of infection control, with one of them being Cleaning and disinfecting equipment after use with HIV/AIDS patients is necessary with a mean = 4.32, and the other one being I follow universal precautions in my daily work with patients with a mean = 4.07. These scores are high, which shows that there is very good awareness and self-reported compliance with typical precautionary measures, which is vital to safe practice and minimizing stigma with professional confidence. The significance of universal precautions in the creation of positive attitudes and perceptions of safety is supported by literature (Takougang et al., 2024). However, there is a neutral mean (3.23) of poor facilities in regard to Inadequate facilities prevent you from following universal precautions, which indicates infrastructural hindrances that can hinder full practice and increase uncertainty.

The total mean of 3.16 (moderately confident) within the technical and intellectual self-efficacy domain can indicate radiographers believed that they were moderately prepared in technical/routine radiographic procedures, but not in non-routine or special processes (e.g., portable mean of 2.54, trauma mean of 2.54, paediatric cases mean of 2.54). It can be compared to the results of larger healthcare facilities which reflect that although service delivery personnel can be sure about routine activities, they tend to believe that they are unprepared to work with complicated or unusual

cases (Okpala et al., 2018). These less efficacy of the lower self-efficacy in the domain of specialization may affect attitudes and perceptions of HIV patients - perhaps explaining the neutrality observed in attitude items.

Lack of a statistically significant correlation between the years of practice and attitudes ($r = 0.016$, $p = 0.902$) is an indicator that the length of service is not a guarantee of more positive attitudes. This contradicts the notion that experience inevitably results in improved attitudes and argues that special training, as opposed to years of exposure, is essential. Similar studies on prior Nigerian studies had indicated that the influences of variables like refresher training and knowledge were more effective on attitudes compared to years of practice (Onuoha and Omosivie, 2022).

Collectively, these findings imply that although the radiographers in the study sites show respectable professional orientation and conscientiousness with infections among HIV/AIDS patients, there are still loopholes to confidence when it comes to specialized operations, consistent facilities to carry out uniform precautions, and complete passion in routine operation with HIV patient care. The results highlighted that there is need to have continuous professional development, enhance infrastructure provision and institutional policies to sustain positive attitudes, perception and self-efficacy.

# CHAPTER FIVE

# CONCLUSION, RECOMMENDATIONS, LIMITATIONS AND SUGGESTIONS

## 5.1 Conclusion

The paper evaluated the attitude and perceptions of radiographers towards patients with HIV/AIDS at the sampled hospitals in Edo State. The results showed that radiographers tended to display a positive and professional attitude towards the maintenance of HIV/AIDS patients and were highly conscious of the universal precautions and the ethical handling of patients. But, in some attitude and perception items neutrality indicates that there is still some degree of uncertainty and some fear in dealing with HIV-positive cases. There was also no significant interaction between years of professional experience and attitudes, which also means that the years of experience cannot always lead to a better outlook and confidence in addressing HIV/AIDS patients. On the whole, the radiographers in Edo State demonstrate a good level of professionalism and awareness but could use constant training, better prevention of infection facilities, and policies that enhance empathy and lessen stigma in healthcare provision.

## 5.2 Recommendations

1. Ongoing Professional Education: It should regularly conduct workshops and refresher courses on the management of HIV/AIDS and practices of infection-control to enhance the levels of confidence in radiographers, alleviate fear, and promote evidence-based care.
2. More Facility Support: Healthcare institutions are to make sure that they provide proper access to the protective equipment and diagnostic tools that would allow

them to make sure that they comply with the universal precautions and reduce the occupational risk issues.

3. Institutional Policies on the Anti-Stigma: Hospital management and professional organizations ought to establish anti-stigma initiatives that will strengthen non-discriminatory and caring care towards HIV-positive individuals.

**5.3 Limitations**

1. The self-administered questionnaires could have resulted in bias in the responses as participants could have responded socially desirably.
2. The sample size is also small and it might not reflect the experience and attitude of all radiographers in Nigeria.
3. The cross sectional design has also failed to provide a cause-effect relationship since the data was collected at a particular time.
4. There was a possibility of non-response bias due to the possibility that those who did not respond shared different opinions with respondents.

**5.4 Suggestions for further studies**

Based on the findings of this research the following are areas suggested for further studies:

1. It is also recommended that future research should incorporate more and more representative sample of radiographers in other states and regions in order to increase the generalizability.
2. Mixed-method designs that involve the use of quantitative surveys with qualitative interviews or focus groups should be embraced by the researchers in order to gain a deeper understanding.

3. To discover inter-professional differences in attitudes, comparative studies with other medical professionals (e.g., nurses, physicians, laboratory scientists) should be carried out.
4. It would be necessary to use longitudinal studies to determine how attitudes and perceptions change over time particularly in the case of training interventions.
5. The study of how institutional culture, workload, and policy frameworks affect the attitudes of radiographers towards HIV/AIDS patients should be considered in the future.

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## APPENDIX I: QUESTIONNAIRE

### SECTION A: Demographic information

1. Sex a. male ☐ b. female ☐
2. Age a. Below 20 ☐ b. 21-30 ☐ c.31-40 ☐ d. 41 and above ☐
3. Highest Degree attained a. DCR/DIR ☐ b. B.Sc ☐ c. M.Sc ☐ d. others specify ……...
4. Years of practice a. Less than 1 yr ☐ b.1-5yrs ☐ c. 5-10yrs ☐ d. Above 10yrs ☐
5. Place of work a. Federal Hospital ☐ b. State Hospital ☐ c. Private Hospital/Center ☐ d. Other ……

### SECTION B: Attitude Towards HIV/AIDS Patients

Please choose the response that best represents your view: Strongly Agree =SA, Agree=A, Neutral =N, Disagree =D, Strongly Disagree =SD .

| Questions | SA | A | N | D | SD |
|---|---|---|---|---|---|
| Are you confident in providing services to HIV/AIDS patients without being infected. | | | | | |
| Do you have adequate skills/knowledge to manage HIV-infected patients. | | | | | |
| Are HIV/AIDS patients entitled to the same care as any other patients. | | | | | |
| Would you gladly accept attending to HIV/AIDS patients on a regular basis | | | | | |
| Does your knowledge about HIV/AIDS affects your attitude towards HIV-positive patients. | | | | | |
| Does it take more time to attend to HIV/AIDS patients compared to other patients. | | | | | |
| Do you feel sorry or pity for people who are HIV positive | | | | | |
| Do you believe attending to HIV/AIDS patients should not be influenced by personal feelings. | | | | | |

## Section C: Perception of HIV/AIDS Patients

Please choose the response that best represents your view: Strongly Agree =SA, Agree=A, Neutral =N, Disagree =D, Strongly Disagree =SD .

| Questions | SA | A | N | D | SD |
|---|---|---|---|---|---|
| is your knowledge of HIV/AIDS sufficient to give advice to patients' families and friends. | | | | | |
| Can HIV be transmitted through casual contact such as handshakes or touching. | | | | | |
| Do you communicate with HIV/AIDS patients in the same manner as other patients. | | | | | |
| Do you follow universal precautions in your daily patient care. | | | | | |
| Do Inadequate facilities prevent you from following universal precautions. | | | | | |
| Is cleaning and disinfecting equipment after use with HIV/AIDS patients necessary. | | | | | |
| Does Incomplete knowledge about HIV/AIDS increase fear when attending to such patients. | | | | | |