

SYNOPSIS FOR DISSERTATION
ORGANIZATION NAME: SANKARA EYE FOUNDATION,
COIMBATORE

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1. **TITLE:** A study on analyzing the inventory management techniques at Sankara Eye Foundation, Coimbatore.
2. **INTRODUCTION:** About one-third of the annual hospital budget is spent on buying materials and supplies, including medicines. The drugs consume approximately 60% of total consumable budget. Therefore, pharmacy is one of the most extensively used therapeutic centers of a health facility, where a large amount of money is spent on purchases on a recurring basis. Further, many a time drugs go out of stock and expire before its use. Absence of or lack of sufficient drugs in pharmacy may lead to poor health care delivery and bad reputation. Thus, the need for planning, designing, and organizing the pharmacy in a manner that results in efficient clinical and administrative services becomes more pertinent in this situation. Inventory control is a scientific system which indicates as to what to order, when to order, and how much to order, and how much to stock so that purchasing costs and storing costs are kept as low as possible. It helps to protect against the fluctuation in supply and demand, uncertainty and minimize waiting time.

There are various methods involved for inventory control, some of them are:

- (i) ABC analysis
- (ii) VEN analysis
- (iii) ABC-VEN matrix
- (iv) FIFO (First In First Out)
- (v) LIFO (Last in First Out)
- (vi) FSN(Fast, Slow, Non-moving)
- (vii) SDE(Scarce, Difficult, Easy)
- (viii) Just In Time(JIT)

Best Practices in Hospital Inventory Management System:

- (i) **Optimizing the inventory management:** The implementation of a digital solution for inventory management in a hospital helps clearly understand what inventory in-stock is, discover its properties and location, and submit requests remotely using a desktop, mobile, or web application.
A centralized database of inventory items helps avoid stockouts and

overstocks by re-ordering the minimum number of goods and medications required to run all operations in a medical facility seamlessly.

Also, using inventory management in hospitals helps optimize communication between departments. The medical staff must submit a request and track its fulfillment progress to receive certain items.

(ii) Reduce wastage of medications:

The improper storage, usage, and arrangement of medications in a warehouse can increase the wastage rate. With a system that helps manage inventory for hospitals, medical staff can monitor the expiry date of pharmaceuticals. Also, they can apply the first-in-last-out approach to reduce the number of expired medicines.

(iii) Forecast Demand:

An inventory management system can collect much data on the flow of goods and medications in a medical institution. Using mathematical methods for time series forecasting or machine learning models, hospitals can accurately predict the demand for new items to replenish the optimal number of goods and medicines.

(iv) Control Items Access and Travel:

Managers in a hospital organization can thoroughly monitor and control all the processes through a centralized system for inventory management in a hospital. They can check pending and fulfilled requests, get detailed reports, and review in-house stocks. Also, they can assign roles and permissions to users to limit access to inventory items or data for certain users.

▪ **CHALLENGES SOLVED WITH HEALTHCARE INVENTORY MANAGEMENT**

- i) Complex ordering process**
- ii) Expired items management**
- iii) Lack of real time visibility**
- iv) Insufficient planning**

v) **Extensive order fulfilment time**

vi) **High loss and wastage rates**

vii) **Poor patient satisfaction**

3. **RESEARCH QUESTION:**

(i) What is the existing inventory management techniques used at the pharmacy?

(ii) What are the current challenges faced in managing inventory at the Sankara Eye Hospital pharmacy in Coimbatore? (e.g., stockouts, expired medications, inefficient ordering)

(iii) Will the combined use of ABC -VED analysis improve medication availability compared to the current inventory management technique?

4. **HYPOTHESIS:** Implementing ABC-VED analysis in a hospital pharmacy will significantly improve inventory management efficiency and reduce overall inventory holding costs.

5. **OBJECTIVES:**

(i) Reduce overall inventory holding costs by minimizing unnecessary stock and storage space requirements.

(ii) Implement optimized ordering strategies to prevent stockouts and ensure timely availability of essential medications.

(iii) Identify the items that require greater supervisory monitoring.

6. **MATERIAL AND METHODS:**

- **Study Design:** Quantitative analytical study, secondary data.

- **Settings:** The research work is to be conducted at Sankara Eye Hospital, located in the heart of a metropolitan city (Coimbatore). Sankara Eye Hospital is a specialized care hospital for ophthalmology.

- **Duration of Study:** 3 months

7. **DATA ANALYSIS PLAN:** Microsoft Excel, Power BI.

8. **ETHICAL CONSIDERATIONS:** Ethical considerations play a crucial role in ensuring the integrity of such endeavours. Confidentiality, privacy, and data security plays an important role in deciding whether the research can be conducted. Also, hospital's existing policy guidelines has to be maintained while doing the research.

9. **IMPLICATIONS OF RESEARCH:** The study can provide valuable insights into the effectiveness of current inventory management practices within the pharmacy store. Identifying areas for improvement can lead to the optimization of inventory levels, reducing stockouts, minimizing wastage, and ultimately improving the availability of essential medications and supplies for patients.

10. **REFERENCES:**

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- (iv) <https://aisyah.journalpress.id/index.php/jika/article/view/7146>
- (v) <https://codeit.us/blog/inventory-management-in-hospital>