

Gujarat Medical Services Corporation Ltd. -An Analytical Study on Its Inventory Management at Surat Warehouse

By

Irfan Khan

*Dissertation submitted for the partial fulfillment of the
MBA Pharmaceutical Management*

Academic year, 2015-2017



The IIHMR University, Jaipur

1, Prabhu Dayal Marg, Sanganer, Airport
Jaipur 302029, Rajasthan
Ph: 0141 3924700, Fax: 3924738
Website: www.iihmr.edu.in

Gujarat Medical Services Corporation Ltd. -An Analytical Study on Its Inventory Management at Surat Warehouse

By

Irfan Khan

*Dissertation submitted for the partial fulfillment of the
MBA Pharmaceutical Management*

Academic year, 2015-2017

Gujarat Medical Services Corporation (GMSCL), Gandhinagar,
Gujarat



The IIHMR University, Jaipur

1, Prabhu Dayal Marg, Sanganer, Airport
Jaipur 302029, Rajasthan
Ph: 0141 3924700, Fax: 3924738
Website: www.iihmr.edu.in

TO WHOMSOEVER MAY CONCERN

This is to certify that **Irfan Khan** of **MBA Pharmaceutical Management** from The IIHMR University, Jaipur has undergone internship training at **Gujarat Medical Services Corporation Ltd.** from **1st Feb to 30th April 2017**.

The Candidate has successfully carried out the study designated to him during internship training and his approach to the study has been sincere, scientific and analytical.

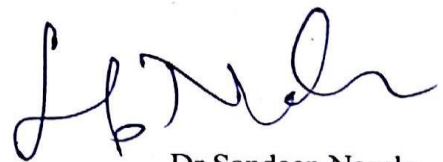
The Internship is in fulfillment of the course requirements.

I wish him all success in all his future endeavors.



(Col.) Dr. Ashok Kaushik

Dean - Academics and Student Affairs
The IIHMR University, Jaipur



Dr Sandeep Narula
Associate Professor
IIHMR University , Jaipur



GUJARAT MEDICAL SERVICES CORPORATION LIMITED

(A Government of Gujarat Undertaking)

The certificate is awarded to

IRFAN KHAN

In recognition of having successfully completed his Internship in the department of

LOGISTICS & SUPPLY CHAIN

and has successfully completed his Project on

“An Analytical Study on Inventory Control Management at Regional Warehouse, Surat.”

From 1st February to 30th April, 2017

AT

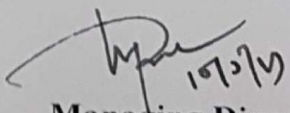
GUJARAT MEDICAL SERVICES CORPORATION LIMITED (GMSCL)

Gandhinagar, Gujarat

He comes across as a committed, sincere & diligent person who has a strong drive & zeal for learning

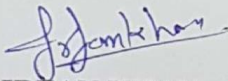
We wish him all the best for future endeavors




Managing Director
GMSCL
Managing Director
Gujarat Medical Services Corporation Ltd.
Gandhinagar

CERTIFICATE BY SCHOLAR

This is to certify that the dissertation titled **“Gujarat Medical Services Corporation Ltd. – An analytical study on its inventory management at Surat Warehouse”** and submitted by **IRFAN KHAN**, Enrollment No: **IIHMR-U/02/2015-17/0055**, under the supervision of **Dr SANDEEP NARULA** for award of **(MBA in Pharmaceutical Management)** Postgraduate Diploma in Pharmaceutical of the University carried out during the period from **1th February, 2017** to **30th April, 2017** embodies my original work and has not formed the basis for the award of any degree, diploma associate ship, fellowship, titles in this or any other Institute or other similar institution of higher learning.



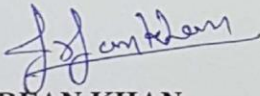
IRFAN KHAN
The IIHMR University

Certificate of Ethical Clearance

THE IIMR UNIVERSITY, JAIPUR

CERTIFICATE BY SCHOLAR

This is to certify that all ethical issues have been considered while collecting data for my dissertation titled “Gujarat Medical Services Corporation Ltd. – An analytical study on its inventory management at Surat Warehouse”.



IRFAN KHAN
Signature of student

ABSTRACT:**Objectives:**

Inventory control, a similar term, is the area of inventory management that is concerned with minimizing the total cost of inventory while maximizing the ability to provide customers with product in a timely manner. There are different techniques commonly used to control the inventory such as ABC Analysis and VED Analysis. To evaluate present status of demand, consumption, pattern and position of product in stores in order to plan a strategy to reduce inventory cost of Surat warehouse of GMSCL.

Research design:

Data was collected from secondary records and study is descriptive study. Study was conducted in Surat warehouse with final sample of drugs incorporated is **100** drugs. Purposive sampling was used to collectively obtain the data from inventory management software (E-Aushadhi) containing more than 575 drugs. Tools used for analysis of inventory management are ABC analysis, VED Analysis.

Methods:

ABC Analysis was used to differentiate the drugs according to categories of consumption with 70% contribution of demand goes to drugs in category A, 20 % in category B and 10% in category C. VED Analysis will make a distinction on basis on conditional need or primary need as Vital, Essential and Desirable categories.

Results:

According to ABC analysis 15% of drugs falls under category A , 17% of drugs falls in the category B followed by 68 % of drugs in category C. By ABC analysis we can say that there is a little difference between A, B & C class items items is important for the organization. According to VED analysis 11% of drugs comes under vital category followed by 63% in essential and 26% in desirable category. majority of injection comes under vital category.

Conclusion:

By ABC analysis we can say that there is a little difference between A, B & C class items so every items is important for the organization. There is a positive correlation b/w sale to inventory. Organization aims to achieve max sales in future so it required huge amount of inventory in future. There is good relationship between company and their distributors vendors. This study provides insights to the management of high value items and low value items. Analysis was carried out to identify the fast moving non-moving and important items the Surat warehouse has to periodically review the inventory to avoid production loss. The result of study can be used in future for further studies

Acknowledgement

It is my immense pleasure to express my thanks and obligations to all those who have given their support in working out this project.

First of all, I would like extend my sincere thanks to **Dr. Vipul Aggarwal IPS, Managing Director, GMSCL** and also too **Managers of GMSCL** for providing me an opportunity learn and develop professionally.

I would like to express my sincere thanks to my mentor **Dr. SANDEEP NARULA Assistant professor** of Indian Institute of Health Management Research, (IIHMR University) Jaipur, for providing me the opportunity and all necessary Facilities to accomplish this endeavor successfully. I am greatly indebted to all of them for providing their valuable guidance at all stages of the study, their advice, constructive suggestions, positive and supportive attitude and continuous encouragement, without which it would have not been possible to complete the project.

To place on record, I owe a debt of gratitude to all my teachers for grooming me and my classmates for the inspiration needed to work with dedication and motivation throughout as an Intern at Gujarat Medical Services Corporation (GMSCL).

I hope that I can build upon the experience and knowledge that I have gained and make a valuable contribution towards the industry in coming future.

IRFAN KHAN

MBA-Pharmaceutical management

Batch- 2015-2017

IIHMR UNIVERSITY

Jaipur

TABLE

S.No.	Topic	Page No.
1.	Introduction Of Gujarat medical Co. Ltd.	12
2.	Need for the study	14
3.	Review of literature	15
4.	Organization structure	16
5.	Objective and research methodology	18
6.	inventory control management	19
7.	Techniques of inventory control	20
A	ABC analysis	20
B	EOQ	21
C	Perpetual inventory system	22
D	Review of slow fast non-moving items	23
E	Setting of various level of system	24
F	VED	25
8	Data analysis	26
9	Findings	34
10	Conclusion	36
11	Limitation	35
12	References	37

List of Abbreviations

Term	Explanation
CMSO	Central Medical Stores Organization
GMSCL	Gujarat Medical Services Corporation Limited
DWH	District Warehouse
EMD	Earnest Money Deposit
SD	Security Deposit
PO	Purchase Order
QC	Quality Control
e-Aushadhi	Drug Management System
FD	Fixed Deposit
PDT	Pre-Dispatch Test
D & C	Drug and Cosmetic
RC	Rate Contract
DDC	Drug Distribution Counter
BDL	Baroda Drug Laboratory
MD	Managing Director
DDO	District Demanding Officer
HoD	Head of the Department
HQ	Head Quarter
NOSQ	Not of Standard Quality
LD	Late Delivery
CHC	Community Health Center
PHC	Primary Health Center

1. Introduction

With more than six crores people and population density of 308 per sq. km. Gujarat has a vision and commitment to provide effective and quality health care to all with special focus on reaching the unreached and serve the underserved. One of the highest priority goals of Department of Health & Family Welfare is to make the health system of Gujarat more available, accessible, accountable, equitable, transparent and cost effective.

The objective is to reduce the MMR, IMR, Address adverse sex ratio, combat malnutrition with multipronged strategy, effectively implement NHM programmes provide state of art health and medical education. Also it aims to provide free Quality drugs and modern Diagnostic facility at door step and enabling information and Communication Technology as a strategic resource, making it an integral part of Health Governance.

With the expansion of health care network in the state and increasing budgetary provisions, CMSO was transformed into Gujarat Medical Services Corporation, as per GR MSP/102012/58/G dated on 20 July 2012 as an autonomous body, to ensure timely procurement & distribution of drugs and medical equipment for all the State Health Institutions.

With the changes in the healthcare arena there was a felt need of developing new as well as upgrading the existing functioning and processes of CMSO, and consequently develop an institution supported with necessary infrastructure to make the system responsive to meet the objectives of the universal health coverage.

With the view to match the changing demands and pace of development in the sector, CMSO was transformed into **“Gujarat Medical Services Corporation Limited”** (GMSCL) as an autonomous body and was incorporated under companies act, for systematic procurement, inventory management, Management information system and to infuse professional management with establishment, development and strengthening the use of information technology in medical store organization.

GMSCL was established primarily to look after the procurement and supply of medicines and other hospital requisites for the government health care facilities in the state. The working of GMSCL during the first 3 years of its existence was studied and critically

analyzed in the study. The situation prior to the establishment of GMSCL for a period of Four years was also studied and evaluated.

The study finds that GMSCL could improve access to medicines in the state during the study period. The quality and availability of medicines in government hospitals also increased considerably. GMSCL could introduce many innovations in its functioning and make the procurement scientific and transparent. Preparation of Essential drug list, modernization of warehouses is other progressive steps of GMSCL. The utilization of information technology in a unique manner helped to bring transparency in functioning and reduce unethical practices remarkably. It also helped to make its services fast in many aspects.

The Corporation deserves more support and encouragement from the State and Central Governments and other organizations. GMSCL also establish a market intelligence wing for conducting studies and evaluate its functioning, programmes, policies and other related activities that will further strengthen its functioning. The manner in which GMSCL is improving its functioning in the four years of its origin shows that the Gujarat model of Drug Policy is one of the best policies among all Indian states.

2. Need for the Study

Every organization needs inventory for smooth running of its activities. It serves as a link between production and distribution processes. The investment in inventories constitutes the most significant part of current assets/working capital in most of the undertakings. Thus, it is very essential to have proper control and management of inventories. The purpose of inventory management is to ensure availability of materials in sufficient quantity as and when required and also to minimize investment in inventories. So, in order to understand the nature of inventory management of the organization, I took this Inventory Management as a topic for my project, to give findings and suggestions by adopting and analyzing different inventory control techniques.

3. Review of Literature

Heinbuch (1995) described an approach to meeting the challenge of healthcare cost reduction through the hospital material management function. The work highlights the value of taking a proactive stance to meet the challenge of transferring technology across industry sectors.

Alverson (2003) discussed the importance of disciplined inventory management for hospitals, and suggested serious consequences of traditional hospital purchasing including lack of inventory control, missed contract compliance, excess inventory levels, frequent stock-outs and costly emergency deliveries, workflow interruptions, expensive rework, and increased health system labor requirements.

The literature on information technology (IT) provides some solutions to material management in the healthcare sector. Burns (2002) discussed aggregation of suppliers and their products through electronic catalogues, visibility of orders and materials, and efficiency in procurement.

Schneller and Smeltzer (2006) suggested that e-procurement systems can help to significantly reduce purchasing costs through the consolidation of supplier networks and creation of supplier partnerships. They also suggested that transaction and administration costs can be reduced through the use of ERP systems, which provide an automated and paperless format for information to flow throughout an organization.

Essential drug list

Essential medicines, as defined by the World Health Organization (WHO) are, “those drugs that satisfy the health care needs of the majority of the population; they should therefore be available at all times in adequate amounts and in appropriate dosage forms, at a price the community can afford.”

In Alma-Ata conference (1978), it was realized that access to essential drugs is vital for preventing and treating diseases affecting millions of people throughout the world. The action plan for providing access to essential drugs to all the people was established in the year 1981 by World Health Organization (WHO).

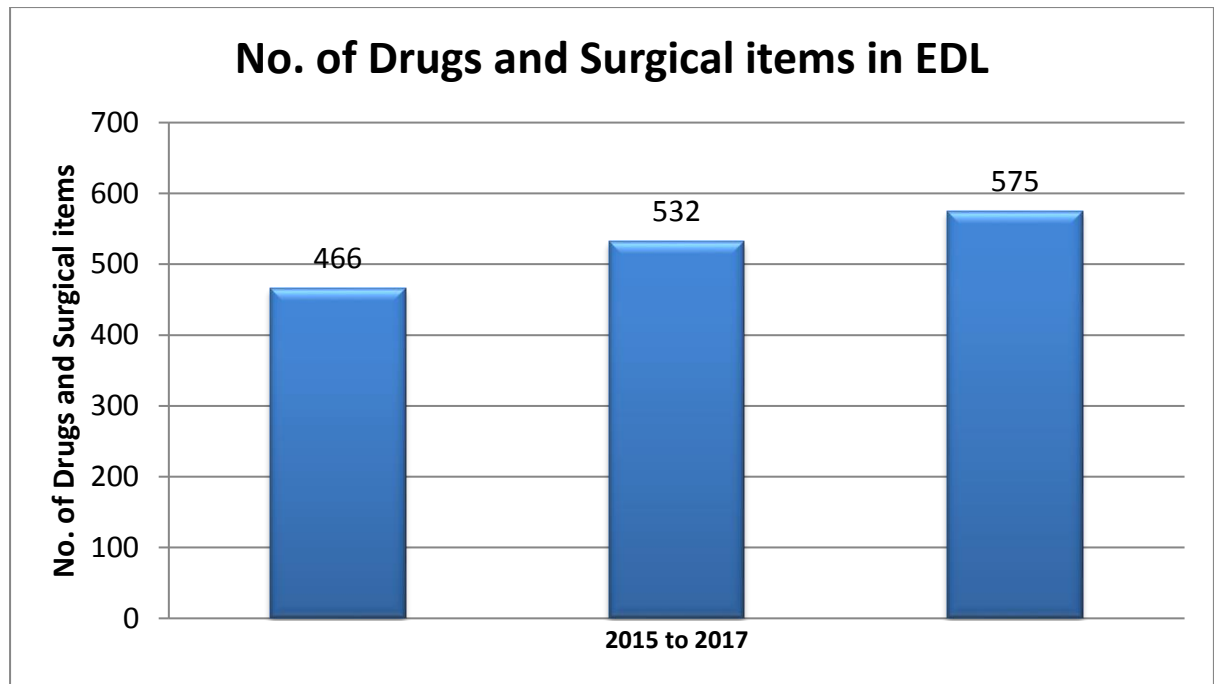
Taking the initiative forward, the Gujarat Medical Services Corporation Limited has come up with a list of Essential Drugs for the State of Gujarat containing a list of drugs that are to be procured and supplied to all the concerned healthcare facilities, irrespective of their inclusion in any other healthcare program.

First official EDL was published in the year 2004-2005, and since then, this list has been updated every year to keep in pace with the changing technology and requirements.

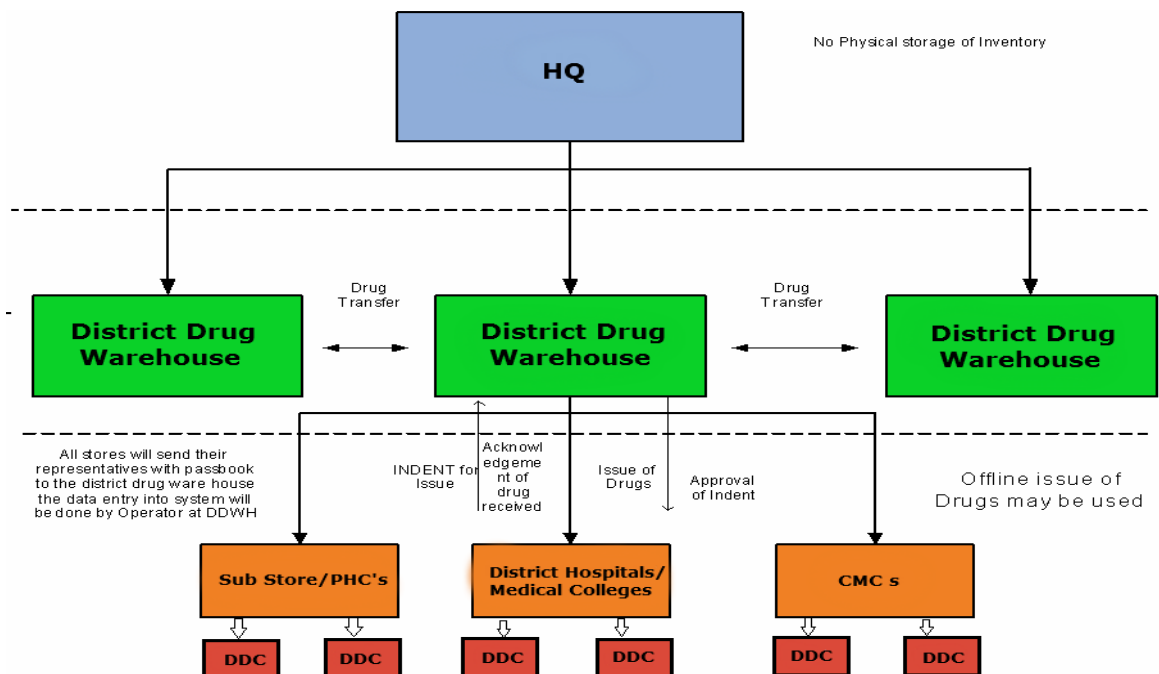
The EDL list to be utilized by all the medical and para-medical personnel of all the healthcare facilities of Gujarat is prepared by rigorous and regular brainstorming sessions with experts from various departments and specializations with a commitment to update the list every year.

A Committee consisting of Professors of various clinical disciplines including medicine, pharmacology, experts and the managing director of GMSC was constituted to finalize the essential drug list. After detailed discussions and deliberations based on the morbidity pattern and the prevailing diseases calendar in different parts of the state, the Committee finalized an essential drug list consisting of 575 generic medicines in 2016-2017.

They have also conducted 'VED' analysis (a well-accepted inventory control technique used in medicine management) and listed the items into three categories - Vital, Essential and Desirable. Only very few combination drugs were included in the list and the concept of single drug ingredient was adopted by the Committee at the time of finalizing the list.



No. of Drugs and Surgical Items in EDL



OBJECTIVE OF THE STUDY

To evaluate present status of demand, consumption, pattern and position of product in stores in order to plan a strategy to reduce inventory cost.

RESEARCH METHODOLOGY

S. No.	PARAMETER	DESCRIPTION
1.	Research type	Descriptive Research
2.	Data collection	Primary& Secondary
3.	Tools used	• Economic Order Quantity. • Safety Stock. • ABC Analysis. • FSN Analysis. • VED Analysis
4.	Measurement technique	Interviews
5.	Sample unit	Material Planning- Deputy Managers
6.	Sampling Technique	Purposive Sampling
7.	Analysis of Data	Microsoft Excel

INVENTORY CONTROL MANAGEMENT

Inventory control, a similar term, is the area of inventory management that is concerned with minimizing the total cost of inventory while maximizing the ability to provide customers with product in a timely manner.

A component of supply chain management, Inventory management supervises the flow of goods from manufacturers to warehouses and from these facilities to point of sale. A key function of inventory management is to keep a detailed record of each new or returned product as it enters or leaves a warehouse or point of sale.

Objectives of Inventory Control:

The main purpose of having an inventory control is:-

- Maximum customer services.
- Minimum inventory investment.
- Low cost plant operation.

Functions of Inventory Control:

- To keep the inventories as low as possible consistent with the market conditions.
- To forecast the market and economic conditions of supply as regards availability of materials.
- To maintain a sufficient stock of finished product to meet the reasonable expectations of customers for prompt delivery of goods.
- To maintain proper records so as to supply accurate and regular materials reports to the management.
- To minimize “ out of stock ” danger which result in crash purchase at uneconomical rates.

Techniques of Inventory Control:

The following are different techniques commonly used to control the inventory :-

- **ABC Analysis**
- **Economic Order Quantity**
- **Perpetual Inventory System**
- **Review Of Slow And Non Moving Items**
- **Setting Of Various Levels**
- **VED Analysis**

1. ABC Analysis

In a big drug store, large items are stocked in order to maintain a proper control of inventories. The ABC analysis (always better control) technique is used. In this materials are divided in three groups A, B,C according to the cost of the materials and money value of the consumptions.

A Items in the whole inventory, there are few costly items which come under this group , these items may not be more than 10% of total items , but these consumed about 70% of the total budget of inventories.

So these items require proper storage and handling, over-stocking is avoided, only necessary quantities of these inventories are purchased and stock, so as to minimize the investment of these items.

B Items the items coming under this group are neither costly nor cheap, these items constitute 20% of the total quantity of the inventories and 20% of the expenditure of inventories is spent on these items.

C Items these are cheaper in cost, and these items covers 70% of the total inventories and consumes 10% of the total expenditure of inventories.

Distribution of ABC class		
ABC class	Number of items	Total amount required
A	10%	70%
B	20%	20%
C	70%	10%
Total	100%	100%

Advantages of ABC Analysis:-

- The investment in inventory can be regulated and funds can be utilized in the best possible manner.
- It helps in maintaining enough safety stock of C categories of items.
- The scientific and selective control helps in the maintenance of high stock turnover rate.

2. ECONOMIC ORDER QUANTITY(EOQ)

This technique is used to find out how much of inventory is to be ordered. The current quantity to buy is the quantity at which the ordering cost and the inventory carrying cost will be the minimum.

The ordering cost consists of the cost of paper work involved in placing an order like use of paper, typing, posting, etc. It also includes the cost of the salaries of staff involved in this work, the costs incidental to placing an order like follow up, receiving, inspection. The ordering is more or less fixed.

The inventory carrying cost is represented by items like rent of storage, cost of insurance and taxes, salaries of store keeper or staff and losses in stores due to pilferage, wastage, breakage etc.

Methods for determination of (EOQ)

- TABULAR
- GRAPHIC
- ALGEBRAIC

ALGEBRAIC FORMULA FOR EOQ:-

$$EOQ = \frac{\sqrt{ab}}{\sqrt{cs}}$$

Where a = **annual consumption** , b= **buying cost per order** , c= **cost per unit of materials** , s = **storage and other inventory carrying cost**

For example,

A= 1200

B= 10

C= 1.00

S = .24 (24% yearly)

$$EOQ = \frac{\sqrt{2}\sqrt{1200}\sqrt{10}}{\sqrt{1.00}\sqrt{.24}} = 316 \text{ units}$$

3. PERPETUAL INVENTORY SYSTEM:-

This is a method of recording the store balance after every receipt and issue to facilitate regular checking and to prevent closing down for stock-taking. After every receipt or issue , the entry is made in the bin card and balance is adjusted. Thus bin card becomes perpetual inventory record and store balance is recorded continuously after every receipt and issue.

This system comprises:-

- **BIN CARD** this is a document maintained by the store keeper in his store to keep record of all items of materials and goods in his store. It shows quantities of each material received, issued and in stock.

- **STORE LEDGER**: - It is kept in the cost accounting department. it is maintained in the form of loose leaf cards because they can be easily removed and inserted.
- **CONTINUOUS STOCK-TAKING**: - under this system only a limited number of items are verified on a day.

The bin card and the store ledger record the balance and their correctness can be verified by means of physical verification. In case of any difference b/w recorded and actual balances. It has to be pointed out to the management.

4. **REVIEW OF SLOW AND NON MOVING ITEMS:-**

Proper inventory system enforced to detect and control slow moving items , obsolete items and dormant stock.

- **SLOW MOVING**:-are those items which are moving at a slow rate.
- **DORMANT MATERIALS**:-are those items which are moving temporarily because of seasonal production.
- **OBSOLETE ITEMS**: - items are those which have become useless due to change in design, methods of manufacture , production or process etc.

In order to detect non-moving and slow moving items the following steps may be taken:-

- **Periodic report**:-a monthly or quarterly report on the stock of non-moving items is prepared which indicates its purchase, consumptions and balance in hand. These reports are given to the management.
- **Obsolete items**: - many of the non-moving and slow moving items are useless with the passage of time. So a well-designed information system has to be devised to locate such obsolete items ,so these can be utilized and their further purchase can be stopped.
- **Moving Ratio**: - in order to isolate slow moving non-moving and obsolete & dormant or dead stocks , moving ratio may be calculated periodically. These ratios show the turnover of these items for presentation to the management.

5. SETTING OF VARIOUS LEVELS:-

In order to maintain inventory control, it is important to decide upon various level of materials. These following:-

- **MAXIMUM STOCK LEVEL:** - it shows upper limit of stock beyond which the quantity of any item is not properly allowed to rise. It depends on following points these are:-

Rate of consumption, storage space available , amount of capital needed and available , nature of materials , market trend , government restrictions , risk of fire and others , lead time from the date of purchasing.

FORMULA FOR MAXIMUM LEVEL =

RE-ORDER LEVEL + RE-ORDER QUANTITY – MINIMUM CONSUMPTION (minimum consumption per week × minimum re-order period)

- **MINIMUM STOCK LEVEL OR SAFETY STOCK:-**this is the lower limit below which the stock of any item should not normally be allowed to fall. This is also is known as buffer stock.

Minimum stock = re-order level – {normal consumption per week – avg delivery time}

Lead time = total time consumed b/w the recognition of need of an item, till the time it is received for use.

- **Re-order Level:** -it is fixed b/w the maximum and minimum stock levels. When stock of an inventory, reaches at this point , the process for purchase of material should be started. The reorder level is slightly more than minimum stock level to guard against.

=abnormal use of items

=abnormal delay of supply

RE-ORDER LEVEL: -minimum consumption during the period × max. Reorder period

- **Danger Level:-** this is generally below the minimum stock level and should be avoided by taking urgent action to prevent stock out.

6. VED ANALYSIS:-

This 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 requirements. The best way to solve this problem is to classify the different brands of drug formulations into any one of the categories:-

V= vital items

E=essential items

D= desirable items

For example, acetyl salicylic acid is available as disprintablets, Anacintablets, micropyrine tablets.

There is great demand of disprintablets, so these are classified as **VITAL ITEMS**,

followed by micropyrine tablets which are covered under **ESSENTIAL ITEMS** due to its less demands than disprin tablets.

Anacin tablets may be considered as **DESIRABLE ITEMS** because they are hardly a few prescriptions of it.

So in a drug store there should be maximum stock of disprin tablets, followed by micropyrinetablets, and then of anacin tablets.

DATA INTERPITATION AND ANALYSIS

SL NO.	ITEM CODE	DEMAND	UNIT COST	ANNUAL CONSUMPTION	ANNUAL CONSUMPTION %	cumulative consumption%	CATEGORY
1		5276	551.1976	2908118.33	0.091524	9.1524000%	A
2		578	4244.446	2453289.86	0.077209	16.8733246%	A
3		600	3483	2089800	0.065770	23.4503045%	A
4		160570	11.899	1910622.43	0.060131	29.4633801%	A
5		1372400	1.30015	1784325.25	0.056156	35.0789755%	A
6		10217	152.7173	1560312.8	0.049106	39.9895630%	A
7		405200	3.85	1560020	0.049097	44.8992291%	A
8		126420	11.47	1450037.4	0.045635	49.4627600%	A
9		1928600	0.538	1037586.8	0.032655	52.7282339%	A
10		455869	1.998294	910960.3	0.028670	55.5951913%	A
11		418700	2.172536	909641	0.028628	58.4579966%	A
12		36900	24.4648	902751.12	0.028411	61.2991183%	A
13		1636600	0.532653	871739.99	0.027435	64.0426422%	A
14		1185700	0.724	858446.8	0.027017	66.7443301%	A
15		1816500	0.38	690270	0.021724	68.9167351%	A
16		2820	243.5833	686905	0.021618	71.0785498%	B
17		17042	23.83	406110.86	0.012781	72.3566544%	B
18		17042	23.83	406110.86	0.012781	73.6347589%	B
19		75495	5.353011	404125.53	0.012719	74.9066153%	B
20		75495	5.353011	404125.53	0.012719	76.1784717%	B
21		1578	251	396078	0.012465	77.4250011%	B
22		1578	251	396078	0.012465	78.6715304%	B
23		56443	6.9768	393791.52	0.012393	79.9108638%	B
24		56443	6.9768	393791.52	0.012393	81.1501972%	B
25		527400	0.717552	378436.83	0.011910	82.3412066%	B
26		527400	0.717552	378436.83	0.011910	83.5322160%	B
27		6162	60.4055	372218.72	0.011714	84.7036558%	B
28		6162	60.4055	372218.72	0.011714	85.8750957%	B
29		3705300	0.09991	370196.52	0.011651	87.0401713%	C
30		3705300	0.09991	370196.52	0.011651	88.2052470%	C
31		291900	1.231487	359471.1	0.011313	89.3365678%	C
32		291900	1.231487	359471.1	0.011313	90.4678885%	C
33		11878	15.89	188741.42	0.005940	91.0618921%	C
34		29023	6.22	180523.06	0.005681	91.6300309%	C
35		32132	5.544708	178162.56	0.005607	92.1907408%	C
36		30892	5.622813	173699.95	0.005467	92.7374061%	C
37		1650	99.50364	164181	0.005167	93.2541135%	C
38		1945	79.79	155191.55	0.004884	93.7425294%	C

39		8765	16.77779	147057.3	0.004628	94.2053455%	C
40		42192	3.4	143452.8	0.004515	94.6568175%	C
41		15611	8.8	137376.8	0.004323	95.0891672%	C
42		668000	0.19277	128770.36	0.004053	95.4944309%	C
43		13152	9.75	128232	0.004036	95.8980002%	C
44		1990	61	121390	0.003820	96.2800366%	C
45		377	320.48	120820.96	0.003802	96.6602821%	C
46		6211	16.25	100928.75	0.003176	96.9779232%	C
47		260	380	98800	0.003109	97.2888647%	C
48		165600	0.5657	93679.92	0.002948	97.5836924%	C
49		8759	8.770981	76825.02	0.002418	97.8254747%	C
50		12917	5.8	74918.6	0.002358	98.0612571%	C
51		413	162	66906	0.002106	98.2718225%	C
52		4870	8.89	43294.3	0.001363	98.4080775%	C
53		3570	11.95	42661.5	0.001343	98.5423410%	C
54		2696	15.6	42057.6	0.001324	98.6747039%	C
55		268900	0.155471	41806.2	0.001316	98.8062756%	C
56		400	101	40400	0.001271	98.9334217%	C
57		12200	3.2381	39504.82	0.001243	99.0577505%	C
58		2641	14.77	39007.57	0.001228	99.1805144%	C
59		6463	5.98	38648.74	0.001216	99.3021490%	C
60		6215	4	24860	0.000782	99.3803880%	C
61		3923	6.193798	24298.27	0.000765	99.4568590%	C
62		3080	7.69	23685.2	0.000745	99.5314007%	C
63		80580	0.29	23368.2	0.000735	99.6049446%	C
64		1970	3.373	6644.81	0.000209	99.6258571%	C
65		363	18	6534	0.000206	99.6464207%	C
66		521	12.4	6460.4	0.000203	99.6667528%	C
67		25800	0.25	6450	0.000203	99.6870521%	C
68		1906	3.36	6404.16	0.000202	99.7072072%	C
69		4275	1.44	6156	0.000194	99.7265812%	C
70		612	9.7	5936.4	0.000187	99.7452641%	C
71		39000	0.147	5733	0.000180	99.7633069%	C
72		2410	2.33	5615.3	0.000177	99.7809793%	C
73		47880	0.107071	5126.56	0.000161	99.7971135%	C
74		1850	2.7	4995	0.000157	99.8128337%	C
75		540	8.99	4854.6	0.000153	99.8281120%	C
76		1360	2.65	3604	0.000113	99.8394544%	C
77		18	199	3582	0.000113	99.8507276%	C
78		10	356.4	3564	0.000112	99.8619442%	C
79		10	356.4	3564	0.000112	99.8731607%	C
80		10	356.4	3564	0.000112	99.8843773%	C
81		405	8.73	3535.65	0.000111	99.8955046%	C
82		250	14.038	3509.5	0.000110	99.9065497%	C

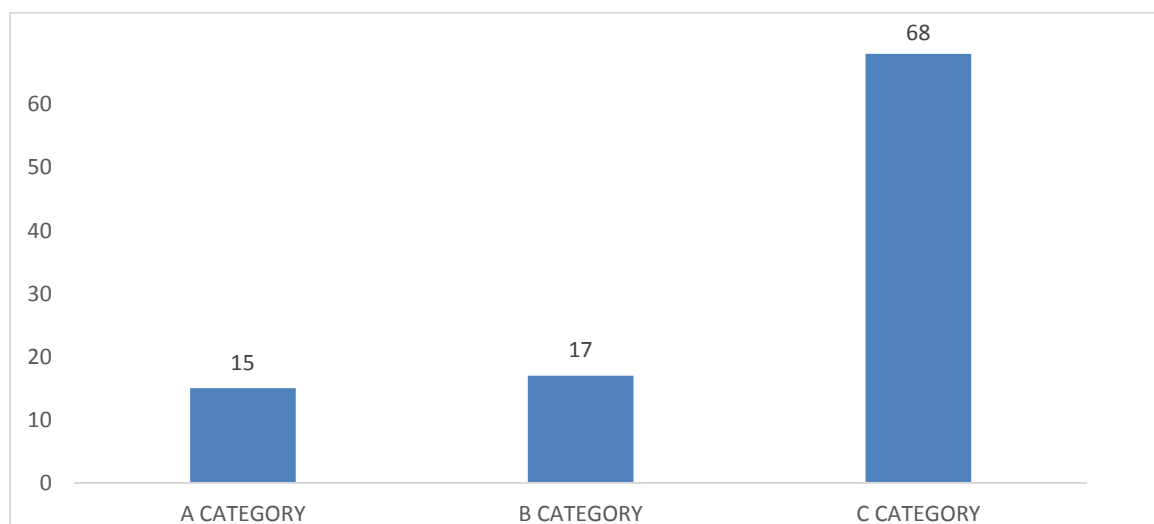
83		10	337.59	3375.9	0.000106	99.9171742%	C
84		33300	0.1013	3373.29	0.000106	99.9277906%	C
85		3700	0.89	3293	0.000104	99.9381543%	C
86		40	82	3280	0.000103	99.9484770%	C
87		1000	3.06	3060	0.000096	99.9581074%	C
88		37900	0.05923	2244.82	0.000071	99.9651723%	C
89		262	7.92	2075.04	0.000065	99.9717028%	C
90		120	13.75	1650	0.000052	99.9768956%	C
91		8000	0.176	1408	0.000044	99.9813269%	C
92		5700	0.24	1368	0.000043	99.9856322%	C
93		37	32.15	1189.55	0.000037	99.9893759%	C
94		220	4.883636	1074.4	0.000034	99.9927573%	C
95		84	12.67	1064.28	0.000033	99.9961067%	C
96		30	18.8	564	0.000018	99.9978818%	C
97		2111	0.175002	369.43	0.000012	99.9990444%	C
98		93	2.85	265.05	0.000008	99.9998786%	C
99		200	0.171	34.2	0.000001	99.9999862%	C
100		25	0.1752	4.38	0.000000	100.0000000%	C

Drug Names:

2097 - Lyophilised Polyvalent Antisnake Venom Serum (Snakevenom Antiserum Powder)
 3106 - Sevoflurane Liquid with quick fill adaptor
 2142 - Rabies Immunoglobulin Human Inj 300 IU
 2028 - Ceftriaxone for Inj1Gm (Deep IM/Slow IV Infusion)
 1016 - Amoxycillin Capsules 500mg
 4002 - Absorbent Gauze (20mt x 90cm)
 1185 - Azithromycin Tablets 500mg
 6155 - Sanitary Napkin(Regular)
 1168 - Trimethoprim & Sulphamethoxazole Tablets
 3086 - O.R.S.(W.H.O. Formula)
 1199 - Cefixime Tablets 200mg
 6136 - X Ray Film Size:10x 12 In
 1113 - Metronidazole Tablets 400mg
 1006 - Albendazole Tablets 400mg
 1096 - Ibuprofen Tablets 400mg
 4293 - SYNTHETIC ABSORBABLE BRAIDED TRICLOSAN COATED POLYGLACTIN 910
 SIZE:2/0,LENGTH:90 CMS 1/2 CIRCLE RC 40MM NEEDLE
 3054 - Framycetin Sulphate Cream (30Gm Tube)
 3054 - Framycetin Sulphate Cream (30Gm Tube)
 3036 - Diclofenac Sodium Gel 1% w/w
 3036 - Diclofenac Sodium Gel 1% w/w
 2219 - Amino Acid 10% Injection 500ml
 2219 - Amino Acid 10% Injection 500ml
 6174 - Surgical Rubber Gloves (Disposable) 8 Inch

6174 - Surgical Rubber Gloves (Disposable) 8 Inch
1017 - Amoxycillin Capsules 250mg.
1017 - Amoxycillin Capsules 250mg.
4005 - Adhesive Tape 7.5cmx10mtr
4005 - Adhesive Tape 7.5cmx10mtr
1061 - Diclofenac Sodium Tablets 50mg
1061 - Diclofenac Sodium Tablets 50mg
1044 - Ciprofloxacin Tablets 500mg
1044 - Ciprofloxacin Tablets 500mg
3223 - Clotrimazole Gel 30gm Tube
3117 - Trimethoprim & Sulphamethoxazole Oral Suspension
3088 - Paracetamol Syrup 125 mg/5 ml
3105 - Salbutamol Syrup 2 mg/5 ml
3243 - Budenoside Inhaler
3100 - Povidone Iodine Solution 5%
3057 - Gamma Benzene Hexachloride Application
3002 - Albendazole Suspension 200 mg/5 ml
3060 - Gentian Violet Topical Solution.
1173 - Vitamin B Complex Tablets (Therapeutic)
3138 - HCV Elisa Test Kit Hepatitis C Virus
2302 - Haemocoagulase Injection.
2261 - Collistimethate Sodium 2 MIU
3245 - Neomycin Sulphate, Polymyxin B Sulphate, Bacitracin Zinc Powder 10gm
3018 - Bleaching Powder Grade II I.S.I. Mark 25 Kg
1071 - Doxycycline Capsules 100mg
3029 - Compound Benzoic Acid Ointment (Whitefield's Oint.)
3058 - Gentamicin Eye Drops 0.3% w/v
3090 - Petroleum Jelly (White)
3214 - Petroleum Jelly (White) 30gm Tube
2045 - Dextrose Injection 5% (For I.V. Infusion)
2121 - Multiple Electrolyte P Injection
1087 - Furosemide Tablets 40mg
2276 - Inj. Hyaluronidase 1500 IU Vial 1 unit
1260 - Diclofenac Sodium Suppository 50mg.
3134 - Clotrimazole Ear Drops 1%
3027 - Ciprofloxacin Ophthalmic Solution 3 mg/ml
4309 - Ryles Tube (ETO Sterilized), Size-14.
3070 - Ibuprofen Suspension 100 mg/5 ml
3239 - Calcium & Vitamin D3 Suspension 100 ml bottle
1266 - Acetyl Salicylic Acid (Dispersible) 350mg, Strip
2004 - Amikacin Sulphate Injection (For IM/IV Use) 100mg
3211 - Magnesium Sulphate Powder
2144 - Ringer Lactate Inj. (Compound Sodium Lactate Inj.)
1141 - Propranolol Tablets 40 mg
4306 - Ryles Tube (ETO Sterilized), Size-8.
2032 - Phenaramine Maleate Injection (For IM/IV Use).

2124 - Ofloxacin Injection (For IV infusion)
 1097 - Imipramine HCL Tablets 25mg
 1110 - Methyldopa Tablets 250 mg
 1023 - Atenolol Tablets 50 mg
 4313 - Suction cathater(ETO sterilized)size-10.
 2090 - Lignocaine HCL & Adrenaline Bitartrate Injection
 4312 - Suction cathater(ETO sterilized)size-8.
 2041 - Dextran 40Inj(With Sod.Chloride)(For IV Infusion)
 3306 - Media- Dehydrated powder -Sugar with pH indicator phenol red- Sucrose
 3303 - Media- Dehydrated powder -Sugar with pH indicator phenol red-Lactose
 3302 - Media- Dehydrated powder -Sugar with pH indicator phenol red " Dextrose
 3162 - Azithromycin Oral Suspension 200mg/5ml
 2026 - Ceftazidime for Injection 250mg (for deepIM/Slow IV infusion)
 3310 - Media -Dehydrated powder -Xylose lysine deoxycholate agar
 1068 - Domperidone Tablets 10 mg
 1040 - Chloroquine Phosphate Tablet 500mg , Strip
 2250 - Cisplastin Injection 10 mg
 2109 - Methyl ErgometrineInj (For SC/IM/IV use)
 1154 - Salbutamol Tablets 4mg
 3068 - Hydrogen Peroxide Solution
 4093 - Non-abs.Monofila P.P.sut2-0 1/2cirRB25mm
 1063 - Diethylcarbamazine Tablets 100mg
 1167 - Trifluoperazine HCL Tablets 5mg
 1255 - MTP (Medical Termination of Pregnancy) Drug Kit
 2010 - Ampicillin Sodium Injection 500mg(IM/slow IV use)
 4284 - BB Silk 1 3/8 Cir Rev Cutt. 45 mm Needle 76 cms
 4010 - Crepe Bandage Pack (6cmx4mtr)
 4230 - Foleys Catheter for Adult use : 14FR (30 to 50CC)
 2098 - Magnesium Sulphate Injection (IM use)
 1226 - Glimepiride Tablets 1mg.
 4232 - Foleys Catheter for Adult use: 18FR (2 Way)

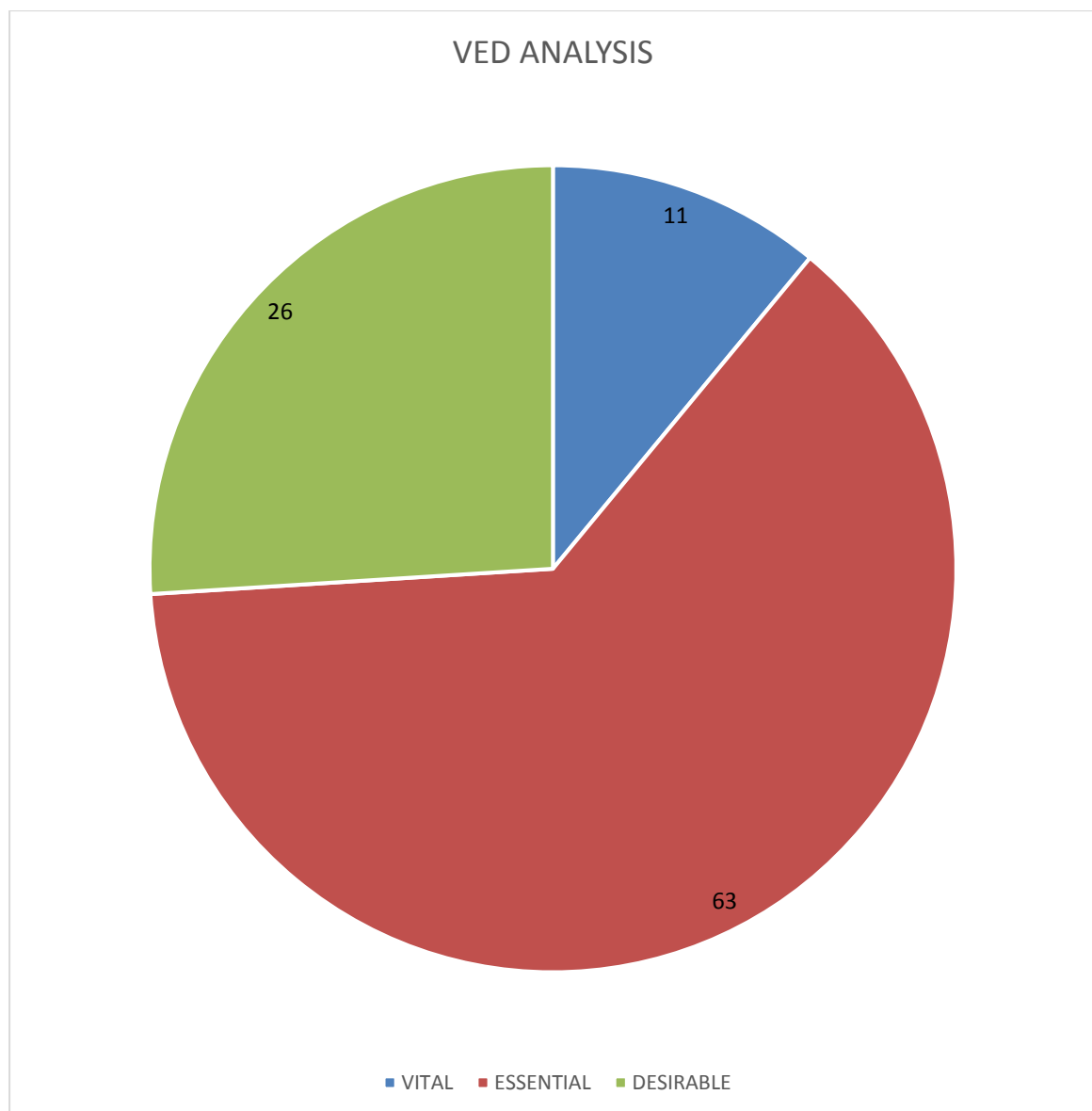


VED ANALYSIS

SL NO	ITEM TYPE	CATEGORY
1	Injection	V
2	Injection	V
3	Injection	V
4	Injection	V
5	Injection	V
6	Injection	V
7	Injection	V
8	Injection	V
9	Injection	V
10	Injection	V
11	Injection	V
12	Tablet	E
13	Tablet	E
14	Tablet	E
15	Tablet	E
16	Tablet	E
17	Tablet	E
18	Capsule	E
19	Tablet	E
20	Tablet	E
21	Capsule	E
22	Capsule	E
23	Sachet	E
24	Tablet	E
25	Tablet	E
26	Tablet	E
27	Tablet	E
28	Capsule	E
29	Injection	E
30	Tablet	E
31	Surgical Material	E
32	Surgical Material	E
33	Tablet	E
34	Suspension	E
35	Tablet	E
36	Tablet	E
37	Instrument	E
38	Tablet	E
39	Syrup	E
40	Syrup	E
41	Suspension	E
42	Tablet	E
43	Miscellaneous	E

44	Eye Drop	E
45	Surgical Material	E
46	Tablet	E
47	Eye Drop	E
48	Disposable	E
49	Powder	E
50	Tablet	E
51	Injection	E
52	Syrup	E
53	Tablet	E
54	Sutures	E
55	Miscellaneous	E
56	Tablet	E
57	Surgical Material	E
58	Injection	E
59	solution	E
60	Disposable	E
61	Disposable	E
62	Inhaler	E
63	Disposable	E
64	Injection	E
65	Injection	E
66	Suspension	E
67	Injection	E
68	Powder	E
69	Injection	E
70	Injection	E
71	Tablet	E
72	Surgical Material	E
73	Injection	E
74	Surgical Material	E
75	Surgical Material	D
76	Ointment	D
77	Ointment	D
78	Cream	D
79	Cream	D
80	solution	D
81	Suppositories	D
82	Miscellaneous	D
83	Lotion	D
84	Ointment	D
85	Surgical Material	D
86	Surgical Material	D
87	Jelly	D
88	Injection	D
89	Suspension	D

90	Injection	D
91	Jelly	D
92	solution	D
93	Powder	D
94	Sutures	D
95	Tablet	D
96	Surgical Material	D
97	Miscellaneous	D
98	Miscellaneous	D
99	Miscellaneous	D
100	Miscellaneous	D



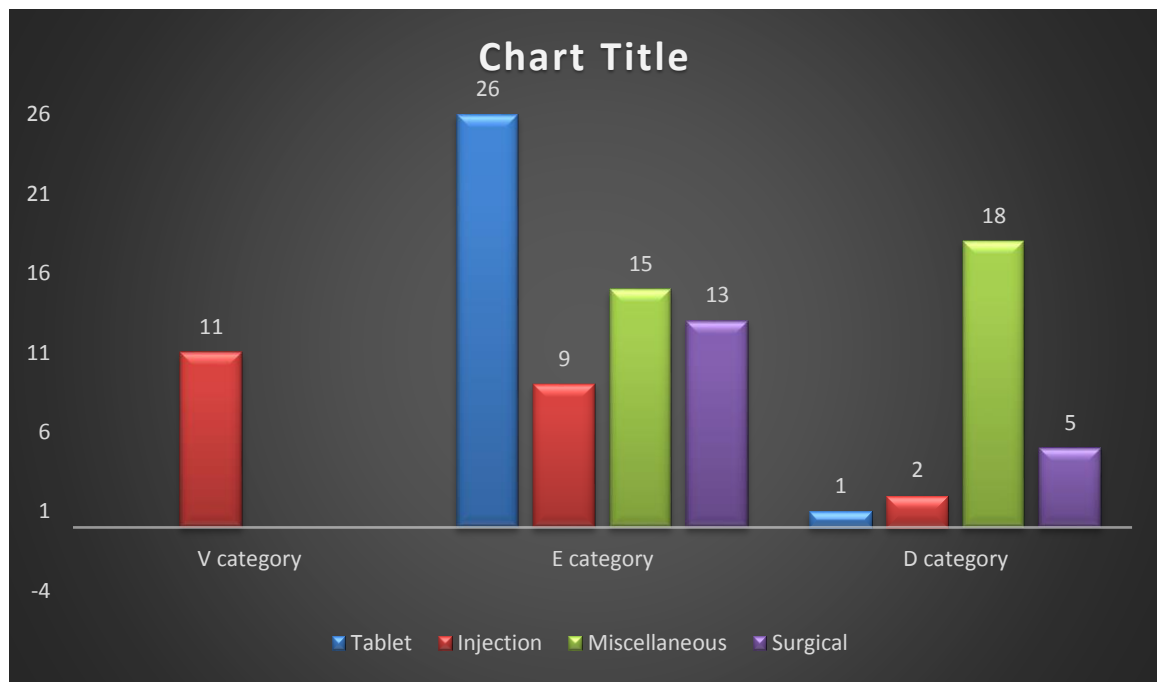
FINDINGS

CATEGORY	NUMBER OF ITEM
A	15
B	17
C	68

- By ABC analysis we can say that there is a little difference between A, B & C class items so every items is important for the organization.
- There is a positive correlation b/w sale to inventory.
- Organization aims to achieve max sales in future so it required huge amount of inventory in future.
- There is good relationship between company and their distributors vendors

FINDING FOR VED ANALYSIS

CATEGORY	NUMBER OF ITEM
V	11
E	26
D	63



LIMITATIONS OF THE STUDY

- It consumes lots of time and needed expenditure and also it needed more time to do this study.
- It is based on secondary data only.
- The Quality of the inventory is not compared in analysis.
- The analysis is based on the internal data which is provided by the organization.

CONCLUSION

Inventory is the physical asset of the organization that create problem of shortages or supply, inventory constantly changing as quantities are sold or replenished.

Hence it can understood that positive inventory control can take the organization to new heights otherwise it ruin it. Organization highly intense on domestic market and it increase the market level of the organization because domestic market is changing fastly.

The study of inventory management in GMSCL, Gujarat is all about forecasting for future inventory and it is predicted that sales in future have to be achieved and inventory level have to be maintained.

This study provides insights to the management of high value items and low value items.

Analysis was carried out to identify the fast moving non-moving and important items the organization has to periodically review the inventory to avoid production loss.

The result of study can be used in future for further studies.

REFERENCES

1. Census 2011. Office of the Registrar General and Census Commissioner, Govt of India April 2011.
2. Thankappan KR. Bulletin of WHO 2007;85(12).
3. Working Paper No 161. Emerging model of procurement and supply. Gujarat Institute of Development Research. September 2005.
4. Dilip.T R. Health Policy and Planning 2011;25(5):437-446.
5. Pharmaceuticals Export Promotion Council. Ministry of Commerce, Govt. of India March.2010.
6. Joseph Alexander. Kerala government to introduce e-tender for drug purchases NewDelhi Pharmabiz,Thursdays, March04,2010.
7. Ramesh Shankar.Pharmabiz Mumbai.8September2010.
8. PeethaambaranKunnathoor .Pharmabiz, Chennai22July2011.
9. Access to Medicines. Initiatives in Policy Making and Delivery of Drugs–A case study of TamilNadu. Gujarat Institute of Development Research. Report submitted to World Bank. 2003.
10. Varatharajan D. Public sector and efficiency: Are they mutually exclusive. An alternative policy framework to improve the efficiency of public health care system in Tamil Nadu, India Journal of Health and Population in Developing countries, North Carolina 2003.
11. Health Programme Initiatives in Tamil Nadu- A Review, Rural Women's Social Education Centre , Tamil Nadu. 2008.
12. Poornalingam R. Drug Management in Government Sector: The Tamil Nadu Model. Essential Drugs Monitor. WHO.1996;21:10-11.
13. Revikumar KG and Miglani BD. Text Book on Pharmacy Practice, Career Publications, Pune, India. 2008.
14. Veena. R. Emerging trends in medicine procurement in government sector in India - A critical study , Int. J Res Pharm Sci. 2010;1(3):372-381.
15. Working Paper No 161. Emerging model of procurement and supply. Gujarat Institute of Development Research. September 2005.