



ORIGINAL RESEARCH PAPER

Management

ABC AND VED ANALYSIS OF SUPPLIES TO AN OUTPATIENT DEPARTMENT OF A TEACHING HOSPITAL

KEY WORDS: Inventory control, supplies , techniques.

Dr GSCNV Prasad

Associate professor , Dept of Hosp admn , Narayana Medical college hospital , Nellore , A.P. INDIA

Dr G Balaji Prasad

Associate Prof , dept of hosp admn , NMCH , Nellore

D Rama Mohan Desu

Professor of hosp admn NMCH Nellore

ABSTRACT

The goal of the hospital supply system is to ensure that there is adequate stock of the required items, so that an uninterrupted supply of all essential items is maintained. Inventory control is a tool of management which is used to maintain an economic minimum investment in materials and products for the purpose of obtaining a maximum financial return. ABC analysis is an easy, low-cost and rapid way to identify major products, based on specific criteria, and classify them into categories. The present study aimed to study the supplies to an out patient department of a general hospital to understand cost incurred on materials and identify essential items and to focus on minimizing costs and to prevent misuse or wastage. **Results :** A total of 103 items were issued for which total annual consumption value was about 21,46,107 for a period of one year "9.70% of items were " A" items costing 69.82% of total value . " B" category was of 22.33% of items with 20.13% of value and 67.96% of " C " items costs 10.03% of total consumption value . Vital items were the one which must be available and stock out of these items affect patient service. vital (15) items ,Essential (47) and D items (41) were identified basing on the criticality . case sheet forms ,consent ,charts ,check list are some essential and desirable items which may not hinder inc the service **Recommendations :**The OPD incharge or administrator should focus on category I items consisting of AV,BV,CV,,AE,and AD items .Mis use of forms , pilferage , awareness of costs, wastage , audit and accountability are the managerial issues that need attention and monitoring

Introduction :

Inventory can be defined as "an itemized list of goods with their estimated worth specifically an annual account of stock taken in any business".

Inventory control helps to reduce investment in inventories and simultaneously minimise idle time by avoiding „stock-outs and shortage.The main principle of inventory control is that items for which annual consumption is high, orders are placed frequently so that the inventory level is as low as possible. For items whose annual consumption is not high, sufficient stocks are maintained and orders placed less frequently.

The level of inventory is always the optimum one that can be economically maintainable and professionally manageable. Inventory control helps to reduce investment in inventories and simultaneously minimise idle time by avoiding stock-outs and shortage

ABC analysis is an easy, low-cost and rapid way to identify major products, based on specific criteria,and classify them into categories.ABC analysis (or Pareto's law) is an inventory technique basing on the monthly value of consumption.4 " vital few and trivial many " .ABC divides inventory in to three categories – "A items" with very tight control , "B items" with less tightly controlled and "C items" with the minimum control .

VED analysis based on the degree of criticality of the items vital to the patient care , essential and desirable based on the recommendations of panel of doctors and pharmacy incharge .

Aim of the study is to apply inventory control techniques to the supplies to the front office of an outpatient department of a hospital

Objectives;

1. To enumerate different supplies to the front office of an Out patient department
2. To apply ABC and VED analysis to the items
3. To identify costly items and suggest means for minimizing the costs and preventing wastage.

Methods

The list of items were collected from the stores and inventory control techniques are applied. The priority items were identified in terms of A, B,and C items and also vital ,essential and desirable categories after series of interactive discussions with all stake holders in the outpatient department including doctors , nurses , technicians , soft ware and hard ware , biomedical ,electrical ,maintenance , marketing , and administrators .

Limitations of the study:

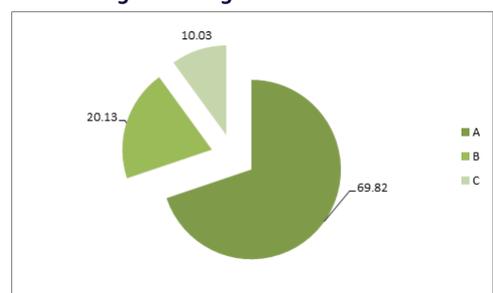
The data is limited to the materials supplied to the front office of an outpatient department only . The analysis is based on the data available in the system and may not cover all the issues. The inventory management techniques may not be a total solution in view of patient care, emergencies and clinician recommendations.

Results and Discussion :

Table I showing ABC analysis Numbers and percentages ;

	Number of items	% of total items	Cumulative value of items	Percentage of total consumption
A	10	9.10%	14,98,552	69.82%
B	23	22.33 %	4,32,126	20.13%
C	70	67.96%	215428	10.03%

Pie chart showing ABC categories CHART I



The supplies issued for a period of one year was collected from the stores , analysed applying inventory control methods ABC analysis

A items are about 10 which includes outpatient cards , OP files , case sheets, Narayana mathruseva cards , A4 papers , Cartridges, computer systems which consume an amount of Rs 14,98, 552 accounting for 69.82% of cumulative annual consumption value of items of about Rs 21,46,107 (2017) data .

The criticality of the materials used in an outpatient department has been finalised after discussion with the staff and administrators , OPD in charge and basing on the effects on the patient care.

VED analysis Table II .showing number of items

	Number of items	% of total items
V	15	14.56%
E	47	45.63%
D	41	39.80

VED analysis based on the degree of criticality of the items vital to the patient care , essential and desirable based on the recommendations of panel of doctors and pharmacy ncharge .

ABC and VED categories: showing number of items Table 3

	A (10)	B (23)	C (70)	Category
V(15)	6 items	2 items	7 items	I
E(47)	2 items	17 items	30 items	II
D (41)	2 items	23 items	33 items	III

The combination of ABC and VED methods assists in identifying both the items that have the heaviest economic impact on the operation of the hospital.

ABC-VED matrix analysis, which is a combination of ABC and VED analysis, can be gainfully employed to evolve a meaningful control over the supplies. Category I includes all vital and expensive items (AV, BV, CV, AE, AD). Category II includes the remaining items of the E and B groups (BE, CE, BD). Category III includes the desirable and cheaper group of items (CD)

Stock outs or short supply of VED supplies leads to service break down or causing un due delays and patient dis satisfaction and staff frustration and conflicts .

When analysing the operation of a hospital with the ABC and VED methods, most important products, in terms of value, volume and importance-criticality are identified, together with the most important customers and key suppliers (Kostagiolas, Kadtelidou & Chatzopoulou, 2008).

Conclusions:

103 items were issued for which total annual consumption was about Rs 21,46,107 . "9.70% of items were " A" items costing 69.82% of total value . " B" category was 22.33% of items with 20.13% of value and 67.96% of " C " items costs 10.03% of total value . Vital items were the one which must be available and stock out of these items affect patient service. vital (15) items ,Essential (47) and D items (41) were identified basing on the criticality . case sheet forms ,consent ,charts ,check list are some essential and desirable items which may not hinder inc the service .

Recommendations :

Because of the high value of 'A' items, frequent value analysis is required , an organization needs to choose an appropriate order pattern (e.g. Just - in - time) to avoid excess stock followed by focus on " B " and " C " category of items .

The top management should focus on category I items. Frequent internal audit, ordering systems and issue of items needs close monitoring. ABC and VED matrix is more useful along with other inventory control techniques.

The management of Category I items were monitored by top management resulting in better control on the annual expenses and at the same time making available the vital Category II by middle and Category III at lower managerial level.

An effort could be made to bring down the number of AD items which take away a good chunk of the budget and their non-availability is not going to make much difference to the quality of health care services.

Future scope of study : Furthur studies are required to analyse all the supplies received by clinical departments in detail along with maintenance engineering and supportive services

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