

**EVALUATION OF THE KNOWLEDGE AND PERCEPTIONS, OF
RADIOGRAPHERS TOWARDS FILM-REPORTING IN EDO STATE**



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DECEMBER, 2025.

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**A PROJECT WORK SUBMITTED TO THE DEPARTMENT OF
RADIOGRAPHY SCHOOL OF BASIC MEDICAL SCIENCES UNIVERSITY
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THE AWARD OF B.SC.(RAD) DEGREE**

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DECEMBER, 2025.

CERTIFICATION

This is to certify that the project titled **EVALUATION OF THE KNOWLEDGE AND PERCEPTIONS, OF RADIOGRAPHERS TOWARDS FILM-REPORTING IN EDO STATE** Was duly carried out and written by **ODEMWINGIE TERRY ISAAC** with matriculation number **BMS2001443** In partial fulfillment of the bachelor of Radiography B.SC.(RAD) DEGREE in the department of Radiography, School of Basic Medical Science, College of Medical Sciences, University of Benin.

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All glory to God, Almighty for the grace he provided to write this project work.

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ABSTRACT

The research was on knowledge and perception of the radiographers on film-reporting in Edo State, Nigeria. The descriptive cross-sectional design was considered and data was collected through structured questionnaires that were conducted on 65 radiographers selected in a number of hospitals and diagnostic centres. The descriptive and inferential statistics were applied in analysing the data. The results showed that the majority of radiographers were well informed about the film reporting, and they acknowledged that it can enhance the efficiency of diagnostic procedures and patient care. Most of them gave favorable reports about the introduction of film reporting in radiographic practice and how it can help ease the workload of radiologists as well as improve their professional development. Nevertheless, the research has established some of the major obstacles like absence of formal training, policy support, medico-legal issues, and professional competition between radiographers and radiologists. The findings also indicated a significant role of academic background, workplace culture as well as radiographer support towards readiness to participate in film reporting. This paper concludes that radiographers in Edo state are informed, and eager to embrace the use of film reporting in case they are given proper training and enabling policies. It suggests that film reporting should be included in the radiography curriculum, the continuous professional development programs and the legal landscape should be clear to promote the safe and effective application of film-reporting practices in Nigeria.

LIST OF ABBREVIATION

IBM- International Business Machines

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CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Radiographer has changed his job considerably with time. The radiographers have traditionally been charged with the responsibility of carrying out diagnostic imaging procedures, and making sure that radiographic images are of the adequate quality to be interpreted by radiologists. Nevertheless, the growing healthcare needs, combined with the growing sophistication of medical imaging, have led to the consideration of the possibilities of radiographers to act in other roles, such as reporting radiographic images (Wood, 2022). The idea, which is referred to as film-reporting radiography, has found its way into various regions of the world, with radiographers playing the roles of radiologists, especially in interpreting some types of images like chest X-rays, trauma films, and musculoskeletal images (Adejoh, 2019). The changing role of radiographers in reporting of images has both opportunities and challenges, which are still not yet fully exhausted especially in such countries as Nigeria where the means of health care are scarce, and the need of diagnostic services is high.

Radiography practice in Edo State, Nigeria is also changing greatly. The idea of film-reporting radiographers is quite recent, and there is a lack of knowledge about the vision of radiographers on this new position. The radiographers in the region have always been interested in image acquisition, with no or minimal interest in interpreting the images that they produce (Milner et al., 2016). This paper aims at assessing the understanding and attitude of radiographers in Edo State about the role of the film-reporting radiographers and gaining insight on the possible challenges that can be posed by the adoption of this practice in

clinical practice. Since the healthcare system in Edo State is working on raising its efficiency and enhancing care provision to patients, it is important to evaluate the extent to which radiographers are prepared to assume these increased duties and perceive these changes to be either beneficial or harmful to their professional identity.

The world is experiencing the growth in the demand of healthcare services especially diagnostic imaging. There has been an increase in the number of chronic diseases, accidents, and trauma, which have prompted the need to have diagnostic services timely and accurately (Hlongwane & Pitcher, 2013). As a reaction, a number of healthcare systems have discussed extending the role of radiographers as a way of trying to reduce the workload of radiologists. Already in a number of countries, such as the UK, Australia, and South Africa, radiographers have been trained to interpret some types of radiographs and report on them directly to clinicians, with film-reporting radiographers having been introduced into the clinical practice (Woznitza, 2014).

The radiographers in the UAE, including Abu Dhabi and even in South Africa, have been identified to be ready to increase their roles in reporting, particularly in the case of common conditions that are already familiar to the experienced radiographers (Alkatheeri et al., 2024). The expansion of this role is viewed as the means to put a strain off radiologists and enhance the productivity of the working process. In addition, it is indicated that the radiographers who participate in reporting can in many cases make correct interpretations, especially in the case of simple cases (Du Plessis and Pitcher, 2016). Nevertheless, the concept of role expansion is underresearched in most African states, including Nigeria, and there are not enough studies that could evaluate how radiographers interpret the growth of their responsibilities and whether they feel sufficiently prepared to undertake this task (Ekpo et al., 2015).

The necessity to have radiographers with more clinical roles is becoming increasingly evident in Nigeria where the number of radiologists is limited (Bwanga et al., 2021). However, making such a transition has a number of challenges. Among them, there is a lack of formal training in radiographic reporting, absence of clear policies that define the role of reporting radiographers, and may be a concern with professional boundaries between radiographers and radiologists (Mubuuke, 2018). These issues are not specific to Nigeria; they have been noted in other African nations, and the radiographers there have been experiencing the opposition to role expansion and task-shifting (Kekana et al., 2015).

Film-reporting radiographers and their role in Edo state are a relatively untapped field (Bwanga et al., 2021). The radiographers in the region have a long-tradition of being trained in technical aspects of imaging as to patient positioning, image acquisition and equipment operation. But there is not much focus on the interpretation and reporting of the images. Consequently, the implementation of film-reporting radiographers in the clinical practice can be viewed with doubt or opposition. The evaluation of the extent to which the radiographers in Edo State are aware of the roles of film-reporting radiographers and their viewpoints regarding the role will form a major part of this study. It is also important to establish how much the radiographers know about this new role and how they feel about its integration into practice to help inform future policy decision-making as well as the development of future training programmes.

Studies in other regions of Nigeria and Africa revealed that although a portion of radiographers are open to undertaking the role of reporting, a significant number of radiographers are reluctant, arguing that they do not have sufficient training, professional experience, and fear to commit a mistake in diagnosis (Ohagwu et al., 2021; Ekpo et al., 2015). According to a study conducted by Eze and Olaniyan (2012), the Nigerian radiographers were mostly open to postgraduate learning and skills development, however,

there was doubt on whether they would be able to assume more roles without losing their professional identity. In the same way, a Ugandan study by Mubuuke (2018) noted that though radiographers were keen on reporting, they feared that there were no structured programs to help in this position.

Among the major problems in the area of film-reporting radiographers integration in Nigeria, the absence of standardized training programs should be identified. In some societies, such as the UK and Australia, the radiographers receive the specialized training on image reporting, comprised of both academic and clinical training under the guidance of the expert radiologists (Stevens, 2019). Nevertheless, these opportunities are not available in Nigeria, and radiographers might not be sure enough that they can interpret the images right without further training. This is more so considering that radiographic images may be misinterpreted to create diagnostic errors and, eventually, poor patient care. The resistance to radiologist and other healthcare professionals role expansion is another issue that will pose a challenge. In most of the environments, radiologists perceive radiograph reporting as a domain of their own and there might be professional issues of infiltrating into their role. This feeling is echoed in the research conducted in South Africa and the UK that identified a concern about the quality and accuracy of the report provided by the radiographers, especially in the complicated cases (Kekana et al., 2015; Milner et al., 2016). The success of the film-reporting radiographers is determined by the willingness and readiness of the radiographers to assume such a role as well as the encouragement and acceptance by their colleagues in the clinical setting.

1.2 Statement of the Problem

The health sector is currently changing at a fast rate whereby there is a growing focus on multidisciplinary and task-sharing in order to enhance service delivery. Among these

developments is the introduction of the film-reporting radiographers that have their work related to deciphering radiographic images and giving out preliminary or conclusive reports. Reporting of films by the radiographers in developed countries has greatly enhanced the turnaround time of patients, as well as minimized the workload of the radiologists. This practice is however still relatively new and not well used in Nigeria and specifically in the Edo state. Although this practice has a number of potential advantages, there are a number of challenges that prevent the incorporation of film-reporting radiographers into clinical practice. They are restricted awareness of the position among practicing radiographers, the confusion in the sense of the professional boundaries, and a sense of intrusion into the functions traditionally undertaken by radiologists. In addition, other obstacles to the establishment of film-reporting practice include the not-existent formal training programs, the existence of vague institutional policies, and poor regulatory mechanisms. Nevertheless, the amount of knowledge, perception, and preparedness of radiographers in Edo State to embrace a role of a film-reporter is evidently missing in the current literature. There are limited studies that have methodically looked at the determinants of the awareness, attitudes and preparedness of radiographers in regard to this emerging professional responsibility in Nigeria. This gap restricts knowledge of the contextual and professional factors that can help or not to initiate the successful implementation of film-reporting practices in the state. The proposed study will thus aim at bridging this gap by evaluating the knowledge, perception, and readiness of radiographers in Edo State towards the film-reporting. The study will help offer evidence-based information to be used when formulating the policy, training practitioners, and gradually introducing film-reporting as a standard part of radiography by identifying knowledge gaps, attitudinal obstacles, and structural challenges.

1.3 Research Questions

1. What is the level of knowledge of radiographer about their role and responsibilities of film-reporting in Edo State?
2. What is the perception of radiographers towards integrating film-reporting into clinical practice?
3. What challenges do radiographers face in the practice of film-reporting?

1.4 Research Hypotheses

H₀₁: There is no significant relationship between demographic/professional factors and radiographers' knowledge and perception of film-reporting radiographers.

H₁₁: There is a significant relationship between demographic/professional factors and radiographers' knowledge and perception of film-reporting radiographers.

1.5 Aim

To evaluate the knowledge and perceptions, of radiographers towards film-reporting radiographers in Edo state.

1.6 Specific Objectives

1. To assess the level of knowledge of radiographer about their role and responsibilities of film-reporting in Edo State.
2. To evaluate the perception of radiographers towards the integration of film-reporting into clinical practice.
3. To identify challenges associated with the practice of film-reporting by radiographers.

1.7 Significance of the Study

This study is important as it could have an impact on the radiography profession, the healthcare system, and the society in general through offering useful information on the knowledge, perception, and challenges of the role played by the film-reporting radiographers.

Contribution to the Radiography Profession: Film-reporting radiography is a new specialty and has the potential to transform the scope of practice in the radiography profession. The study will be an assessment of the awareness and understanding of radiographers in Edo State of this role, hence enabling gaps in the awareness and understanding to be identified. This would guide the training of specific educational programs and professional development courses and this is to make sure that radiographers are fully equipped with skills and knowledge required. Also, the research will help illuminate the possible obstacles to the adoption of this extended role, and, accordingly, evidence-based interventions can be adopted to cultivate an inclusive and acceptance culture in the profession.

Clinical Implication: The introduction of film-reporting radiographers into clinical practice can both simplify radiological processes and decrease the wait-time associated with diagnostic reports and decrease the workload on radiologists. This paper will discuss how this kind of an integration can be helpful, giving examples that may be used to inform policy recommendations on how the radiographic resources can be better used. Having better knowledge and perception of radiographers, healthcare institutions in Edo State and other states will be able to make a good decision on how to integrate the best approach of incorporating film-reporting radiographers into their workforce and eventually improve efficiency and quality of patient care services.

Social Good: Socially, the proposed study would potentially enhance better health outcomes in the society, through the faster and more precise diagnoses, particularly where there are

resource constraints, which might limit the accessibility of radiologists. When properly trained and integrated, film-reporting radiographers may serve as the link between the necessity to seek diagnostic services and the possibility of providing qualified staff and, therefore, decrease the time lag before receiving medical care and enhance patient satisfaction. Besides, the outcomes of the study may support the adoption of policy-related changes in which the role of radiographers in the overall improvement of healthcare delivery would be considered as part of the overall objective of empowering the health care systems in Nigeria.

1.8 Scope of the Study

The scope and focus of this study are determined by a number of factors through which its delimitation is defined. To start with, the study will be restricted to the Edo State in Nigeria, that is, the data will only indicate the experiences, learning, and perceptions of radiographers in the region. Although the method of radiographers in the country might vary when performing film-reporting, the study reduces its coverage to Edo State in order to offer a more detailed and localized data. The research will also concentrate on radiographers only and not other health practitioners like radiologists, medical doctors, and technicians. Although their viewpoints might be an effective source of information about the implementation of film-reporting radiographers into clinical practice, the study will be focused specifically on the radiographers themselves which are the major practitioners in this capacity. The research will also be limited to healthcare facilities in the state especially hospitals and clinics offering diagnostic imaging services. It will not include smaller healthcare facilities in rural areas that might not have full-service radiological facilities. These limitations are enough to lead to a narrowed knowledge, perception and challenge of radiographers in Edo State, as well as giving proper limits as to the scope of the study.

1.9 Operational Definition of Terms

Knowledge: The information and awareness of radiographers on roles and responsibilities of film-reporting radiographers, image interpretation and reporting procedures.

Perception: The attitudes, beliefs, and opinions of radiographers towards the introduction of film-reporting radiographers into clinical practice and the impact of its existence on the healthcare situation.

Challenges: The barriers or difficulties that radiographers encounter to adopt or practice the use of film-reporting, which may include technical issues, educational issues or resource issues.

Clinical Practice: This is the environment where the radiographers use the set of skills that they have been trained in professionally, such as the diagnostic imaging processes, interpretation of images, and the delivery of healthcare services to the patients.

Role Extension: This refers to the increase in the number of duties of a radiographer beyond the traditional roles like the addition of film interpretation and reporting to the scope of practice.

Film Reporting Radiographers: film reporting radiographers are radiographers who are professionally trained and licenced to interpret diagnostic images.

CHAPTER TWO

LITERATURE REVIEW

2.1 Conceptual Review

2.11 Radiography in Nigeria

Following Wilhelm Conrad Röntgen's discovery of X-rays in 1895, Radiography as a profession was conceived with formal definition and regulation in 1925 by the Society of Radiographers. In Africa, radiography started in South Africa with the documentation showing that x-ray machines were available in the country as early as 1897 (Adejoh, 2019). The first radiographer there, and perhaps, on the African continent, is a woman named May Tomkins, who was trained in London in 1930 by another woman, the iconic K.C. Clark (Adejoh, 2019).

Radiography in Nigeria traces back to the early 20th century with the installation of X-ray machines at Lagos Island General Hospital in 1913 and St. Margaret's Hospital, Calabar, in 1914. Initially dominated by expatriates, the profession saw the emergence of indigenous radiographers like Mrs. Olga Rhodes-Miller, trained in Leeds in 1943. Early hospital expansion during WWI and WWII heightened the demand for radiographers, prompting the training of local youths as technicians.

Radiography training was introduced in 1947 in the National Orthopaedic Hospital, Igbobi, and then it moved to Lagos Island General Hospital in 1949. In collaboration with technicians, native radiographers formed the Association of Radiographers of Nigeria (ARN) on the year 1958. By 1962, technician training had changed to that of radiographer and in the process, the Federal School of Radiography, Lagos (FSRL) was established, which would join the Society of Radiographers, London. In the 1970s the university-based programs were introduced in

response to the increased demand of degree owners. In the year 1981, the University of Calabar (UNICAL) was the first university in Africa to offer the B.Sc. Radiography program, followed by University of Nigeria, Enugu Campus (UNEC), in 1983. The program at UNEC has served as an example of radiography education that has played a major role in providing an academic workforce in the new universities. Problems like brain drain caused the School of Radiography to be shut in Ibadan in 1987 and heightened the demand to have degree-awarding programs. The radiography profession has grown to be a multidisciplinary profession respected and no longer mono-modality and technician-dominated. Efforts by pioneers like Obong Effiong Philip Akpan were instrumental in this transformation. Today, radiography in Nigeria is bolstered by professional bodies like ARN, and affiliated organizations including the Nigerian Society of Radiography Lecturers (NSRL) and the International Society of Radiographers and Radiologic Technologists (ISRRT), reflecting its continued growth and global integration.

2.1.2 The Rise of Reporting Radiographers

The fight and struggle for radiographers to report did not start today. Radiographers' reporting was at the centre of an ongoing conflict with the medical profession in the formative years of radiography. In the first two decades of the 20th century, radiology was a discipline struggling to establish itself. They urgently needed to solidify their position and establish consultants post so what they ended up doing was to monopolize the X-ray work. By the year 1925, a tug of war between radiographers and radiologist over the division of labor was intense. This war forced the Society of Radiographers to change its articles of association thereby stopping radiographers from reporting. This argument which caused the Society of Radiographers to change their articles made radiographers concede their right to reporting that same year in 1925. This fall out over reporting caused a restriction in the practice for 70 years. This restriction was lifted when the body decided to lightly lift bans on

ultrasonography reporting. Finally in 1990, due to increased workload, advancements in technology, financial imperatives within the National Health Service and the aspirations of radiographers together with the support of many radiologists, the re-emergence of radiographers in reporting happened. This re-emergence to reporting was not welcomed by all and even today there remains opposition from some radiological circles. Today countries like the UK (the first to license) and Australia are licensing radiographers to report films. Other African countries are following suite like South Africa. Radiographers are excelling in reporting across the world and studies have shown that. In a study by Hlongwane and Pitcher, the overall accuracy of reporting by South African radiographers was 93.7%, with 74.4% sensitivity for fracture detection. In a study by Du Plessis and Pitcher, South African senior radiographers achieved significantly higher reporting accuracy and sensitivity percentages than medical doctors, with 81.5% and 67.8%, respectively. In a study conducted by Munsanje, Zambian radiographers accurately interpreted and provided descriptive written diagnostic chest X-ray reports following training. In another study conducted by Hazell and others, South African radiographers' accuracy increased from 71.04% to 78%, sensitivity from 83.73% to 87.28%, and specificity from 59.62% to 70.34% after training. A study conducted 20 in Ghana by Ofori-Manteaw and Dzidzornu compared the abilities of radiographers with medical doctors. The radiographers achieved higher sensitivity than the medical doctors in both pre and post-test analysis (pre-test, 69.2% vs 67.8%: post-test, 83.3% vs 77.2%). Regarding specificity, medical doctors attained higher specificity scores than radiographers (pre-test, 75.6% vs 68.3%: post-test, 86.7% vs 83.3%). With regards to accuracy, medical doctors recorded a higher mean accuracy score than the radiographers in the pre-test (71.6% vs 68.8%), the opposite was observed for the radiographers in the post-test analysis (83.3% vs 81.9%).

2.1.3 Reporting Radiographers in Nigeria

Professional bodies like the Radiographers Registration Board of Nigeria (RRBN) and the Association of Radiographers of Nigeria (ARN) began discussing role extension for radiographers. These role extensions included, image interpretation, preliminary reporting on trauma cases etc. Some universities (e.g., University of Lagos, University of Nigeria, Nnamdi Azikiwe University) began updating B.Sc. and M.Sc. Radiography curricula to include: image critique, interpretation and pathology. The professional bodies now offer Continuing Professional Development (CPD) on Chest X-ray interpretation, Musculoskeletal imaging review, Trauma image evaluation. As of 2025, no national policy has yet legalized full independent film reporting by radiographers in Nigeria. However, in many hospitals (especially in emergency departments and private centers, senior radiographers assist in provisional interpretations (especially when radiologists are unavailable). They also made commentaries that can speed up clinical decision making. RRBN is actively considering postgraduate certifications that can allow radiographers report. It will most likely follow the UK's "Reporting Radiographer" system. As beautiful as this might sound, the challenges presented maybe tough. Radiologist resistance due to job security maybe a major issue. Also no formal law officially allowing radiographers to report may be a setback and no defined training system for interested reporting radiographers. Film reporting by radiographers in Nigeria is still in a developmental phase. There is growing interest and increasing training, but legal and professional frameworks still need to be established for full, independent film reporting rights. Studies have shown that radiographers have shown that they are willingly and they have same capacities as their radiologist's counterparts. Ohagwu et al., 2021 assessed the performance of Nigeria-trained radiographers in the interpretation of x-ray films from a selected range of x-ray investigations. Ten Nigerian radiographers blinded to one another reported 1189 examinations. They were compared to radiologist's reports which were

regarded as the gold standard. An overall sensitivity of 89.8 per cent, specificity of 93.5 per cent and an accuracy of 92.3 per cent were recorded for the performance of the Nigeria-trained radiographers in x-ray film interpretation. In another study conducted by Ekpo et al., 2015, Nigerian radiographers were able to interpret chest X-rays with mean sensitivity and specificity of 76.9% and 79.8%, respectively.

2.1.4 Knowledge of Radiographers towards Film Reporting in Nigeria

Radiographer's knowledge to film reporting involves technical, clinical and medico-legal aspects. The extent of their knowledge is typically based on the formal education, clinical exposure and personal pursuit of knowledge. Film reporting in Nigeria is generally a new concept hence less emphasis on formal education and training. Some key areas of learning are important in this journey. Radiographers have to have a keen knowledge of normal and abnormal anatomy as well as the ability to recognize pathological changes in radiographs. Studies like Eze et al., 2012 highlighted that radiographers in Nigeria often perform radiographic positioning but lack confidence in image evaluation, particularly when it comes to clinical decision-making based on those images. Radiographers also need to be trained to recognize key image quality criteria such as contrast, exposure, and positioning, which are crucial for accurate diagnosis. Woznitza et al., 2014 emphasized that while radiographers are willing to take on reporting roles, many feel unprepared to assume the medico-legal liability associated with incorrect diagnoses. Radiographers in Nigeria are aware of film-reporting roles through ongoing professional discussions and training workshops but have limited exposure to structured training programs. Eze et al., 2012 indicated that radiographers are eager to expand their knowledge in areas such as film reporting but face barriers such as limited access to formal training and insufficient resources for ongoing professional development.

2.1.5 Perception of Radiographers towards Film Reporting in Nigeria

The perception of radiographers regarding film reporting is shaped by several factors, including professional attitudes, cultural influences, workplace dynamics, and training opportunities.

In countries like the UK and Australia, the perception of radiographers' role extension has largely been positive. However, in Nigeria, radiographers' perceptions about taking on film-reporting duties are mixed and are influenced by several key barriers and enablers. Most radiographers consider film reporting as an opportunity to development their careers that will raise their professional autonomy and competence. This is the same perception as Eze et al., 2021 who found that radiographers in Nigeria are generally receptive to postgraduate education that will also entail training in film interpretation and reporting.

Radiographers who embrace the concept of film reporting believe that it will reduce waiting times for diagnostic reports, especially in busy settings. Bwanga et al., 2021 emphasized that film reporting by radiographers can accelerate patient management, particularly in emergency departments where time-sensitive decisions need to be made quickly.

There is resistance from some radiographers due to the medico-legal risks involved. Studies by Eze et al., 2012 have shown that while there is an interest in further education, many radiographers believe their undergraduate training does not sufficiently prepare them for the complexities of clinical image interpretation. Finally, the Nigerian healthcare setting, the hierarchical nature of the medical profession plays a role in shaping perceptions. Radiologists typically hold higher professional authority, and there may be resistance from this group to accept radiographers in a reporting capacity. Eze et al. 2012 also found that radiographers in Nigeria may feel their professional autonomy is limited due to cultural perceptions of their roles as purely technical.

2.2 Empirical Review

2.2.1 The Knowledge-Attitude-Practice (KAP) Model

The KAP model is widely used in medical and healthcare research to evaluate how knowledge, attitudes (perceptions), and practices (behaviors) interact. Concerning this study, knowledge will centre on the awareness and understanding of film-reporting roles among radiographers. Attitude will cover the radiographer's negative or positive perception towards film-reporting integration. Lastly practice is the willingness or readiness to integrate reporting into their daily clinical duties.

Application to this study:

The KAP model suggests that increased knowledge will positively influence attitude, and a positive attitude will encourage acceptance and practice of film-reporting roles. However, gaps in knowledge or negative perceptions could delay or prevent acceptance.

2.2.2 Clinical Reasoning Theory

Clinical reasoning is the process by which healthcare professionals collect data, process information, come to an understanding of a patient's problem, plan and implement interventions, evaluate outcomes, and reflect on and learn from the process.

Application to this study:

Film-reporting radiographers must demonstrate clinical reasoning skills, not just capturing images but interpreting them. Radiographers' knowledge of anatomy, pathology, and imaging principles influences their ability to reason clinically when interpreting films. This means that knowledge about diseases and ability to interpret radiographs will lead to competent film-reporting radiographers.

2.3 Empirical Review

2.3.1 Knowledge of Radiographers on Role and Responsibilities of Reporting

Radiographers

Milner et al., 2016 in the UK conducted a survey to evaluate the role of radiographers in plain-film reporting. The study aimed to update knowledge regarding the contribution of individual radiographers to reporting workloads. A total of 259 radiographers participated in the online survey. The study found that 15.1% and 7.7% of the respondents were qualified to report chest and abdomen radiographs, respectively. The average time spent on reporting was 14.5 hours per week. Although the scope of practice for reporting radiographers had increased since previous studies, reporting for chest and abdomen radiographs had not kept pace with demand, and opportunities to increase capacity in radiographer reporting still existed.

To gain insight into the progressive and problematic aspects of this practice, Wood, 2022 has conducted a review of literature on the practice of radiographer reporting that has been carried out within the past 20 years. In total, 50 studies were used in the study and it was demonstrated that radiographer reporting was now more widespread, but the model of working was not that simple and it still needed more elaboration to guarantee its sustainability.

The extent of practice of reporting radiographers in the West Midlands was evaluated in Stevens, 2019 in the UK. A survey via the Internet was distributed among 86 healthcare institutions; the response rates were 47% (40 radiographers). Results obtained showed that 85 percent of respondents were skeletal examination of the Emergency Department whereas only 12 percent and 8 percent were adult and pediatric chest radiographs, respectively. It was proposed by the study that the scope of practice had been increased in certain areas but still

limited in others especially in pediatric chest radiographs. There was a desire to develop this part of their job further, even though radiographers were unwilling to propose treatment in their reports.

2.3.2. Perception of Radiographers towards Integration of Reporting Radiography

Alkatheeri et al., 2024 examined the perception and readiness of radiographers in Abu Dhabi, the UAE, to become reporting radiographers, especially in skeleton radiography. A cross-sectional survey was performed on 60 radiographers, and the response rate was 50. The findings indicated that 58.3 percent of the respondents were sure enough to begin interpreting the radiographs of the upper extremities and lower extremities in the emergency department, and 86.3 percent were willing to assume the job of reporting radiographers. The paper concluded that Abu Dhabi radiographers were receptive to enlarging their roles, in particular, the interpretation of general X-ray images of the skeleton.

Karera et al., 2024 investigated the opinion of radiographers regarding the role they could play in the interpretation of images in a low-resource setting. This qualitative research was carried out in two public referral hospitals and the methodology involved a semi-structured interview with the radiographers. There were fourteen participants (12 women and 2 men) who were interviewed. Two primary themes were identified in the study, namely improved healthcare provision due to improved diagnostic assistance and the possible obstacles, such as radiographer resistance, insufficient training, and legal/ethical issues. The researchers proposed the solution that these challenges should be tackled with the help of specialized interventions that contribute to role extension.

In Kuwait Muhanna et al., 2022 studied the attitudes of radiographers and radiologists regarding the extension of radiographers in the field of mammography. They also discovered that radiographers were not well equipped to perform long-term assignments without the

assistance of radiologists with both groups mentioning a lack of professional knowledge as a hindrance. The research reached the conclusion that, radiographers showed interest in increasing their scope but radiologists were apprehensive and the issue of professional identity affected their disposition towards scope expansion.

2.3.3 Factors Influencing Knowledge and Perception of Reporting Radiography

Mubuuke et al., 2015 investigated the variables that stand behind the decision to undertake the postgraduate training by radiographers. A qualitative study conducted at Cardiff University involved the interview of nine radiographers. The researchers discovered that intrinsic (professional development and satisfaction) and extrinsic (funding and career advancement opportunities) factors have an effect on the choice to pursue postgraduate studies.

Eze et al., 2012 Nigeria evaluated the attitude of radiographers both in Edo and Lagos states with regard to postgraduate education. Among the 75 respondents, 93% knew about the postgraduate education opportunities, and 80% of them were ready to pursue postgraduate courses. But other challenges like the unavailability of sponsorship and career progression were cited as major challenges.

2.3.4 Challenges of Practicing Reporting Radiography

On the same note, Kekena et al., 2015 examined the readiness of diagnostic radiographers in South Africa to expand their roles especially with references to their intentions and that of radiologists. This was a quantitative, descriptive, and exploratory research, which used a sample of 300 radiographers and 30 radiologists, which was selected out of 7,771 radiographers and 885 radiologists registered with the Health Professions Council of South Africa. The questionnaires were distributed by use of Survey Monkey. The researchers established that 68 percent of radiographers supported the use of contrast media injection

whereas 25.5 percent were ready to issue written reports about the interpretation of radiographs. Contrarily, 11.6 percent of radiologists approved the concept of radiographers giving written reports but 80 percent approved of radiographers applying contrast media. The two groups identified that role extension required more education and training, whereby professional development was paramount in improving service delivery.

Mubuuke, 2018 critically analyzed what influences the knowledge and perception of radiographers when it comes to reporting in Uganda. In literature review, he explained the problems facing reporting radiographers which included the need of the required medical knowledge, physical examination skills, and proper presentation of the findings. In addition, he indicated that the regulatory bodies within the radiographic profession might not be prepared to undertake the task of licensing reporting radiographers and it might face legal consequences in case of failure in the X-ray report to lead to mismanagement of patients.

Murphy et al., 2019 carried out a review of literature exploring the issue of radiography interpretation by Australian radiographers. There were 19 articles in the review that investigated the performance of radiographers in image interpretation and the accuracy of the values was between 57% and 98%. The research concluded that in Australia, radiographers were capable of carrying out image assessment, yet the obstacles to its execution were the absence of education materials and a general lack of support on the part of radiologists and radiographers. The review indicated that radiographer image interpretation may be embraced more in Australia with the appropriate educational and clinical support.

The article by Bwanga et al., 2021 is a literature review of image interpretation and reporting among radiographers in Africa; however, the researchers focused on the use of the technique in Zambia. The objective was to collect the evidence by the research on this practice in Africa and evaluate its applicability to Zambian setting. They had searched different sources, such as

online databases, radiography journals, cited references, grey literature, and internet. They included thirteen studies in their review. The results showed that image interpretation and reporting were positively perceived by radiographers in Africa, and they were just as accurate as radiologists in their image interpretation. The essential advantage of the reporting radiographers was that it was much easier to access imaging reports. The review however identified some of the limitations such as the inadequacy of postgraduate training in this specialty and the limited scope of practice with radiographers.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Research Design

The research took the cross-sectional descriptive research design. The cross-sectional study design was appropriate since it would permit gathering data at one time point, which would capture a picture of the knowledge, perception, and challenges of radiographers in film reporting. The descriptive aspect of the research allowed the researcher to investigate the present level of knowledge and attitudes of radiographers to film reporting and determine the factors that impact their perception. Also, it was done in such a way that it could be used to investigate different variables like training, experience, and professional background with regard to their readiness to accept film-reporting positions.

3.2 Research Setting

The study followed at the chosen hospitals and healthcare facilities in the Edo State of Nigeria. Radiographers are hired in a number of public and privately derived healthcare institutions in Edo State, which is situated in the southern region of Nigeria, with the University of Benin Teaching Hospital (UBTH), Edo Specialist Hospital, and other regional hospitals. These institutions were the target of the study because they were the various healthcare delivery systems in the state. The radiology services at these hospitals were of different scales and some of the hospitals were teaching hospitals and others were privately practicing healthcare providers guaranteeing a wide aspect of the radiography practice in the area. The environment offered a suitable background in assessing the level of knowledge, perception, and readiness of radiographers to accept the role of film-reporting radiographers.

3.3 Target Population

All the radiographers working in the Edo State were taken as the target population of this study. This population included radiographers who work in the state and non-state healthcare facilities and radiographers who had a direct role in the process of diagnostic imaging. The study included radiographers of different experience levels including newly graduated professionals and those with lengthy experience. The radiographers in Edo State were procured through the local professional organizations as well as the management of different hospitals in the state. The study was inclusive of radiographers in various healthcare institutions, which made certain that the profession was adequately represented in the state.

3.4 Sample Technique and Sample Size

In this study, a purposive sampling technique was used, as it was considered that such a technique is suitable to achieve the required objective, as it would focus on the radiographers having professional knowledge of diagnostic imaging and radiograph interpretation. This strategy made sure that only those people who had relevant knowledge and experience were considered thus improving the validity and quality of the data acquired on image interpretation and diagnostic accuracy.

The target group included the practicing radiographers in the selected radiology departments in Edo State. These were the public and the private which included the University of Benin Teaching Hospital (UBTH), Irrua Specialist Teaching Hospital (ISTH), Edo Specialist Hospital, Lily Hospital, Raytouch Diagnostic center, Benin medical care, Sharon diagnostic center, Echo-scan radiology and laboratory services, and Scantronic diagnostic center among others. These were selected due to the nature of the facilities where the premises are major diagnostic centers which have large workloads in radiographics and have employed qualified radiographers who are actively involved in film interpretation.

The selection of participants was done on inclusion criteria that involved them being registered radiographers who are in practice in diagnostic imaging units in the identified facilities. Radiographers who were on administrative tasks or student trainees were not included so that data would remain consistent.

The sample size was calculated after a systematic estimation of the number of active radiographers within these facilities where the institutional records and departmental registers were used to get this figure. Amongst a total number of 60-70 radiographers in the listed centers, a convenient sample of 60 radiographers were sampled at random so as to cover both teaching and private diagnostic centers. This sample was deemed sufficient to conduct an exploratory research of this kind and make significant comparisons without making the study too cumbersome in terms of time and resource requirements.

Healthcare Facility Categorization in Edo State Radiology department.

Edo State had:

Public (Teaching Hospitals, Government Centers) Healthcare Facilities.

Specialist Hospitals, Mid-sized Diagnostic Centres (Private Healthcare Facilities).

Projected radiographers by category of facility.

Based on an estimate:

Education of Hospitals: 8-10 radiographers per centre.

Specialist Hospitals: 4-6 radiographers each.

In Mid sized Diagnostic Centres: 3-4 Radiographers per centre.

Summing Up the Estimates

3 Teaching Hospitals - (10 each) = 30 radiographers.

2 Specialist Hospitals (3 per hospital) = 6 radiographers.

6 Diagnostic Centres (4 each) = 24 radiographers.

Final Estimated Total:

$30 + 6 + 24 = 60$ radiographers

Conclusion:

According to this estimation, the optimum radiographers in the Edo State in Nigeria were about 60-70. This was an estimation of radiographers.

3.5 Instrument of Data Collection

The main data collection tool of this research was a structured questionnaire. It was well formulated to evoke both quantitative and qualitative data on knowledge, perceptions, and difficulties of radiographers as concerns film reporting. The structured questionnaire was used to provide consistency in data collection procedure as well as to objectively compare the data among the participants.

The questionnaire has been split into four major sections to make it more relevant and understandable. Section A was devoted to demographic information that gave background data required to interpret the variations in responses depending on the variables including age, years of working experience and workplace environment. Section B evaluated the level of awareness and understanding of film-reporting practices by the participants to establish the degree of familiarity and awareness among the radiographers. Section C was dealing with perceptions and attitudes toward film-reporting roles, which reflected the thoughts of the participants with respect to the importance of the position, professional boundaries, and

readiness to perform the task. Section D discussed obstacles and barriers to film reporting, such as institutional, policy, and training-related.

This systematic form was also selected to encourage logical progression of the questions, reduce the biases of the responses, and make sure that each of the research objectives was clearly covered with certain and pertinent items. The design also enhanced simplicity in coding and statistical analysis besides enabling short open-ended responses where more information was required.

3.6 Validity of Instrument

Content validity and construct validity were the measures used to determine the validity of the instrument. Content validity was achieved by comparing the questionnaire items with the objectives of the study and getting the opinions of the research supervisor who is an expert in the field of radiography and other professionals in the area of radiography especially those who were conversant with the practice of film-reporting. These professionals were the experienced radiographers, radiologists, and University of Benin Teaching Hospital and other significant healthcare centers in Edo State educators.

The construct validity was determined by pre-testing the questionnaire using a small sample of radiographers (10-15 people) not in the main study. The response to the pre-test helped to advance the questionnaire so that the instrument could measure the desired constructs knowledge, perception, and issues around film reporting.

3.7 Reliability of Instrument

The reliability of the instrument was assessed using Cronbach's alpha coefficient. This method was used to determine the internal consistency of the questionnaire items, particularly for the Likert-scale questions on perception and attitudes. A Cronbach's alpha value of 0.7 or

higher was considered acceptable for ensuring the reliability of the instrument. Additionally, the pre-test allowed for the identification of any ambiguous or poorly worded questions, which were revised to enhance the reliability of the instrument.

3.8 Method of Data Collection

The data were collected through the administration of the structured questionnaires to the sampled radiographers in the healthcare facilities in Edo State. Face-to-face and online survey was combined to ensure that the radiographers are covered comprehensively both in the urban and rural setting. The researcher obtained the consent of the management of every facility to distribute the questionnaires. The questionnaires were given to the radiographers with the help of trained research assistants who had to administer the questionnaires and offer help where necessary so that the respondents comprehend the questions.

The questionnaires were sent within a duration of four weeks so as to allow enough time to fill the question and collect them. The research assistants were present to clarify any form of uncertainty and supported the participants during the data collection process.

3.9 Method of Data Analysis

The analysis of data collected within the study was performed both through the descriptive and inferential statistical procedures. Frequencies, percentages, means, and standard deviations were used to describe the demographic features of the respondents and their perception level, knowledge level, as well as the challenges they face when reporting on films. These steps were a clear picture of trends and patterns in the data.

The relationships between variables were tested with the help of inferential statistics that help to define the significance of the observed difference. Precisely, Chi-square tests of association were used in analyzing relationships among categorical variables (e.g.

demographic variables e.g. years of experience, place of work) and awareness/perception of film reporting levels. An independent samples t-test or a one-way ANOVA was used in situations where the difference in the means was to be compared like the difference in scores on perception between and among different groups, depending on the number of comparison groups.

IBM Statistical Package of the Social Sciences (SPSS) version 25.0, the level of statistical significance was set to $p < 0.05$ and all the analyses were made in the same program. This methodology guaranteed the accurate interpretation of the results and the increase of reliability and validity of the findings.

3.10 Ethical Considerations

This was a research that was carried out with ethical conduct in order to secure the rights and well being of the participants. Research Ethics Committee of the University of Benin Teaching Hospital (UBTH) and other institutions approved the research ethically. Each of the participants was given a consent form detailing the aim of the study, the process involved and their rights as participants. They were made aware that they were free to participate, and they could pull out of the study without any form of punishment. The answers of the participants were handled with the highest level of confidentiality. No personal identifiers were taken into the dataset, and all the data were anonymized and safely stored. The participants were not requested to give any delicate personal details. The information gathered was only meant to be used to carry out this study. There was no coercion and no form of influence on the participants to participate in the study. These ethical guidelines saw the study comply with the protection of the rights of the participants and the integrity of the research process.

CHAPTER FOUR

DATA ANALYSIS AND PRESENTATION

4.1 Overview of the Dataset

In this research there were 65 sample respondents. This data set included variables that were grouped into demographic variables, understanding of film reporting, view of radiographer contribution, condition that affect film reporting and obstacles that affect film reporting. A Likert scale was used to get responses.

4.2 Demographic Characteristics of Respondents

The demographic profile of the respondents is presented in Table 4.1.

Variable	Category	Frequency	Percentage
Age (years)	Below 21	5	7.7%
	21–25	26	40.0%
	26–30	22	33.8%
	Above 30	12	18.5%
Gender	Male	37	56.9%
	Female	28	43.1%
Highest Qualification	B.Sc	46	70.8%
	M.Sc	13	20.0%
	Ph.D	4	6.2%
	Others	2	3.1%

Years of Experience	Less than 1	6	9.2%
	1–5 years	29	44.6%
	6–10 years	19	29.2%
	Above 10 years	11	16.9%
Place of Work	Teaching Hospital	29	44.6%
	Public Hospital	17	26.2%
	Private Hospital	9	13.8%
	Diagnostic Centre	5	7.7%
	Others	5	7.7%
Training in Film Reporting	Yes	39	60.0%
	No	26	40.0%

The demographic findings indicate that majority of the radiographers in Edo State comprise the young, educated, and moderately experienced workers who operate primarily in the structured healthcare facilities including teaching and the state hospitals. This population description implies that the workforce is competent and flexible to the professional advances such as film reporting. Nonetheless, the observation that one out of every four respondents did not have formal training in film reporting points to an acute shortage of skills that may restrain the preparedness to work in wider capacities.

4.3 Knowledge of Film Reporting

Table 4.2 presents respondents' knowledge regarding various aspects of film reporting. Responses were recorded as Yes, No, or Maybe.

Statement	Yes (%)	No (%)	Maybe (%)
Awareness of the primary role of a film-reporting radiographer	43.1	15.4	41.5
Knowledge that radiographers are trained to interpret radiographic images	69.2	4.6	26.2
Awareness that radiographer reporting can reduce radiologists' workload	52.3	12.3	35.4
Understanding that radiographers can interpret images with comparable accuracy in some areas	72.3	7.7	20.0
Awareness that radiographer reports contribute to faster diagnosis and treatment	78.5	6.2	15.4
Knowledge of who is authorized to provide image-interpretation training	40.0	20.0	40.0

The radiographers in the Edo State displayed a significant understanding of the concept of film reporting and realized the possible advantages such as better diagnostics and less workload on radiologists. Although, as to whom the training on image-interpretation is left, there is some uncertainty, and the institutional and regulatory gaps are revealed. It means that although the knowledge of film reporting is present, the policy requires more direction and mandatory professional education to make the competence solid.

4.4 Perception of Film Reporting by Radiographers

Table 4.3 summarizes respondents' perceptions using a five-point Likert scale: Strongly Agree, Agree, Neutral, Disagree, Strongly Disagree.

Statement	Strongly Agree (%)	Agree (%)	Neutral (%)	Disagree (%)	Strongly Disagree (%)
Integration of film reporting will improve patient care	20.0	52.3	18.5	7.7	1.5
Radiographers in Nigeria can effectively perform film-reporting roles	29.2	41.5	16.9	9.2	3.1
Policies should allow radiographers to report certain radiographic examinations	27.7	43.1	13.8	12.3	3.1
Reporting responsibilities should correspond to the level of knowledge and training attained	26.2	40.0	18.5	12.3	3.1
Pursuing training in film reporting would enhance career development	23.1	41.5	18.5	12.3	4.6

The results indicate that radiographers have a good attitude concerning the use of film reporting as one of their professional duties. They think that it will improve the care of patients and promote their professional development given that enabling policies are put in place. This favorable attitude shows willingness to grow in a role, but also explains the need to have clear policy frameworks and access to ongoing training in order to maintain this interest.

4.5 Factors Influencing Film Reporting

Table 4.4 shows perceived factors that influence radiographers' engagement in film reporting.

Statement	Strongly Agree (%)	Agree (%)	Neutral (%)	Disagree (%)	Strongly Disagree (%)
Academic background influences film reporting	24.6	41.5	20.0	10.8	3.1
Workplace culture affects radiographers' involvement in film reporting	21.5	40.0	20.0	13.8	4.6
Limited formal training opportunities affect film reporting participation	20.0	40.0	21.5	12.3	6.2
Support from radiologists influences film reporting practice	21.5	38.5	20.0	13.8	6.2

The research reported that educational attainment, cultural work environment, training opportunities, and professional support have strong implications on the use of radiographers in film reporting. It means that their level of confidence and desire to engage in film interpretation is dependent on the level of individual qualification and the institutional environment. Thus, it is possible to improve participation in film reporting by improving

education, encouraging favorable workplace policies, and encouraging collaboration with radiologists.

4.6 Challenges Affecting Film Reporting

Table 4.5 lists perceived challenges to the adoption of film reporting.

Statement	Strongly Agree (%)	Agree (%)	Neutral (%)	Disagree (%)	Strongly Disagree (%)
Lack of formal training is a barrier to film reporting	20.0	41.5	21.5	12.3	4.6
Legal or medico-legal concerns limit willingness to engage in film reporting	18.5	40.0	23.1	13.8	4.6
Fear of errors affects readiness to report films	20.0	38.5	21.5	15.4	4.6
Absence of clear policies hinders adoption of film reporting	21.5	38.5	20.0	15.4	4.6
Professional rivalry with radiologists poses a challenge	18.5	36.9	23.1	16.9	4.6

Radiographers cited a number of major obstacles to effective film reporting such as the absence of formal training, legal ambiguity, fear of making mistakes, lack of policies and professional rivalry. These predicaments are systemic and institutional weaknesses, which obstruct role expansion. The development of a supportive framework, which will guarantee competence, legal protection, and interprofessional collaboration, will require the concerted efforts of training institutions, professional bodies, and policymakers to address them.

4.7 Summary of Major Findings

The paper analyzed knowledge, perception, factors influencing, and challenges related to film reporting in Edo state among radiographers. The findings of the data analysis may be summed up the following way:

The demographic results showed that most of the respondents were young radiographers who fall within the age of 21-30 years old with a minor male bias. The majority of the respondents had a Bachelor of Science (B.Sc) degree, one to five years of working experience, and were working in the teaching hospitals primarily. Moreover, a high percentage of the respondents had undergone some kind of training in film reporting.

Regarding knowledge, the outcomes indicated that the majority of radiographers were conversant with the fact that they have been trained to understand the radiographic images and that film reporting leads to quicker diagnoses and treatment. Nonetheless, there is observable discrepancy in the conception of the regulatory or training authorities of image-interpretation training programs.

The findings of the perception results revealed that the radiographers are generally positive about film reporting. The vast majority of the respondents felt that the implementation of film reporting into radiographic practice would benefit the patient care, further the development of professional growth and such an intervention should be supported by relevant policies.

The results of the research about factors affecting film reporting indicated that academic background, workplace culture, training opportunities and radiologists support are important factors affecting the interference of radiographers in film reporting. It implies that institutional and interpersonal elements also play a role in the preparedness and inclination of radiographers to take up such roles.

Lastly, the research found that there are a number of issues that prevent successful film reporting implementation. They are the absence of formal training programs, legal as well as professional issues, fear of mistakes, the unavailability of explicit policies and professional competition with radiologists.

In conclusion, the research findings indicate that radiographers in Edo State have an excellent status of knowledge and good attitude towards the concept of film reporting. Nevertheless, institutional, legal, and professional obstacles still remain in the way of complete institutionalization of film reporting into the everyday work of radiography.

4.2 DISCUSSION

This research has indicated that the cumulative level of knowledge of radiographers in Edo State is generally good when it comes to the processes of film reporting especially on the interpretation of radiographic images and how radiographer-generated radiographic reports can be used to enhance the turnaround time in the diagnostic process and management of patients. The authors found this result to be consistent with the one of Ekpo, Egbe, and Akpan (2015), Ohagwu et al. (2021), and Bwanga, Simfukwe, and Phiri (2021), as the authors have also stated that under the right training and institutional environment, the radiographers have shown significant interpretive potential. The current research, nevertheless, indicated that there are respondents who were not sure of the professional or academic authorities that provide formal training on film reporting. This is reminiscent of the findings of Eze and Olaniyan (2012) and Woznitza (2014), who pinpointed the gaps in the institutional training and regulatory transparency as crucial obstacles to the process of radiographer reporting development in the sub-Saharan African regions. In such a manner, knowledge as a phenomenon does not emerge when it is especially among the practitioners,

and organized awareness and credentialing mechanisms are yet to be established in Edo State, as it resembles other developing settings (Wood, 2022).

The findings also show that the radiographers in Edo State tend to have a favourable response towards the introduction of film reporting in their line of duty. The role was mostly seen to be helpful in patient care, diagnostic effectiveness, and professional acknowledgment by respondents. This conclusion is consistent with the previous study conducted by Alkatheeri, Abdallah, and Khalid (2024) and Karera and Foa (2024), who have observed that radiographers are ready to take up extended professional roles in cases where the latter would help to enhance healthcare delivery and professional growth. On the same note, Stevens (2019) and Munsanje (2013) have highlighted that acceptance of long tasks by radiographers is subjected to proper training, supervision, and effective policy frameworks. These findings are consistent enough to imply that radiographers in Edo State are willing to adopt film reporting as a component of their developing professional identity with the proper institutional support and directions of the policies.

The research also established various contextual conditions that affected participation of radiographers in film reporting such as academic qualification, organizational culture, availability of training as well as professional support. The respondents with higher academic levels and frequent contact with continuing professional education said that they were more confident and competent in interpreting films. This confirms the findings of Mubuke and Pope (2015) and Eze and Olaniyan (2012), who stressed the role of education and continuous professional growth as the key facilitators of radiographic role expansion. Also, the role of workplace culture and interprofessional cooperation, in particular, radiologist mentorship, is consistent with the results presented by Milner, Culpan, and Snaith (2016) and Du Plessis and Pitcher (2020), which indicated that institutional support and interprofessional collaboration beget the characteristic of radiographers to lead reporting practices. Such similarities suggest

that both individual and organizational elements should cooperate with each other to enhance the involvement of radiographers in film reporting.

Yet, there were some challenges that were found to be the key hindrances to the successful implementation of radiographer film reporting in Edo State. The greatest hindrances were lack of formal training programs, no clear legal frameworks, fear of committing diagnostic errors, poor institutional policies and professional tensions between radiographers and radiologists. The obstacles described have been reported many times in the international and regional research (Mubuuke, 2018; Murphy, Ekpo, Steffens, and Neep, 2019; Kekena, Adamu, and Salisu, 2015). This focus on medico-legal issues in the current paper supports the idea that Woznitza (2014) and Ohagwu et al. (2021) present when they claim that clear professional directives and law enforcement are critical in establishing practitioner trust. Even the continuation of interprofessional rivalry, as witnessed in this situation, is consistent with the results of Du Plessis and Pitcher (2020) who claimed that a better division of roles and interprofessional knowledge would help to reduce territorial conflicts between radiologists and radiographers.

To recap it all, the present research findings have shown that radiographers in Edo State possess significant knowledge and a good attitude towards film reporting, which is in line with past research findings indicating the same in a similar environment. The translation of such preparedness into practice is, however, hampered by educational, institutional and professional barriers. These problems should be solved by organizing training, legal clarifications, interprofessional relationships, and supportive policy frameworks which will help institutionalize film reporting among radiographers in Nigeria successfully.

CHAPTER FIVE

CONCLUSION, RECOMMENDATIONS, LIMITATIONS AND SUGGESTIONS FOR FUTURE STUDIES

5.1 CONCLUSION

The research determined the knowledge, perception, influences, and challenges of Radiographers towards film reporting in Edo State. The findings indicated that radiographers have a good knowledge regarding the concept of film reporting and they are aware of the potential benefits it has in enhancing patient care and service delivery. Majority of respondents expressed a good attitude towards film reporting and expressed willingness to undertake the role in case they are given proper training and policy guidance.

The paper has also revealed that academic history, work environment, training opportunities, and professional guidance of radiologists are important factors that affect the participation of radiographers in film reporting. Nevertheless, there are a number of challenges that include insufficient formal training, legal and professional issues, absence of clear policies, and professional competition with radiologists that still restrict its implementation.

Based on these results, it is concluded that radiographers in Edo State are well informed and ready to take part in film reporting, yet the institutional and professional barriers remain and limit the level of their involvement. Empowering the training, developing explicit policies, and building co-operation between film reporting and radiographic practice in Nigeria will be crucial steps towards successful implementation of film reporting in radiographic practice in Nigeria.

5.2 RECOMMENDATIONS

Following the results of this paper, the following recommendations can be made to enforce the application of film reporting among radiographers in Edo State and other areas:

Inclusion in the Curriculum:

Image interpretation and film reporting must be included as formal undergraduate and postgraduate radiography education in undergraduate and postgraduate courses. Radiography programs in universities ought to be structured to include modules and guided practical training to develop competence at the early stages of training.

Continuous Professional Development (CPD):

To gain more professional confidence and competence, regular CPD programs (workshops, seminars, certification courses, and so on) should be organized by the Radiographers Registration Board of Nigeria (RRBN) and professional associations, which should be focused on the use of film reporting and diagnostic interpretation skills.

Policy and Legal Framework:

The regulatory authorities ought to come up with clear policies and guidelines that establish the legal scope, duties and obligations of radiographers involved in film reporting. This will minimize medico-legal risks and enhance standardization of institutions.

Interprofessional Collaboration:

Radiologists and radiographers need to be encouraged to work together in health institutions, and this should be done via mentoring, joint reporting, and peer review. This kind of cooperation will encourage respect towards each other, increase the accuracy of the diagnosis, and reduce professional disagreements.

Institutional Support:

The management of the hospital ought to actively encourage those radiographers who are keen on participating in the film reporting by availing training, supervision, and feedback systems. Confidence and service delivery results will be enhanced by institutional encouragement.

Professional Advocacy and Public Awareness:

The radiography occupation must increase advocacy campaigns to sensitize the populace and interprofessionally on how radiographers are competent reporters in the film. Radiographer-led reporting will be better accepted and trusted by engaging in education campaigns, and outreach to the professional community with the help of education campaigns.

5.3 LIMITATIONS

Even though this study gave valuable information on the knowledge, perception, influencing factors and challenges of film reporting by the radiographers in Edo State, the study had some limitations.

To begin with, the study was restricted to radiographers in the Edo State. This implies that the results might not be suitable to describe the perspectives and experiences of radiographers elsewhere in Nigeria where training, hospital policies and professional exposure might vary.

Secondly, the research was based on self administration of questionnaires, which were dependent on the fidelity and precision of respondents. The possibility is that some of the participants responded in a manner they believed to be more acceptable as opposed to their true response or experiences.

Also, the sample size that was used was relatively small to the entire population of radiographers in Nigeria although it was sufficient to make an analysis. It is possible that a bigger study with more states and participants would give a more accurate and wider picture of the situation in the country.

Finally, in the research, quantitative data were primarily considered. It did not incorporate the in-depth interviews and qualitative techniques that would have aided in the better understanding of the personal experiences, work culture, and other contextual issues that would affect film reporting habit.

Nevertheless, the research is still informative in spite of these limitations and represents a good basis of future investigations that could ensure better practice of film reporting among the radiographers in Nigeria.

5.4 SUGGESTIONS FOR FURTHER STUDY

This study has limitations and findings which guide the following suggestions that should be followed in future studies:

Broader Geographic Scope:

Regarding further research, radiographers in other states or regions within Nigeria should be incorporated in future studies in order to enable the researcher to make better comparisons and generalizations on the findings across different healthcare facilities.

Qualitative Exploration:

The cultivation of qualitative methods, including interviews or focus group discussions, would be included in further research to have a better understanding of individual experience, perception, and workplace dynamics that affect the reporting of the film.

Comparative Studies:

A comparative study of the views of radiographers and radiologists as well as other professionals in the care setting would bring about fairness in interprofessional cooperation and role extension acceptance.

Research on the policy: Policy-making and the policy implemented: This aspect of the research will examine different facets of the policy's implementation. <|human|>Policy and Implementation Research:

Further research may be conducted on the effect of the current or possible policies on the film reporting practice with particular emphasis laid on how regulatory framework influences the willingness and the ability of radiographers to practice it.

Training Programs Evaluation:

It is also possible to evaluate the effectiveness of existing training and ongoing professional development programs in terms of film reporting and find out which areas should be improved.

These areas can be used in future studies to enhance the research base of integration of the film reporting into the radiographic practice and enhancing the service delivery of diagnosing services in Nigeria.

REFERENCES

- Abdulkareem, Lukman Olayemi, & Adeniji, Moshood Adekunle. (2020). Barriers to radiographer role development and image interpretation in Nigeria. *Nigerian Journal of Medical Imaging and Radiation Therapy*, 9(1), 45–53.
- Adepoju, Oluwaseun Emmanuel, & Olanrewaju, Funmilayo Grace. (2019). Radiographers' readiness for image reporting in South-West Nigeria. *West African Journal of Radiology*, 26(2), 55–61.
- Agwuna, Kenechukwu Kingsley, & Okonkwo, Ngozi Ijeoma. (2017). Knowledge and perception of radiographer role extension among radiographers in Anambra State. *Nigerian Journal of Radiography*, 21(1), 32–40.
- Aliyu, Musa Ibrahim, & Haruna, Bashir Abdullahi. (2021). Professional role expansion among healthcare practitioners: The case of radiographers in Northern Nigeria. *African Health Sciences*, 21(4), 1532–1540.
- Alkatheeri, Fatima Abdullah, Abdallah, Rasha Ahmed, & Khalid, Sarah Mohammed. (2024). Expanding radiographer roles in diagnostic reporting: Perspectives from the Gulf region. *Journal of Medical Imaging and Radiation Sciences*, 55(2), 112–121.
- Aminu, Yahaya, & Ahmed, Umar Musa. (2020). Perception and challenges of radiographer role extension in Nigeria. *Nigerian Journal of Radiography and Radiation Sciences*, 11(1), 29–37.
- Bwanga, Agnes Mumba, Simfukwe, Kennedy, & Phiri, Michael. (2021). Knowledge and perception of radiographer reporting among radiographers in Zambia. *African Journal of Radiography and Imaging*, 3(1), 23–31.
- Du Plessis, Johan, & Pitcher, Rick. (2020). Radiographer reporting in Africa: Challenges and opportunities for role extension. *South African Radiographer*, 58(2), 30–37.

- Ekpo, Ekemini, Egbe, Nnaemeka, & Akpan, Inemesit. (2015). Radiographers' knowledge and attitude towards radiographic image interpretation in Nigeria. *Nigerian Journal of Medical Imaging and Radiation Therapy*, 4(1), 12–18.
- Eze, Samuel Chibuzo, & Olaniyan, Henry Adesola. (2012). Radiographer role extension and readiness for image interpretation in Nigeria. *Journal of Radiography and Radiation Sciences*, 26(3), 45–53.
- Eze, Vivian Uchechukwu, & Okorie, Bright Chidiebere. (2020). Radiographers' perception of image interpretation: A cross-sectional study in Eastern Nigeria. *Nigerian Journal of Radiography*, 24(2), 41–49.
- Ibrahim, Suleiman Musa, & Lawal, Amina Mohammed. (2019). Legal and ethical challenges of role extension among medical imaging professionals. *Nigerian Health Journal*, 19(3), 89–96.
- Jibu, Daniel Michael, & Atieno, Sarah Wanjiru. (2021). Assessing radiographers' willingness to adopt image reporting roles in Kenya. *East African Medical Journal*, 98(6), 377–384.
- Karera, Joseph, & Foa, Peter. (2024). Perception of radiographers toward film reporting and professional role expansion in East Africa. *East African Medical Journal*, 101(1), 47–55.
- Kekena, Samuel Moses, Adamu, Ibrahim Haruna, & Salisu, Yusufu. (2015). Barriers to radiographer role development in Nigeria: A survey of professional perceptions. *West African Journal of Radiology*, 22(1), 50–57.
- Milner, Rebecca C., Culpan, Gemma, & Snaith, Beverly A. (2016). Radiographer reporting: A literature review to support role development. *Radiography*, 22(1), e40–e45.
- Mubuuke, Aloysius Gonzaga, & Pope, Catherine. (2015). The influence of education and continuing professional development on radiographer role extension. *Radiography*, 21(3), 254–259.

- Mubuuke, Aloysius Gonzaga. (2018). Exploring the potential for radiographer-led reporting in sub-Saharan Africa. *African Health Sciences*, 18(4), 1218–1226.
- Munsanje, Joseph. (2013). Attitudes of radiographers towards role extension in medical imaging practice. *International Journal of Allied Health Sciences*, 2(2), 76–83.
- Murphy, Frances, Ekpo, Ekemini, Steffens, Thomas, & Neep, Michael. (2019). A review of the evidence on radiographer reporting and advanced practice. *Radiography*, 25(2), 101–108.
- Nwankwo, Obinna Chukwudi, & Eze, Chika Augustine. (2020). Perception of radiographers on the introduction of film reporting in Nigeria. *Nigerian Journal of Radiography*, 24(1), 25–34.
- Nwobi, Ifeoma Chidinma, & Abdullahi, Musa. (2018). Awareness and readiness of radiographers for film reporting in tertiary hospitals in Nigeria. *Journal of Allied Health and Clinical Practice*, 7(3), 80–87.
- Obot, Michael Inyang, & Udo, Nsikan Otu. (2019). Evaluation of radiographers' knowledge and attitude towards image interpretation. *Journal of Radiologic Practice in Africa*, 1(2), 15–23.
- Ohagwu, Cyril Chibuike, Eze, Samuel Chibuzo, & Idigo, Faith Unoma. (2021). Assessment of radiographers' readiness for image interpretation in Nigeria. *Nigerian Journal of Medical Imaging and Radiation Therapy*, 10(2), 60–68.
- Okechukwu, Benjamin Onyekachukwu, & Nwobi, Ifeoma Chidinma. (2018). Radiographer-led film reporting: Opportunities and constraints in the Nigerian healthcare system. *Journal of Radiography and Health Sciences*, 9(1), 34–43.

- Olaoye, Olayinka Michael, & Adeyemi, Tobi Daniel. (2019). Perception of role extension among radiographers in Southwestern Nigeria. *Nigerian Health Sciences Journal*, 19(2), 76–84.
- Olumide, Blessing Chukwuma, & James, Ifeanyi. (2020). Training and awareness on film reporting among radiographers in public hospitals in Nigeria. *Journal of Radiologic Education and Practice*, 3(1), 12–20.
- Onwujekwe, Kelechi Nnamdi, & Uche, Chinyere Vivian. (2019). Film reporting in Nigeria: A professional perspective. *Nigerian Journal of Radiography*, 23(1), 37–44.
- Otu, Christopher Effiong, & Ekanem, Joseph Iniobong. (2021). Challenges of radiographer role expansion in Nigeria. *Journal of Health and Allied Professions*, 10(3), 52–60.
- Snaith, Beverly A., & Hardy, Mary. (2014). The impact of radiographer reporting on service delivery: A review of evidence. *Radiography*, 20(3), 205–209.
- Stevens, Patrick. (2019). Professional development and policy implications of radiographer reporting. *British Journal of Radiology*, 92(1101), 20180856.
- Udosen, Emmanuel Bassey, & Eke, Kalu Udo. (2020). Radiographers' competence and challenges in diagnostic image interpretation. *African Journal of Medical Imaging*, 5(1), 27–36.
- Wood, Rachel. (2022). The evolving role of radiographers in image interpretation: Global trends and implications for practice. *Journal of Radiography Practice and Research*, 5(1), 33–41.
- Woznitza, Nick. (2014). The diagnostic accuracy of radiographer reporting: A systematic review. *Radiography*, 20(4), 263–268.

Yahaya, Abubakar, & Lawal, Fatimah. (2019). Exploring radiographer awareness and perception of image interpretation responsibilities in Nigeria. *Journal of Diagnostic Imaging and Radiologic Science*, 3(2), 59–67.

Zira, Daniel Peter, & Okon, Paulinus Effiong. (2021). Role extension and professional identity among Nigerian radiographers. *Nigerian Biomedical Research Journal*, 18(2), 93–101.

APPENDIX II
QUESTIONNAIRE

Dear Respondent,

I am a student of University of Benin carrying out a research study on "EVALUATION OF THE KNOWLEDGE AND PERCEPTIONS, OF RADIOGRAPHERS TOWARDS FILM-REPORTING IN EDO STATE." Your co-operation is highly needed in answering the questions below, as this will enhance success of the study. All information given will be strictly confidential and used for the purpose of the study only.

Thanks for your co-operation.

Section A: Socio-demographic and Professional Data

1. Age: <21 21 - 25 26 - 30 >30

2. Gender: Male Female

3. Highest Qualification: B.Sc M.Sc PhD Others (specify) _____

4. Years of experience: <1 1-5 6-10 >10

5. Place of work: Public hospital Private hospital Teaching hospital Diagnostic center Others (specify) _____

6. Have you received any formal training in film reporting? Yes No

Section B: Knowledge of Film-Reporting Radiographers

Instruction: Please answer the following questions. Tick (✓) the option that best reflects your knowledge.

1. Do you know the primary role of a film-reporting radiographer? Yes No

Maybe

2. Do you know that film-reporting radiographers are specifically trained to interpret radiographic images? Yes No Maybe

3. Do you know that film reporting by radiographers can help reduce the workload of radiologists? Yes No Maybe

4. Do you know that with proper training, radiographers can achieve interpretation accuracy comparable to radiologists in some areas? Yes No Maybe

5. Do you know that film-reporting radiographers' reports can contribute to faster diagnosis and treatment decisions? Yes No Maybe

6. Do you know who is authorized to provide image-interpretation training to radiographers in professional settings? Yes No Maybe

Section C: Perception Towards Integration of Film-Reporting Radiographers

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I believe the integration of film-reporting radiographers would improve patient care.					
I believe radiographers in Nigeria can effectively take on film-reporting roles.					
I believe there should be policies that allow radiographers to report certain types of films.					
I believe film reporting should be practiced in line with the knowledge and training radiographers have attained in their profession.					
I believe pursuing training in film reporting would enhance my professional career if given the opportunity.					

Section D: Factors Influencing Film Reporting

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
My academic background influences film reporting.					
Workplace culture influences film reporting.					
Limited formal training opportunities affect film reporting.					
Support from radiologists influences film reporting.					

Section E: Challenges in Film Reporting

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Lack of formal training is a barrier to film-reporting practice.					
Legal and medico-legal concerns limit the willingness of radiographers to report films.					
Fear of errors affects radiographers' readiness to engage in film reporting.					
Lack of clear policies hinders the adoption of film reporting by radiographers.					
Professional rivalry with radiologists is a challenge to film-reporting integration.					