INVENTORY CONTROL TECHNIQUES For Pharmacy Main Store Department – SHALBY Hospital Ahmedabad

INTRODUCTION

- In a hospital to deliver quality care to the patients there should be significant investment in the supply chain management. Inventory management is an important part of supply chain system. With ever changing needs, products, prices, demands and policies managing inventory in hospital becomes crucial. A hospital supply chain consists of multiple suppliers/manufacturers/distributors, a central storage location in the hospitals, various departments, and patients.

DEFINITION–

- Inventory management is a systematic approach to sourcing, storing and selling inventory, in other words it means the right stock at right levels in the right place at the right time at the right price.

Need of Inventory management in hospital

- Keeping précised and updated inventory records for medicines and surgical equipment’s is the most important task for all hospitals. Every hospital must run and maintain a good stock of lifesaving medicines and all other things which are required to run the hospital efficiently. There are various problems faced by the hospitals when it comes to inventory management like:
- Shortage of essential medicines.
- Loss or damage of surgical equipment’s.
- Overstock of medicines.
- Not being able to keep track of expiry date of the medicines.
- Sorting of medicine with respect to demand and usage.
- A good inventory management process can help the hospital to solve all these problems and run its procedures efficiently.
- Inventory management keeps the track of the assets of the hospital and helps hospital in maintaining them.
- Inventory management provides real time tracking keeping the stocks up to date.

INVENTORY CONTROL

Inventory control is a defined as the supervision of supply, storage, and accessibility of items in order to ensure an adequate supply without over or under supply.

Techniques in Inventory Management –

1. ABC Analysis
2. FSN Analysis
3. VED Analysis
4. HML Analysis
5. SDE Analysis
6. GOLF Analysis
7. SOS Analysis

NEED FOR THE STUDY

- Health industry inventory management is not only required to run the hospital smoothly. But also, to be efficient at the time of saving patients life in emergencies.
- In some cases, shortage of inventory may be only of a small inconvenience for e.g., shortage of nursing materials, but in some cases the shortage of inventory can cause a big hurdle in the smooth running of the hospital operations for e.g. shortage of emergency life saving drugs or any medications or equipments that are required for the surgical procedures.

OBJECTIVES OF THE STUDY

- To study the inventory management of a multispecialty corporate hospital (Shalby Hospital SG Highway, Ahmedabad).
- To study different inventory control techniques.
- To categorize the inventory according to ABC Analysis.
- To categorize the inventory according to the VED Analysis.
- To study the movement of items in hospital i.e., FSN Analysis.
- To study and suggest solution to avoid inconvenience due to unavailability of inventory in patient’s care.

METHODOLOGY

- **Nature of Data –**

1. In accordance with the above objective the primary data was collected from the hospital during internship period by -

- Observing the demand history and movement of inventory.
- Day to day interaction with the store executive.

2. Secondary Data was collected from –

- Hospital Purchase Database

3. Sample Size –

- All drugs and inventory in Pharmacy main store Department dated from 25^{th} December 2020 – 27^{th} May 2021

METHODOLOGY

4. Sample Technique –

➢ Convenience non - random sampling.

5. Study Area -

➢ Shalby Hospital SG Highway.

6. Type of Study –

➢ Descriptive Observational Study.

7. Research Design –

➢ Qualitative and Quantitative method.

8. Limitations –

➢ The study is focused on Pharmacy main store.

➢ The study is limited to observational methods and interactions with hospital staff only.

➢ As an intern was not eligible to get detailed information.

LITERATURE REVIEW

STUDIES	OBJECTIVE	KEY FINDINGS
Joana Isabel Baptista Nabais, 2009	To analyze hospital's inventory management and make suggestions to improve its practice	With competition and increasing costs the hospital should look at some functions that should be banished, adapted, adjusted or made efficient.
Duangpun Kritchanchai. W. Meesamut, 2015	Developing Inventory Management in the Hospital	Single Inventory management system can not be effectively applied to all the medicines.
Vahit Yigit, 2017	Analyze the annual medical materials expenditure and consumption of a hospital using inventory control techniques	The medical inventory control and material management in hospital is very essential because hospital resources are limited this situation requires effective and efficient management of the existing resources.
Dr. Tariq Sheakh, 2018	Inventory cost have a lot of impact on the profitability of the firm	The ROI of inventory management will be seen in the form of increased revenue and profits and +ve employee atmosphere and overall customer satisfaction

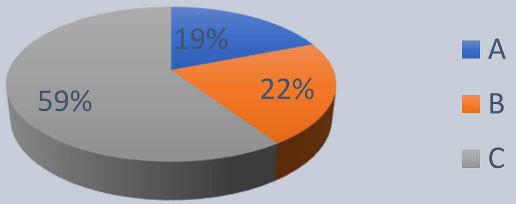
ABC ANALYSIS

Steps for Performing ABC analysis –

- Gather all inventory data.
- Find the total value of each item by multiplying the demand with unit cost of each item.
- Calculate the total sell value of the inventory, by adding up all the total value of each item.
- Calculate the percentage of value of each inventory, by dividing the total value of each item with the total sell value of the inventory and change it to % by multiplying the result with 100.
- Arrange, the items in descending order with respect to their percentage of value.
- Classify the inventory items into ABC class.

ABC ANALYSIS

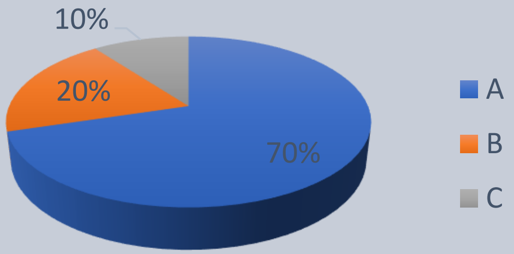
ABC ANALYSIS ON VOLUME



ABC	ABC ANALYSIS BASED ON VOLUME
A	19%
B	22%
C	59%
Grand Total	**100%**

It was found that C Category item contributed maximum share of total inventory based on volume, followed by B category item and the least volume of A category Item.

ABC ANALYSIS BASED ON VALUE



ABC	ABC ANALYSIS BASED ON VALUE
A	70%
B	20%
C	10%
Grand Total	**100%**

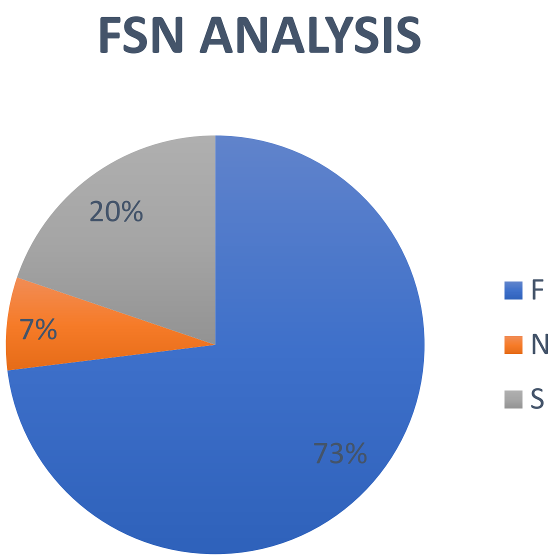
The maximum amount of share was found to be 70% for category A, 20% for category B, and 10% for category C.

FSN ANALYSIS

Steps in FSN –

- Calculate the total consumption of the product.
- Divide the total consumption with the months for which we need to find the FSN.
- Calculate the cumulative consumption of each product.
- Calculate the total consumption of all products
- Calculate the % consumption of each product
- Divide the products into FSN category.

FSN ANALYSIS



FSN	Sum of % CONSUMPTION
F	73%
N	7%
S	20%
Grand Total	**100%**

The Fast-moving goods, require timely and frequent purchase. These items are supposed to get stocked out, so they require a strict supervision.

Slow moving items should have longer shelf life.

VED ANALYSIS

VED Analysis –

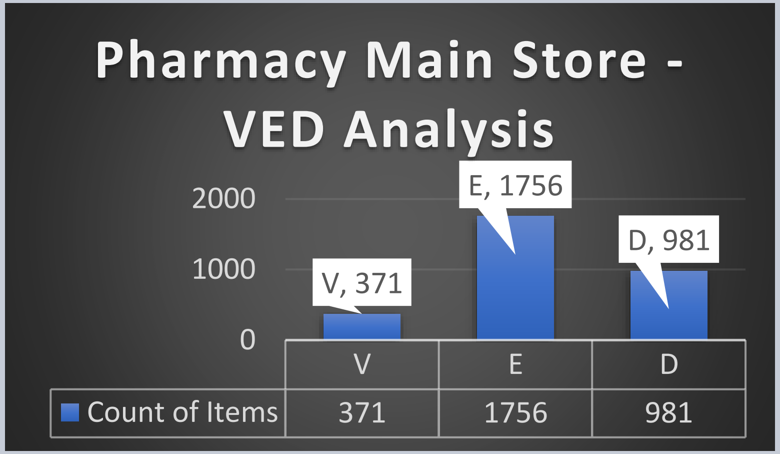
VED Analysis is done to classify the products into Vital, Essential, and Desirable categories. This analysis was done with the help of the organization staff.

V = Vital, means these drugs/products should always be present in the inventory as their absence will hinder the day-to-day operations in the organization. Their shortage cannot be tolerated.

E = Essential means these drugs/products should be there, and their absence might hinder the day-to-day operations but will not affect that much. Their shortage can be tolerated but for short period.

D = Desirable, means these products absence would not affect any operations. Their shortage will not adversely affect, but they might be using more resources. These items must be strictly scrutinized.

VED ANALYSIS



VED	Count of Items
V	371
E	1756
D	981

In patient care, the Vital Items (V) are lifesaving. It is not acceptable to have a stock out or a shortage of these products. The stock of essential items (E) should continually be monitored. Desirable things (D) should not be kept in big quantities.

Recommendations –

- The items that are from A category should be strictly scrutinized because they constitute maximum value of total inventory. Storage and movement of A category items should be done carefully and with maximum safety and should be strictly supervised from time to time**.**
- B category items should be monitored on monthly basis as they hold the 2nd position in total value of the inventory.
- Reordering of these items should be made less frequent should be audited on quarterly basis.
- F category Fast moving item require timely and frequent purchase. This category items are most likely to get stocked out soon and therefore it requires strict supervision.
- S category that is slow moving item should also have a strict supervision as there are chances of expiry of these items.
- N category, non-moving items should not be stored in large volumes. The S category items should be selected with longer shelf life.
- The V category that is vital items are lifesaving in patients care.
- Shortage or stock out of vital items should not be tolerated as they can hamper in patient care and in daily operations of the department as in case of dental department in above study.
- Stock of essential items (E) should always be under supervision
- Stock of desirable items (D) should not be stored at larger volumes.

Conclusion

- The importance of inventory management is very much it is one of the important aspects to run any business.
- The primary goal of inventory control in healthcare is to provide safe and appropriate care to the patient. The hospital should ensure that amount of inventory meets the demand from patient’s treatment.
- The study concludes that a single form of inventory cannot be applied to all types of drugs and medical departments.
- The inventory policy should consider both the value and clinical significance elements, as well as demand characteristics.
- The inventory policy should be revised every year.
- ROP or a certain amount of time triggers the ordering. If real-time demand (as in the COVId-19 Period) and stock levels can be exchanged with vendors, active replenishment may be done properly. This is known as Vendor Managed Inventory (VMI).

REFERENCES

- https://theinvestorsbook.com/inventory-management.html
- http://www.iapsmgc.org/userfiles/file/MODULES%20OF%20PGCHSM/Mod%205%20Ch%203%20Techniques%20of%20Inventory%20Control.pdf
- https://www.uky.edu/~dsianita/300/inventory.html
- https://www.orderhive.com/fsn-analysis-techniques
- https://core.ac.uk/download/pdf/157627019.pdf
- https://www.researchgate.net/publication/288841575_Developing_inventory_management_in_hospital
- https://www.researchgate.net/publication/327793184_A_Study_of_Inventory_Management_System_Case_Study
- https://www.researchgate.net/publication/316679017_Medical_Materials_Inventory_Control_Analysis_at_University_Hospital_in_Turkey
- Purchasing & Supply Chain Management – By Monczka Handfield, Giunipero Patterson.
- Supply Chain in Pharmaceutical Industry – By Rob Whewell.

THANK YOU

Presented By –
Dr. Komal Sisodia
Roll No. – 1118
MBA-HM 25 Batch