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SYNOPSIS

1. TITLE:

Operational Efficiency and Resource Utilization in a Small-Scale Rural Hospital: A Case Study of Vijyasun Hospital

2. INTRODUCTION

In rural India, hospitals face several challenges related to operational efficiency, optimal use of resources, and healthcare delivery due to limited infrastructure, manpower, and logistics. Effective management of hospital operations, including bed utilization, inventory tracking, patient flow, and staff deployment, plays a critical role in sustaining service quality and financial viability.

Vijyasun Hospital is a 10-bed multi-specialty rural hospital located in Rehti, Madhya Pradesh. This hospital provides primary and secondary care to a small population and has limited but essential infrastructure and staff. The hospital faces challenges in managing inventory, tracking patient movement, and maintaining effective staff rotation.

This study focuses on identifying gaps in operational management and resource utilization at Vijyasun Hospital and suggesting improvements based on real-time data collected over 2.5 months.

3. RESEARCH QUESTION:

How can operational efficiency and resource utilization be improved in a small-scale rural hospital like Vijyasun Hospital?

4. OBJECTIVES:

- To analyze the current state of resource utilization in Vijyasun Hospital.
- To identify inefficiencies in inventory management and patient flow.
- To study staff allocation, bed occupancy trends, and service delivery bottlenecks.
- To suggest operational strategies for optimizing hospital performance.
- To develop data-driven insights for improving rural hospital efficiency.

5. HYPOTHESIS:

Improved operational planning and systematic resource management can enhance service quality and efficiency in small-scale rural hospitals without significantly increasing operational costs.

6. MATERIAL AND METHODS:

STUDY DESIGN:

This is a descriptive, observational, and analytical case study conducted at Vijyasun Hospital.

SETTING:

The study is based on direct observation, interviews, and internal record analysis at Vijyasun Hospital, Rehti, Madhya Pradesh.

STUDY POPULATION:

a. Inclusion Criteria:

- Hospital administrative staff and medical officers involved in day-to-day operations.
- Nursing staff and pharmacists.
- OPD and IPD data, stock registers, and duty rosters.

b. Exclusion Criteria:

- External stakeholders not involved in hospital operations.
- Patients and visitors.

c. Study Tools:

- Observational checklists for workflow.
- Interviews with key staff.
- Physical verification of stock and duty rosters.
- Collection of data from patient registers and pharmacy logs.

DURATION OF STUDY:

2.5 months (from April to mid-June 2025)

SAMPLE SIZE:

Primary data collected from 10+ hospital staff including administrative, nursing, and pharmacy personnel.

SAMPLING TECHNIQUE:

Purposive sampling based on relevance to hospital operations.

DATA COLLECTION PROCEDURE:

- Regular observation of hospital activities.
- Weekly data collection from IPD, OPD, and stock rooms.

- Interviews and informal discussions with duty staff.
- Documentation of process gaps and bottlenecks.

OPERATIONAL DEFINITIONS:

- Operational Efficiency: Output achieved in relation to input within hospital functions.
- Resource Utilization: Optimal deployment of available hospital infrastructure and supplies.
- Duty Roster Management: Planning and monitoring of workforce shifts and roles.
- Inventory Monitoring: Tracking movement and availability of medical and non-medical supplies.

7. DATA ANALYSIS PLAN:

- Data will be compiled and analyzed using Microsoft Excel.
- Trends in patient flow, bed occupancy, and stock movement will be presented using graphs and tables.
- Descriptive statistics will be used to assess performance indicators.
- Gap analysis will be used to identify underutilization or overburdening.
- No confidential or patient-identifiable information will be included.

8. ETHICAL CONSIDERATIONS:

- Oral consent was taken from staff for informal interviews.
- No patient data or sensitive medical information was recorded.
- Observations were recorded without disrupting hospital operations.
- All findings were shared with hospital management for internal use only.

9. IMPLICATIONS OF RESEARCH:

This study highlights the real-time challenges of managing a small rural hospital and proposes practical steps to enhance its functionality. Key outcomes include:

- Identification of gaps in inventory and resource deployment.
- Suggestions for improving staff allocation and inventory tracking.
- Data-driven approach for future hospital planning and management in rural areas.
- A model framework for other small hospitals to follow in optimizing operations.

10. REFERENCES:

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