ISSN: 2320 - 4230

Journal of Drug Discovery and Therapeutics

Available Online at www.jddt.in

CODEN: - JDDTBP (Source: - American Chemical Society)

Volume 6, Issue 1, January: 2018, 04-06

Review Article

A REVIEW ON "STUDY OF DRUG UTILIZATION IN HOSPITAL PHARMACY & AT ITS INVENTORY CONTROL"

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ABSTRACT

Hospital pharmacy is the health care service, which comprises the art, practice, and profession of choosing, preparing, storing, compounding, and dispensing medicines and medical devices, advising healthcare professionals and patients on their safe, effective and efficient use. VED analysis is very useful in controlling and maintaining the stock of various types of formulations of a particular group of drugs. The older the brand, the greater will be its requirement. The past trends are not useful in calculating the requirements of a particular brand. Activity Based Cost (ABC Analysis) In big drug stores, large inventory items are stocked. In order to maintain a proper control of inventories. Economic Order Quantity (EOQ) This technique is used to find out how much of the inventory is to be ordered. The correct quantity to buy is the quantity at which the odering cost and the inventory carrying cost will be the minimum.

KEY WORDS: Hospital pharmacy, VED analysis, ABC Analysis, Economic Order Quantity

INTRODUCTION

Inventories are raw materials, work-in-process goods and completely finished goods that are considered to be the portion of business's assets that are ready or will be ready for sale. Formulating a suitable inventory model is one of the major concerns for an industry. The earliest scientific inventory management researches date back to the second decade of the past century, but the interest in this scientific area is still great. Again considering the reliability of any process is an important feature in the research activities. Values of some factors are very hard to define or almost unreal. In such cases, ABC & VED analysis of inventory management take an important place. This paper analyzes possible parameters of existing models of inventory control. An attempt is made to provide an up-to-date review of existing literature, concentrating on descriptions of the characteristics and types of inventory control analysis that have been developed.[1]Inventory control is broadly defined as "the activity of checking of shop's stock. More specifically inventory control may refer to: In operations management, logistics and supply chain management, the technological system and the programmed software necessary for managing inventory. In economics and operations management, the inventory control problem, which aims to reduce overhead cost without hurting sales. It answers the 3 basic questions of any supply chain: When? Where? How much?

In the field of loss prevention, systems designed to introduce technical barriers to shoplifting.

Techniques of Inventory Control

- **VED Analysis**
- **ABC Analysis**
- **Economic Order Quantity**

Vital Essential Desirable (VED): This system is based on the utility of the material. In a drug store, VED analysis is very useful in controlling and maintaining the stock of various types of formulations of a particular group of drugs. The older the brand, the greater will be its requirement. The past trends are not useful in calculating the requirements of a particular brand. Then best way way to solve this problem is to classify the brands of drug formulation into any one of the following categories:

- V= Vital
- E= Essential
- D= Desirable

For example, acetyl salicylate acid is available as disprin tablets, anacin tablets, micropyrine tablets. There is a great demand oddisprintablets, so these are classified as vital items, followed by micropyrine tablets which are covered under essential items due to its less demand then disprin tablets. Anacin tablets may be considered as desirable items because there are hardly a few prescriptions of it. In a drug store, there should be maximum stock of disprin tablets, followed by micropyrin tablets and then of anacin tablets.

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Activity Based Cost (ABC Analysis): In big drug stores, large inventory items are stocked. In order to maintain a proper control of inventories, the ABC Analysis technique is used. In this technique, the material are divided into three groups A,B and C asccording to the cost of the materials and money value of consumption.

a) **A Items -** In the whole of the inventory, there are few costly items which come under this group. These items may not be more 10% of the total items, but these consume about 70% of the total budget of inventories. So these items require proper storage and handling. Over stocking is avoided.

b) **B Items** – The items coming under this group are neither costly nor cheap. These constitute 20% of the total quantity of the inventories and 20% of the expenditure of inventories is spent on these.

c) **C Items** – These items are comparatively cheaper in cost and represents 70% of the total quantity of the inventories. 10% of the total expenditure of inventories is spent on these items.

ABC analysis is a technique for prioritizing the management of inventory. Inventories are categorized into three classes as mentioned above. Most management efforts and overisghts are expanded on managing A items. C items get last attention and B items are in between.

Modern business may carry inventories of a large variety of items- finished goods, drugs, and raw materials. Sometimes the numbers may run into thousands. Managing these inventories involves answering at a minimum two questions-how much to order and when to order. Answers to these questions have to be based on an analysis of demand and lead time. Doing this one at a time for every item is neither efficient nor cost-effective, yet inventories have to be managed. They are often the biggest manageable costs of production and represent significant portions of a companysassests.

Traditionally, ABC analysis has been based on the criterion of doller value nad on the principle that ther are a relatively small number of items- categorherey A- that account for the bulk of the dollar volume. At the extreme, a large number of items – C- account for a small share of the dollar volume. By this criterion, a items are those of both high –value and high- demand and C items are low-value and low demand.

However, over the last 30 years, ther has been an accumulation of research questioning this focus on a single cfriterion- the dollar volume. It has been pointed out that other criteria can be important; among these are lead time, item criticality, durability, scarcity reaparability, stock ability ,commonality the number of suppliers, mode and cost of transpotation or spoilage and batch quantities imposed by suppliers. Several methods have been developed to perform multi criteria ABC analysis that can be quite easily implemented today. Ever operations management text books still focus on the single criterion of dollar volume. In this paper, it is argued that it is time to bring multi-criteria ABC analysis center-stage in the textbooks. Today's business and supply chains operate in a world where the ability to deliver the right products rapidly to very specific markets is key so survival. With suppliers, intermediaries, and customers all over the globe, and product lives decreasing rapidly, all the criteria listed above become much more important in deciding how inventory will be classified and how it will be managed.

- **Economic Order Quantity (EOQ):** This technique is used to find out how much of the inventory is to be ordered. The correct quantity to buy is the quantity at which the odering cost and the inventory carrying cost will be the minimum.

The Economic Order Quantity (EOQ) is the numbers of units that a company should add to inventory with each order to minimize the total costs of inventory—such as holding costs, order costs, and shortage costs. The EOQ is used as part of a continuous review inventory system in which the level of inventory is monitored at all times and a fixed quantity is ordered each time the inventory level reaches a specific reorder point. The EOQ provides a model for calculating the appropriate reorder point and the optimal reorder quantity to ensure the instantaneous replenishment of inventory with no shortages. It can be a valuable tool for small business owners who need to make decisions about how much inventory to keep on hand, how many items to order each time, and how often to reorder to incur the lowest possible costs.

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