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## **1. TITLE**

Enhancing Operational Efficiency and Patient Satisfaction in the Interventional Radiology Department at Medanta Gurgaon

## **2. INTRODUCTION**

The Interventional Radiology (IR) Department at Medanta Gurgaon is pivotal in delivering minimally invasive, image-guided diagnosis and treatment. Efficient operations in the IR department are essential for optimal patient outcomes and satisfaction. This study aims to analyse, assess, and improve operational efficiency and patient satisfaction within the IR department. The focus will be on four key parameters: scheduling of cases for procedures, financial clearance of procedures, utilization of checklists, and ensuring patients' NPO (nil per os) status is maintained as required. The results are expected to enhance workflow processes, reduce patient waiting times, and improve overall patient care quality.

## **3. RESEARCH QUESTION**

How can operational efficiency and patient satisfaction be improved in the Interventional Radiology Department at Medanta Gurgaon?

## **4. OBJECTIVES**

1. To assess the current scheduling processes for procedures in the IR department.
2. To evaluate the financial clearance process for procedures.
3. To analyse the utilization of checklists for procedures.
4. To ensure patients' NPO status is maintained as required for procedures.
5. To identify areas for improvement and propose actionable recommendations to enhance operational efficiency and patient satisfaction.

## **5. HYPOTHESIS**

### **1. Scheduling Efficiency Hypothesis:**

- **H1:** Improved scheduling processes will significantly reduce the turnaround time for procedures in the IR department.

### **2. Financial Clearance Hypothesis:**

- **H2:** Streamlined financial clearance procedures will decrease the time required for financial approval of procedures.

### 3. Checklist Utilization Hypothesis:

- **H3:** Increased utilization of checklists will enhance procedural compliance and reduce the incidence of errors during procedures.

### 4. NPO Status and Patient Satisfaction Hypothesis:

- **H4:** Maintaining the required 6-hour NPO status without extending it will increase patient satisfaction by reducing the waiting time and discomfort associated with prolonged fasting.

## 6. MATERIALS AND METHODS

**Study Design:** Prospective Observational Study

**Setting:** Interventional Radiology Department, Medanta Gurgaon.

**Study Population:**

- **Inclusion criteria:** All scheduled patients undergoing procedures in the IR department.
- **Exclusion criteria:** Unscheduled patients.

**Study Tools:** Excel for data collection and analysis.

**Duration of Study:** April 5, 2024, to April 30, 2024.

**Sample Size:** Approximately 100 scheduled patients.

**Sampling Technique:** Total population sampling

**Data Collection Procedure:**

1. Use Excel to record data on patient scheduling, financial clearance times, checklist utilization, and NPO status.
2. Observe and document the workflow processes in the IR department.
3. Ensure accurate recording of whether patients maintained the required 6-hour NPO status before procedures.

**Operational Definitions:**

#### 1. Operational Efficiency

- **Turnaround Time:** The total time from when a patient entered the IR until the procedure is completed. Measured in minutes or hours.
- **Scheduling Accuracy:** The percentage of procedures that start within 30 minutes of their scheduled time.

#### 2. Patient Satisfaction

- **Indirect Assessment:** Evaluated based on operational metrics like scheduling accuracy, turnaround time, and procedural preparedness (NPO status adherence).

#### 3. Checklist Utilization

- **Compliance Rate:** The percentage of checklists accurately followed and documented as required.

#### 4. NPO (Nil Per Os) Status

- **NPO Adherence:** The percentage of patients who maintain the required 6-hour NPO status before their procedures.

- **Non-Compliance Rate:** The percentage of patients who fail to meet the 6-hour NPO requirement.
- 5. **Workflow Processes**
- **Process Bottlenecks:** Identified points in the workflow where delays frequently occur, measured by the frequency and duration of delays.

## 7. DATA ANALYSIS PLAN

Data will be analysed using Excel. Descriptive statistics will summarize the demographic data, scheduling accuracy, financial clearance times, checklist utilization, and adherence to NPO status.

## 8. ETHICAL CONSIDERATIONS

1. **Informed Consent:**
  - Provide an informational notice to patients, informing them that observational data will be collected for research purposes and that their privacy will be protected.
2. **Confidentiality:**
  - Anonymize all collected data, removing any personal identifiers.
3. **Non-Interference:**
  - Ensure the observational study does not interfere with patient care or the normal operations of the IR department.
4. **Ethics Committee Approval:**
  - Obtain approval from the Medanta Gurgaon ethics committee, detailing the study's purpose, methods, and confidentiality measures.
5. **Transparency and Accountability:**
  - Clearly communicate the study's purpose and procedures to IR department staff and involve them in the data collection process.
  - Maintain accurate records of observations and data collection.

## 9. IMPLICATIONS OF RESEARCH

This research will provide valuable insights into the operational challenges within the IR department and offer practical solutions to enhance efficiency and patient satisfaction. The implications of this research include:

- **Quality Improvement:** By identifying inefficiencies and areas needing improvement, this study can lead to enhanced quality of care through streamlined processes and reduced waiting times.
- **Staff Training:** Findings from the study can inform targeted training programs to equip staff with the necessary skills and knowledge to maintain high standards of patient care and operational efficiency.
- **Resource Allocation:** The study will help in optimizing the allocation of resources, ensuring that equipment, personnel, and time are used most effectively.

- **Patient-Centred Care Initiatives:** Enhancing operational efficiency directly contributes to a more patient-centred approach, improving the overall patient experience and satisfaction.
- **Financial Implications:** Improved operational efficiency can lead to cost savings for the department and the hospital as a whole by reducing delays and maximizing the use of available resources.

## 10. REFERENCES

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