

Synopsis for Dissertation Submitted



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By

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Comprehensive Study of Compliance Practices in the Radiology Department: Identifying Barriers and Developing Effective Solutions

Introduction

Compliance in the radiology department is critical for ensuring patient safety, maintaining quality standards, and adhering to regulatory requirements. Non-compliance can lead to significant risks, including diagnostic errors, increased radiation exposure, and legal consequences. This study aims to comprehensively explore the compliance practices within radiology departments, identify the barriers to effective compliance, and develop practical solutions to enhance these practices.

Research Question

What are the key barriers to compliance in radiology departments, and what strategies can be developed to overcome these barriers effectively?

Objectives

1. To assess the current compliance practices in radiology departments.
2. To identify the common barriers to effective compliance in these departments.
3. To develop and propose solutions that can improve compliance practices.
4. To evaluate the effectiveness of the proposed solutions in a real-world setting.

Hypothesis

1. The primary barriers to compliance in radiology departments include lack of training, inadequate resources, and insufficient management support.
2. Implementing targeted training programs, enhancing resource allocation, and increasing management support will significantly improve compliance practices.

Materials and Methods

Sample Size

The study will include a sample size of 300 patients from various radiology departments across different hospitals. This sample size is chosen to ensure statistical power and generalization of the findings.

Sampling Technique

A stratified random sampling technique will be employed. hospital will be stratified into urban, rural, and teaching categories, and patients will be randomly selected from each category to ensure a representative sample.

Data Collection Procedure

1. **Surveys and Questionnaires:** Distributed to all selected patients to gather quantitative data on compliance practices and perceived barriers.
2. **Interviews:** Conducted with a subset of patients, including radiologists, technicians, and administrative staff, to collect qualitative data.
3. **Compliance Checklists:** Used to assess current compliance levels through on-site evaluations.
4. **Training Materials:** Developed and distributed during the intervention phase.
5. **Software Tools:** Utilized for compliance monitoring and reporting.

Operational Definitions

1. **Compliance:** Adherence to established protocols, guidelines, and regulatory requirements in the radiology department.
2. **Barriers to Compliance:** Factors that hinder adherence to compliance practices, including lack of training, inadequate resources, and insufficient management support.
3. **Interventions:** Strategies developed to address identified barriers and improve compliance, such as targeted training programs and enhanced resource allocation.

Study Design and Settings

This study will employ a mixed-methods approach, combining quantitative surveys and compliance assessments with qualitative interviews. The research will be conducted in three phases:

1. Assessment Phase: Evaluating current compliance practices and identifying barriers.
2. Intervention Phase: Developing and implementing solutions based on the assessment findings.
3. Evaluation Phase: Assessing the effectiveness of the implemented solutions.

The study will be conducted in multiple modalities of the radiology department to ensure a diverse and comprehensive understanding of compliance practices. These settings will include:

1. Urban Hospitals: High patient volume and advanced radiology services.

Sample Size

To ensure the reliability and generalization of the study findings, a sample size of approximately 300 patients is collected. This includes patients from IPD, OPD and daycare patients.

Sampling Technique

A stratified random sampling technique is used to select patients.

Data Collection Procedure

1. Surveys and Questionnaires: Standardized surveys and questionnaires will be distributed to radiology department staff to gather quantitative data on compliance practices and perceived barriers.
2. Interviews: In-depth, semi-structured interviews will be conducted with key stakeholders, including radiologists, technicians, and administrative staff, to collect qualitative data.
3. Compliance Checklists: Observational checklists will be used to assess current compliance levels in the departments.
4. Document Review: Review of relevant documents, such as compliance reports, training records, and policy manuals.

Operational Definitions

- Compliance: Adherence to established protocols, guidelines, and regulations in radiology practices.
- Barriers: Factors that hinder the effective implementation of compliance practices, including lack of training, inadequate resources, and insufficient management support.
- Interventions: Targeted actions or programs designed to address identified barriers and improve compliance.

Data Analysis Plan

1. Quantitative Data Analysis: Statistical analysis will be performed using software such as SPSS. Descriptive statistics will summarize the data, while inferential statistics (e.g., t-tests, ANOVA) will test the study hypotheses.
2. Qualitative Data Analysis: Thematic analysis will be used to analyze interview transcripts. Coding will identify common themes and patterns related to barriers and potential solutions.
3. Evaluation of Interventions: Pre- and post-intervention compliance levels will be compared to assess the effectiveness of the implemented solutions.

Ethical Considerations

1. Informed Consent: All patients will be informed about the study's purpose, procedures, and their rights. Written consent will be obtained before participation.
2. Confidentiality: patient anonymity and confidentiality will be maintained. Data will be stored securely and only accessible to the research team.
3. Ethical Approval

Implications of Research

The findings from this study will have significant implications for improving compliance practices in radiology departments. Enhanced compliance will lead to:

1. Improved Patient Safety: Reduced diagnostic errors and lower radiation exposure.
2. Higher Quality Standards: Consistent adherence to best practices and guidelines.
3. Regulatory Adherence: Better compliance with legal and regulatory requirements, reducing the risk of legal issues.
4. Professional Development: Improved training programs for radiology staff, leading to increased competency and job satisfaction.

References

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