

SYNOPSIS

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Assessment of the Turnaround Time (TAT) and Process Flow of Pneumatic tube System in a Hospital Setting.

INTRODUCTION

The pneumatic tube system is an integral part of hospital logistics, facilitating the rapid and efficient transportation of pharmaceuticals and other essential items between departments. The importance of this study lies in its potential to enhance operational efficiency, reduce delays in medication delivery, and improve overall patient care. This study aims to evaluate the turnaround time (TAT) of the pneumatic tube system, process flow and develop standard operating procedures (SOPs) to enhance its efficiency.

RESEARCH QUESTION:

How can the efficiency of the pneumatic tube system be improved in the hospital to ensure timely and effective medication delivery?

OBJECTIVES:

- Determine the turnaround time (TAT) for pneumatic tube capsules in the hospital.
- To identify the primary causes of delays in the pneumatic tube system.
- To analyse the current process flow of the pneumatic tube system.
- To develop a Standard Operating Procedure (SOP) for the optimal use of the pneumatic tube system in pharmacy.

HYPOTHESIS:

Operational inefficiencies and understaffing significantly contribute to delays in the pneumatic chute system, which can be reduced through targeted improvements in workflow processes and staffing adjustments.

MATERIAL AND METHODS:

STUDY DESIGN:

Observational and analytical study.

SETTING:

The study will be conducted in a hospital setting, specifically focusing on the pharmacy department and various hospital floors where pneumatic shoot systems are installed.

STUDY POPULATION:

Pharmacy staff and nurses utilizing the pneumatic shoot system.

STUDY TOOLS:

Observation, staff interview and transaction logs from Biomedical Engineering department.

DURATION OF STUDY:

3 months

SAMPLE SIZE:

A total of 43 pneumatic tube transactions will be observed and analysed.

SAMPLING TECHNIQUE:

Systematic Sampling

DATA COLLECTION PROCEDURE:

- Timed observations of pneumatic shoot transactions.
- Interviews with pharmacy and nursing staff.
- Analysis of transaction logs from Biomedical Engineering department.

OPERATIONAL DEFINITIONS:

Turnaround Time (TAT): The total time taken from the point a shoot capsule is received in the pharmacy from a department to the point it is sent back to the originating department.

DATA ANALYSIS PLAN:

Data will be analysed using Microsoft Excel.

ETHICAL CONSIDERATIONS:

Informed consent will be obtained from all staff participants. Measures will be taken to ensure the confidentiality and privacy of data collected.

IMPLICATIONS OF RESEARCH:

This study aims to streamline hospital logistics by improving the efficiency of the pneumatic shoot system. By reducing medication delivery delays and optimizing workflow processes, staff workload can be minimized, and patient care enhanced.

REFERENCES:

References will include relevant literature review.