ASSESSMENT OF ADEQUATE FILLING OF RADIOLOGY REQUEST FORMS BY REFERRING PHYSICIANS IN TWO HEALTH FACILITIES IN BENIN CITY, EDO STATE, NIGERIA

A PROJECT

BY

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MATRICULATION NUMBER : BMS1902580

DEPARTMENT OF RADIOGRAPHY

SCHOOL OF BASIC MEDICAL SCIENCES

UNIVERSITY OF BENIN,

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MARCH, 2025

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SUBMITTED TO DEPARTMENT OF RADIOGRAPHY, SCHOOL OF BASIC, MEDICAL SCIENCE,
UNIVERSITY OF BENIN, BENIN CITY

IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF BACHELOR OF RADIOGRAPHY (B.Rad) DEGREE

MARCH, 2025

CERTIFICATION

This is to certify that the project work with the topic: **ASSESSMENT OF ADEQUATE FILLING OF RADIOLOGY REQUEST FORMS IN TWO HEALTH FACILITIES IN BENIN CITY, EDO STATE, NIGERIA** by **OKORO ROSEMARY CHIDINMA** with matriculation number **BMS1902580** was carried out under my supervision.

MRS. F. O. IGBINEDION **…….**

(Supervisor) **Signature and Date**

MRS F.O. IGBINEDION **……**

(Head of Department) **Signature and Date**

DEDICATION

To the Almighty God for making this project a success.

To my beloved parents, Mr Steve Sunday Okoro and Mrs Edna Chidinma Okoro, who has never failed to show me love, inspiration, financial and moral support, throughout my academic journey.

To my best friend Ifechukwu Stephen Ibeme , whose support and encouragement have greatly contributed to the completion of this work .

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TABLE OF CONTENT

LIST OF TABLES

Abstract

Radiology request forms (RRFs) are crucial tools that facilitate communication between referring clinicians and radiology departments, ensuring appropriate and justified imaging studies. When these forms are poorly completed, it can lead to diagnostic mistakes, treatment delays, unnecessary radiation exposure, and increased healthcare costs. This study evaluated how thoroughly referring physicians completed RRFs at the University of Benin Teaching Hospital (UBTH) and RayTouch Diagnostic Center in Benin City. A retrospective review of 1,600 forms submitted from June to November 2024 assessed key elements such as patient data, clinical background, requested imaging, and physician information. Completion rates were generally high—83.2% for patient identification, 94.2% for clinical history, 95.2% for imaging requests, and 94.9% for physician details—with UBTH performing better overall. Nevertheless, notable gaps, especially in patient identification, were observed. Survey responses from 21 healthcare professionals revealed that incomplete forms often led to repeated tests, diagnostic errors, and operational inefficiencies. A statistically significant difference ($p < 0.05$) was observed between the two facilities. These results highlight the importance of implementing electronic RRF systems, ongoing training for clinicians, and institutional policies to improve documentation. Such measures could enhance diagnostic precision, reduce unnecessary procedures, and improve patient safety.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Radiology is a cornerstone of modern healthcare, offering critical support in diagnosing and managing various medical conditions. It enables early disease detection, supports treatment decisions, and improves patient outcomes. Radiology request forms are more than administrative paperwork—they are essential communication tools that ensure imaging studies are justified and relevant. These forms should include comprehensive patient information, relevant medical history, the clinical question, and the requested imaging modality. Clear, complete forms help radiologists make accurate assessments and recommendations, which are vital for effective treatment (Williams et al., 2018). In contrast, missing details can result in misinterpretation, unnecessary scans, delayed diagnoses, or incorrect treatments, all of which strain healthcare resources and compromise patient safety (Taylor et al., 2017).

Moreover, RRFs serve as legal documentation of the physician's request and the radiologist's findings (Ismail & Ibrahim, 2018). Referring physicians have a key role in initiating diagnostic imaging through accurate and complete form completion. The quality of information provided affects diagnostic accuracy and patient safety (Alavi et al., 2020). For instance, a history of allergies or kidney disease must be included to avoid adverse reactions during contrast imaging (Larsen et al., 2020).

Besides clinical information, administrative details—such as patient demographics and physician identifiers—must also be accurately provided (Onoja & Tunde, 2019). Failure to do so can cause confusion, delays, or errors in patient processing (Khakbaz et al., 2019). Poorly filled forms slow down the diagnostic process and may result in misdiagnosis if radiologists lack the necessary context (Adebayo et al., 2021).

Ultimately, incomplete forms can lead to incorrect procedures or misinterpretation, potentially harming patients through delayed or inappropriate treatment (Jain et al., 2022).

This study aims to assess how well clinicians at UBTH and RayTouch Diagnostic Center complete RRFs and determine how improved form accuracy can enhance diagnostic effectiveness and patient care. Findings will offer insights to guide strategies for better form completion and healthcare outcomes.

1.2 Statement of the Problem

Radiology request forms are essential for effective communication between referring doctors and radiologists, offering vital details like clinical history and provisional diagnoses (Alavi et al., 2020). Incomplete or vague forms make it difficult for radiologists to interpret results accurately, potentially resulting in repeated tests and increased healthcare costs (Khakbaz et al., 2019; Bailey & Heneghan, 2020). A major issue is the absence of standardized guidelines on how these forms should be filled, especially in healthcare facilities like those in Benin City (Adeyemo & Olanrewaju, 2023). Without proper training or protocols, inconsistencies in form completion persist, negatively affecting communication and care quality.

Although the negative effects of incomplete forms are recognized, there is little local data to quantify the problem in Benin City. This lack of data hinders efforts to address the issue. A thorough evaluation is necessary to identify the causes and develop interventions such as clinician training, standardized procedures, and improved collaboration between referring physicians and radiologists.

1.3 Aim and Objectives

1.3.1 Aim

To assess how adequately referring physicians complete radiology request forms in two healthcare facilities in Benin City.

1.3.2 Objectives

To evaluate the completeness of radiology request forms submitted to radiology departments in selected hospitals.

To identify the most commonly omitted information on these forms.

To assess how incomplete forms affect patient care.

To compare the adequacy of form completion between the two hospitals.

1.4 Significance of the Study

The study can help reduce misinterpretation of radiological images caused by poorly filled request forms.

It aims to raise awareness among radiographers to avoid unnecessary imaging, supporting more accurate diagnoses.

It could shorten investigation times and improve service quality for patients.

The findings will highlight the importance of complete form documentation.

It will serve as an educational tool to help prevent diagnostic errors.

1.5 Research Questions

1. How complete are the radiology request forms submitted at the selected hospitals?

2. What details are most often missing from these forms?

3. How does inadequate form completion affect patient outcomes?

4. Is there a notable difference in form completion between the two facilities?

1.6 Hypotheses

Null Hypothesis (H_0): There is no significant difference in radiology request form completion between the two healthcare facilities.

Alternative Hypothesis (H_1): There is a significant difference in the completeness of radiology request forms between the two facilities.

1.7 Scope of the Study

This study focuses on radiology request forms submitted between June and November 2024 to the radiology departments of the University of Benin Teaching Hospital and RayTouch Diagnostic Center in Benin City, Edo State. It assesses the completeness and quality of the information provided.

1.8 Operational Definitions

Radiology Request Form: A form used by clinicians to provide essential patient information and imaging requirements.

Adequacy: How well the information meets required standards for proper imaging and diagnosis.

Clinician: A healthcare provider who initiates patient care and imaging requests.

Misdiagnosis: An incorrect diagnosis due to inadequate information on the form.

Diagnostic Process: The steps taken to determine a patient's condition using clinical and imaging data.

Educational Interventions: Training aimed at improving clinicians' ability to complete RRFs accurately.

Completeness: The extent to which all required sections of the RRF are properly filled out

CHAPTER TWO

LITERATURE REVIEW

2.1 Conceptual Review

2.1.1 Radiology Request Forms

Radiology Request Forms (RRFs) are essential communication tools in healthcare, facilitating interaction between referring physicians and radiology departments. These forms ensure that imaging studies are justified and aligned with clinical needs. Their role extends beyond administrative documentation—they influence patient safety, diagnostic accuracy, and healthcare efficiency. According to Al-Salamah et al. (2020), accurately completed RRFs provide critical information about the patient, including demographics, relevant clinical history, provisional diagnoses, and specific imaging requests. This information enables radiologists to select the most appropriate imaging modality, tailor protocols, and interpret results effectively. A well-documented RRF enhances imaging justification and helps avoid unnecessary procedures, supporting the ALARA (As Low As Reasonably Achievable) principle (Elsheikh et al., 2021).

Inadequately completed RRFs are common in clinical practice, often due to time constraints, lack of awareness, or insufficient training among referring physicians. Missing information—such as clinical indications or patient history—can compromise the diagnostic process, leading to suboptimal imaging, delays, or even misdiagnoses. A study in Sudan found that only 56% of RRFs included complete clinical information, highlighting significant documentation gaps (Elsheikh et al., 2021). To address this, improvements such as standardization and technological integration have been recommended. Standardized forms ensure consistency, while digital systems with mandatory fields reduce omissions and enhance data accuracy. Training programs are equally vital, raising awareness of comprehensive documentation's importance and promoting collaboration between clinicians and radiologists (Al-Salamah et al., 2020).

RRFs also have legal and ethical implications. As medicolegal documents, they protect both patients and healthcare providers. Proper documentation ensures that imaging studies are clinically indicated, supporting ethical medical practice and safeguarding patient rights. Additionally, well-completed RRFs optimize healthcare resource allocation by avoiding unnecessary imaging and associated costs (Al-Salamah et al., 2020). Addressing challenges related to RRF completion requires a multifaceted approach involving standardization, technology, and education to enhance diagnostic accuracy and patient outcomes.

2.1.2 Adequately Filled Radiology Request Forms

Adequately filled RRFs are fundamental to modern medical practice, serving as the cornerstone of effective communication between referring physicians and radiologists. These forms provide critical patient information and clinical context, ensuring appropriate imaging and accurate interpretation. An adequately filled RRF includes patient demographics (name, age, gender, hospital number), relevant clinical history, provisional diagnosis, the requested imaging study, and the referring physician's details. Such completeness enhances patient safety, diagnostic accuracy, and departmental efficiency (Al-Salamah et al., 2020).

A major benefit of adequately filled RRFs is improved diagnostic precision. Detailed clinical histories allow radiologists to interpret imaging within the proper context, reducing misinterpretations and missed diagnoses. For example, when a suspected fracture or malignancy is well documented, radiologists can focus on the appropriate anatomical regions (Akintomide et al., 2022).

These forms also justify imaging studies, particularly where ionizing radiation is involved. Comprehensive documentation ensures alignment with safety standards like the ALARA principle. Additionally, adequately filled RRFs streamline workflow, reducing the need for follow-up communication and minimizing delays in imaging and diagnosis (Elsheikh et al., 2021).

Legal and ethical considerations reinforce the importance of RRFs. As official records, they justify imaging studies and serve as evidence in medico-legal cases. Incomplete forms can be seen as negligence, while well-documented forms support clinical decision-making (Al-Salamah et al., 2020; Akintomide et al., 2022). Challenges to completeness include insufficient training, time constraints, and lack of standardized forms or electronic systems. Addressing these challenges involves implementing training, adopting digital forms with required fields, and conducting regular audits (Elsheikh et al., 2021).

Adequately completed RRFs are essential for safe, efficient, and accurate imaging services. They enhance communication, diagnostic accuracy, and ethical compliance, making their improvement a priority for healthcare systems.

2.1.3 Importance of Adequately Filled Radiology Request Forms

Adequately filled RRFs are crucial for delivering effective radiological services. They ensure that imaging studies are clinically justified, diagnostically relevant, and patient-focused. These forms facilitate clear communication between referring clinicians and radiologists, improving diagnostic accuracy and patient outcomes (Elsheikh et al., 2021).

A comprehensive RRF includes detailed patient information, clinical history, and provisional diagnoses, enabling radiologists to tailor imaging appropriately. This targeted approach reduces diagnostic errors and enhances the efficiency of the imaging process (Al-Salamah et al., 2020).

RRFs also justify the need for imaging procedures, aligning with evidence-based practices and minimizing unnecessary radiation exposure. Proper documentation is critical for upholding safety standards, such as the ALARA principle (Akintomide et al., 2022; Al-Salamah et al., 2020). Furthermore, well-documented RRFs reduce delays by eliminating the need for clarification, thereby improving departmental productivity (Elsheikh et al., 2021).

From a legal and ethical standpoint, these forms serve as official documentation that justifies medical decisions. An incomplete RRF may be used as evidence of negligence, whereas a complete form reflects adherence to ethical standards (Akintomide et al., 2022). In multidisciplinary care, detailed RRFs ensure radiologists are informed and able to collaborate effectively, especially in complex cases (Al-Salamah et al., 2020).

Despite their importance, challenges such as time pressure, lack of training, and unstandardized forms persist. Addressing these issues requires strategies like electronic systems, regular audits, and clinician training (Elsheikh et al., 2021). The importance of well-completed RRFs cannot be overstated, as they are essential for high-quality diagnostic care.

2.1.4 Factors Affecting Adequately Filled Radiology Request Forms

Several factors influence the adequacy of RRF completion:

Knowledge and Training: Physicians with adequate radiology knowledge are more likely to provide complete forms. Training programs and continuous medical education can significantly improve RRF quality (Al-Salamah et al., 2020).

Time Constraints and Workload: Heavy workloads and emergency situations often lead to rushed or incomplete forms. Streamlined processes and electronic systems with templates can mitigate this issue (Akintomide et al., 2022).

Institutional Policies: Facilities with standardized protocols and regular audits report higher-quality documentation. Institutions must implement consistent guidelines and provide feedback (Al-Salamah et al., 2020).

Technological Integration: Electronic Health Records (EHRs) and digital request systems with mandatory fields improve form completeness and decision-making (Khalil et al., 2020).

Legal and Ethical Awareness: Understanding the medicolegal implications motivates healthcare providers to ensure accuracy and completeness (Akintomide et al., 2022).

Clinician-Radiologist Communication: Regular feedback from radiologists encourages better form completion and accountability (Elsheikh et al., 2021).

Resource Availability: Staffing shortages and inadequate infrastructure often result in poor documentation, especially in low-resource settings. Investment in resources is essential (Al-Salamah et al., 2020).

Healthcare Provider Attitudes: Some providers view RRFs as a bureaucratic task rather than a clinical necessity. Changing this perception through education can foster better practices (Akintomide et al., 2022).

2.2 Empirical Review

Elsheikh et al. (2021) conducted a study at a tertiary hospital to assess how well radiology request forms (RRFs) were completed, focusing on the effects of incomplete forms on imaging interpretation. They found that only 2.5% of forms included prior radiological history, while basic details like age and sex were usually provided. However, clinical notes were missing in 57.1% of cases. The study concluded that incomplete RRFs negatively affect radiological workflow and accuracy, recommending better clinician training and standardized forms.

Akintomide et al. (2022) evaluated the quality of RRFs in a teaching hospital, finding that while age and sex were mostly recorded (95.1% and 84%, respectively), 62% of forms lacked essential clinical details. Additionally, 20% of forms were illegible. The authors emphasized the need for digital solutions to reduce errors and improve readability.

Al-Salamah et al. (2020) compared RRF completion rates between two hospitals in Yorkshire to identify systemic challenges. The study revealed that 40% of forms were missing crucial clinical information, and 50% lacked the referring doctor's contact details. The authors recommended regular institutional audits to enforce proper documentation.

Cohen et al. (2021) investigated incomplete RRFs in emergency departments, where time pressures often lead to gaps in documentation. They found that 30% of requests were submitted by doctors who had not seen the patient, and over 50% lacked adequate clinical details. The study called for structured guidelines and mandatory training for emergency physicians.

Jumah et al. (2020) evaluated the effect of redesigned RRFs on form completion. After introducing the new forms, audits showed a 40% improvement in completion rates and

significantly fewer missing clinical details, demonstrating the benefits of standardized forms with mandatory fields.

Parillo et al. (2024) assessed RRF adequacy using the Reason for Exam Imaging Reporting and Data System (RI-RADS) in an Italian university hospital. Reviewing 762 inpatient imaging requests, they found only 1% were fully adequate. Requests for routine imaging, especially from cardiovascular surgery and orthopedics, were particularly incomplete, likely due to assumptions about case simplicity. The study suggested that improving familiarity with RI-RADS and using artificial intelligence tools could enhance form quality.

At Hawassa University Comprehensive Specialized Hospital (HUCSH), a study analyzed 385 RRFs from August to September 2023, examining completion rates for demographic and clinical sections. While patient details were mostly filled in, allergy history (17%) and prior imaging history (1%) were frequently missing. The authors warned that such gaps could compromise diagnostic precision and patient safety, recommending better training for referring clinicians.

Hajalamin et al. (2024) conducted a systematic review of RRF completion practices across Africa, analyzing 30 studies from eight countries. They found widespread deficiencies, especially in recording referrers' contact details and clinical justification. Paper-based systems were particularly prone to errors. The authors advocated for the adoption of standardized electronic forms and enhanced clinician training to improve patient outcomes.

In Nigeria, Adebayo et al. (2024) studied the effect of physician training on RRF completion. Pre- and post-training audits of 200 forms over six months showed that training increased adequately completed forms from 30% to 75%, particularly improving clinical history and

examination date entries. The study highlighted the importance of ongoing professional development.

El-Sayed and Mahmoud (2023) tested an electronic RRF system in an Egyptian hospital, comparing 500 electronic and paper forms over three months. Electronic forms had higher completion rates (85%) than paper ones (62%), especially regarding clinical details and physician signatures. The results showed that electronic systems improve data accuracy and help reduce diagnostic delays.

2.3 Theoretical Framework

This study is guided by a theoretical framework that examines the factors influencing the proper completion of radiology request forms and the consequences of inadequate documentation.

2.3.1 Health Belief Model (HBM)

The Health Belief Model (HBM), developed by Rosenstock in 1974, is a psychological framework used to explain and predict health behaviors, especially preventive actions. It suggests that individuals' behaviors are shaped by their perceptions of the severity and susceptibility to a health issue and the perceived benefits of preventive measures. Applied to this study, HBM helps explain how referring physicians' perceptions about the importance of accurately completing RRFs influence their behavior. Physicians who recognize that comprehensive form completion can improve diagnostic accuracy and patient outcomes are more likely to complete them thoroughly. Conversely, those who view the forms as unimportant may neglect proper completion. This model also points to the importance of interventions—such as training—that increase the perceived value of accurate documentation in improving patient care.

CHAPTER THREE

RESEARCH METHODOLOGY

3.0 Introduction

This chapter details the approaches and procedures used to meet the research objectives. It covers the study location, design, population of interest, sampling strategy, tools and methods for data collection, as well as considerations of validity, reliability, and ethics. These components were carefully organized to ensure the study's credibility and ethical soundness.

3.1 Research Setting

The study took place at the University of Benin Teaching Hospital (UBTH) and RayTouch Diagnostic Center, both in Benin City, Edo State, Nigeria. These centers were selected due to their high patient volume and function as referral hubs for advanced radiological procedures. Their well-equipped radiology departments made them suitable for evaluating radiology request form practices.

3.2 Study Design

A retrospective study design was used, allowing the examination of current practices and the adequacy of completed radiology request forms. This design supports data collection at a specific point in time, offering insight into common patterns and issues in form completion by referring doctors.

3.3 Target Population

The study focused on all radiology request forms submitted by physicians to the radiology departments during the six-month period from June to November 2024. A total of 1,600 forms were collected and reviewed.

3.4 Sample Size Determination

A total enumeration sampling method was adopted, involving all available forms within the study period. This ensured inclusivity across departments and medical specialties.

3.5 Instrument for Data Collection

Data was gathered using a structured questionnaire (Appendix II) and a checklist-based audit tool designed to evaluate how thoroughly the forms were completed. Collected data included patient age, gender, clinical history, requested radiological examination, and referring physician's details.

3.6 Validity of Instrument

To ensure content validity, experts in radiography, radiology, and research methodology reviewed the instruments. Their feedback informed revisions to improve clarity and relevance.

3.7 Reliability of Instrument

The instruments' reliability was assessed using Cronbach's alpha, which produced a coefficient of 0.82—indicating strong reliability. Inter-rater reliability was also tested by having multiple reviewers assess the same forms, resulting in consistent findings.

3.8 Method of Data Collection

The data were obtained by retrospectively examining the request forms submitted over the six-month timeframe.

3.9 Method of Data Analysis

Checklist data were analyzed using descriptive statistics (frequencies and percentages) and inferential statistics (chi-square tests) to explore the relationship between form completion rates and physician characteristics across both health facilities.

3.10 Ethical Clearance

Approval for the study was granted by the ethics committees of UBTH and RayTouch Diagnostic Center (Appendix III). All data were anonymized to protect participant confidentiality.

CHAPTER FOUR

RESULTS AND DISCUSSION

4.1 Data Presentaton

A total of 1600 request cards were assessed and 22 questionnaires distributed to assess respondents responses regarding an aspect of this research. The results are as follows:

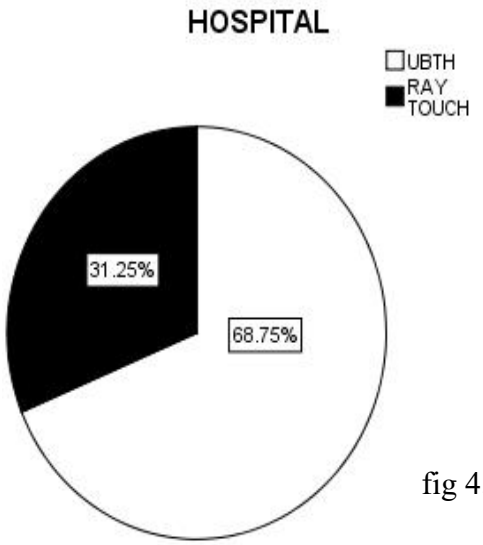

fig 4.1

Fig 4.1 pie chart of request forms distribution between the two facilities

FIG 4.1 Shows the distribution of request forms across University of Benin Teaching Hospital (UBTH) and RayTouch diagnostics. 68.75% of 1600 request forms (1100) were collected from UBTH , 31% were collected from RayTouch diagnostic centre.

TABLE 4.1 COMPLETION RATE OF REQUEST FORMS

ITEM	UBTH	RAYTOUCH	COMBINED(TOTAL)
PATIENT ID	81.7%	86.6%	83.2%
CLINICAL HISTORY	95.7%	90.8%	94.2%
EXAMIATION REQUEST/ MODALITY	94.6%	96.2%	95.2%
REFERRING PHYSICIAN NAME	95.5%	93.6%	94.9%

Note: patient ID includes name, age and gender.

The radiology request form completion rates for various sections are shown in Table 4.1 for both UBTH and Ray Touch. UBTH had slightly lower completion rates for Patient ID (81.7%) than Ray Touch (86.6%), but higher completion rates for Clinical History (95.7% vs. 90.8%). Both facilities had high completion rates for Examination Request/Modality and Referring Physician Name, with little variation. The combined completion rate for both facilities was high, indicating general compliance with form completion requirements.

TABLE 4.2 OMISSION RATE IN REQUEST FORMS

ITEM	UBTH	RAYTOUCH	COMBINED(TOTAL)
PATIENT ID	18.3%	13.4%	16.8%
CLINICAL HISTORY	4.3%	9.2%	5.8%
EXAMIATION REQUEST/ MODALITY	5.3%	3.8%	4.8%
REFERRING PHYSICIAN NAME	4.5%	6.4%	5.1%

The omission rates for different radiology request form parts are shown in Table 4.2 While Ray Touch had greater omission rates for Clinical History (9.2%) and Referring Physician Name (6.4%), UBTH had higher omission rates for Patient ID (18.3%) than Ray Touch (13.4%). Both facilities had comparatively low percentages of examination request/modality omissions (UBTH at 5.3% and Ray Touch at 3.8%). Overall, the Patient ID area had the most omissions, while the Clinical History and Referring Physician Name sections had the fewest.

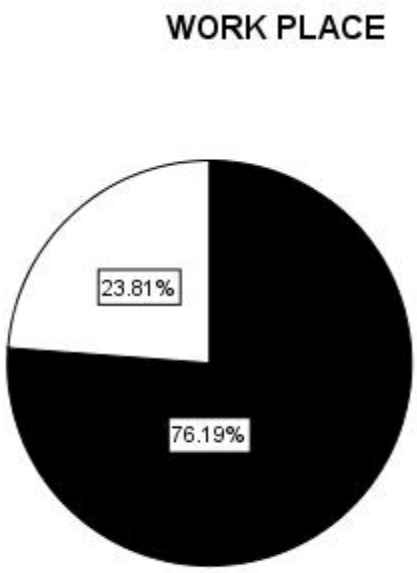

Fig 4.2

Fig4.2: distributions of respondents in various hospital

FIG 4.2 Shows the distribution of respondents in their work place. 76% of the 21 respondents are working in UBTH, while 23.8% work in Raytouch.

TABLE 4.3 RESPONSES FOR IMPACT OF INADEQUATELY FILLED FORM

ITEM	YES (FREQUENCY)	NO (FREQUENCY)
INADEQUATE FORM RESULTED IN DELAY	5	16
INADEQUATE FORM RESULTED IN REPEAT	12	9
INADEQUATE FORM LED TO DIAGNOSTIC ERROR	6	15

Table 4.3 outlines the perceived impact of inadequately filled forms. Of the respondents, 5 indicated that incomplete forms caused delays, while 12 noted repeat imaging was required due to insufficient information. Additionally, 6 respondents reported that diagnostic errors occurred as a result of inadequately completed forms. These findings emphasize the potential negative consequences of incomplete radiology request forms on workflow and patient outcomes.

RESEARCH HYPOTHESIS

TABLE 4.4 CHI SQUARE TEST TABLE FOR COMPARING FORM COMPLETION BETWEEN BOTH FACILITIES.

	Value	df	Significance. (p value)
Pearson Chi-Square	40.049[a]	4	.0002
Likelihood Ratio	45.528	4	.000
Linear-by-Linear Association	.014	1	.906
N of Valid Cases	1600		

The Chi-Square test findings comparing UBTH with Ray Touch's overall form completion are summarized in Table 4.4 According to the test, UBTH performed better than Ray Touch in terms of total form completion adequacy, with a statistically significant difference ($p<0.05$) in completion rates between the two facilities which rejects the null hypothesis.

4.2 Discussion

This study revealed important insights into the adequacy of radiology request form (RRF) completion in two tertiary institutions—UBTH and Ray Touch facilities. Table 4.1 shows the completion rates across both facilities were commendable, with over 90% adequacy for most variables. However, critical gaps were identified, particularly in Patient ID and Clinical History.

The completion rate for Patient ID was notably lower at UBTH (81.7%) compared to Ray Touch (86.6%) as seen in table 4.1. This finding echoes the observations of Elsheikh et al. (2021), who emphasized that omissions in demographic details often stem from insufficient verification protocols. Such lapses have implications for patient identification and workflow efficiency, as noted in similar studies.

On the other hand, in table 4.2 when it came to finishing the Clinical History, UBTH performed better than Ray Touch (95.7%). Al-Salamah et al. (2020) found that structured institutional norms improve adherence to documentation standards, which is consistent with this finding. Effective diagnostic imaging relies heavily on clinical history, and as Parillo et al. (2024) have confirmed, omitting it raises the chance of misinterpretation and repeat imaging. However, both facilities performed consistently well in completing Examination Request/Modality and Referring Physician's Name, with completion rates above 94% as seen in table 4.2. These findings support the assertions of Cohen et al. (2021) that fields deemed essential for accountability, such as referring physician details, tend to be prioritized.

Questionnaire responses in table 4.3 revealed that incomplete forms had significant operational consequences, including delays in imaging, repeat procedures, and diagnostic errors. For example, 12 respondents cited incomplete forms as a direct result of repeat imaging, which is consistent with HUCSH (2024), which noted that incomplete clinical histories frequently result

in resource waste and patient radiation exposure; six respondents also linked incomplete forms to diagnostic errors, which is consistent with Akintomide et al. (2022), who emphasized that radiologists' ability to provide accurate interpretations is hindered by a lack of clinical context; and five respondents cited delays, which further support the need for standardized processes, as noted by Elsheikh et al. (2021).

University of Benin Teaching Hospital regularly exceeded Ray Touch on all important metrics, and the Chi-Square test confirmed that the total RRF adequacy differed significantly. This result is consistent with the findings of Al-Salamah et al. (2020), who linked improved performance to institutional policies such as more stringent enforcement of documentation standards and regular audits. According to Cohen et al. (2021), incomplete forms are frequently produced in emergency and high-pressure situations.

The findings underscore the importance of transitioning to electronic RRF systems. As demonstrated by El-Sayed & Mahmoud (2023), electronic systems reduce omissions by mandating essential fields and integrating clinical decision-support tools. Moreover, the significant role of training cannot be overstated. Studies such as Adebayo et al. (2024) have shown that targeted training for referring physicians significantly improves form adequacy, particularly in critical fields like Clinical History.

CHAPTER FIVE

CONCLUSION, RECOMMENDATIONS, AND SUGGESTIONS FOR FURTHER STUDY

5.1 Conclusion

This study highlights the critical importance of thoroughly completing radiology request forms to ensure both operational efficiency and diagnostic accuracy. While both hospitals showed fairly good overall completion rates, UBTH outperformed in key sections such as Clinical History and Referring Physician's Name. However, the frequent omission of Patient ID at both sites points to the need for improved verification systems. Incomplete forms can lead to serious operational issues, including delays, repeated imaging, and diagnostic mistakes, underscoring the need for robust documentation practices.

5.2 Recommendations

1. Implement Standardized Electronic RRF Systems:

Both hospitals should adopt electronic RRF platforms with mandatory fields to minimize omissions and improve data quality. El-Sayed & Mahmoud (2023) found that such systems reduce errors and boost completion rates.

2. Conduct Regular Training for Referring Physicians:

Organize periodic workshops or seminars to educate physicians on the importance of thorough documentation. This aligns with findings by Adebayo et al. (2024), who showed that targeted training significantly improved RRF completion.

3. Establish Routine Audits and Feedback Loops:

Introduce regular audits of RRFs and provide constructive feedback to healthcare staff to enhance compliance. Al-Salamah et al. (2020) highlighted the effectiveness of this approach in maintaining documentation standards.

4. Improve Communication Between Clinicians and Radiologists:

Promote real-time collaboration to resolve uncertainties in incomplete forms, thereby reducing delays and streamlining workflow.

5. Strengthen Institutional Documentation Policies:

Develop and enforce clear institutional guidelines for completing RRFs, ensuring staff accountability. Evidence from Jumah et al. (2020) supports the positive impact of such policies.

5.3 Suggested Areas for Further Research

1. Examine the long-term effects of electronic RRF systems on form completeness and diagnostic precision.

2. Investigate how physician workload affects RRF completion, particularly in settings with limited resources.

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APPENDIX I

CHECKLIST DATA

DATA	FREQUENCY OF OMISSION	PERCENTAGE
Age		
Gender		
Clinical history		
Radiologic examination requested		
Referrer details.		

APPENDIX II

QUESTIONNAIRE

1. Years of experience as a radiographer: [ ] <1year [ ] 1 to 5 years [ ] >5years

2. Place of work: [ ] UBTH [ ] RayTouch

Impact of Inadequate Radiology Request Forms

3. Have you encountered incomplete or inadequate radiology request forms in your practice?

[ ] Yes [ ] No

4. Has an inadequate radiology request form resulted in delays in patient management?

[ ] Yes [ ] No

5. Has an inadequate radiology request form led to a repeat investigation?

[ ] Yes [ ] No

6. Has an inadequate radiology request form contributed to a diagnostic error?

[ ] Yes [ ] No