

A STUDY ON ASSESSING THE EFFECTIVENESS OF INVENTORY MANAGEMENT IN MMI NARAYANA MULTISPECIALTY HOSPITAL (RAIPUR)

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INTRODUCTION:

- ❑ Inventory or stock is the goods and materials that a business holds for the ultimate goal of resale. **Inventory management** involves supervising non-capitalized assets, or **inventory**, and stock items. Specifically, “**inventory management** supervises the flow of goods from manufacturers to warehouses and from these facilities to point of sale.”
- ❑ **Pharmacy inventory management** is a complex but critical process within the healthcare delivery system. Without adequate **pharmacy inventory management** practices, hospitals run the risk of not being able to provide patients with the most appropriate medication when it is most needed.
- ❑ Techniques of Inventory Management –
 - ✓ ABC Analysis
 - ✓ VED Analysis
 - ✓ FSN Analysis
 - ✓ FIFO/FEFO
 - ✓ EOQ Model

S. no.	Author name	Aim of study	Conclusion	Learnings
1	Ida Fitriana, Raden Gagak Donny Satria Asian Journal of Animal and Veterinary Advances December, 2017	This study aimed to analyse the annual medical materials expenditure and consumption using inventory control techniques.	The ABC-VED investigation can be received in medication stock of emergency clinic so it can design the accessibility of medications productively the nature of patient care.	Study Shows the essential guideline of stock control utilized ABC examination dependent on cost and VED examination on significance, that can be profitable for medication supply, stock control, improvement in patient consideration as well as in the ideal utilization of assets.
2	SandeepB. Pund, Bina M. Kuril International Journal of Community Medicine and Public Health Year- 2016	objective of the study is to categorize the drugs based on cost and criticality aspects and identify those which require stringent managerial control.	Medications having a place with classification I which requires top administrative control, likewise the things having a place with classifications II and III which require control by centre and lower administrative dimension respectively.	The drug inventory stock investigation empowered the order of medications into classifications dependent on their need and task to proper administrative dimensions

OBJECTIVES:

- To access the current status of Inventory Management.
- To apply appropriate Inventory control tools for Optimum Utilization of Inventory.
- To check whether the current inventory control tools are effective or not.

RESEARCH METHODOLOGY:

Study Type	Descriptive study
Study Duration	3 months
Analysis Tool used	MS Excel
Sampling technique	Purposive Sampling
Data collection	Consumption of Drugs in Pharmacy Stores (Main Store, IP, OP, OT, Cath Lab) in last 3 months.

METHOD OF PERFORMING ABC ANALYSIS:

S. NO.	MATERIAL NAME	NET CONSUMPTION QTY	NET CONSUMPTION VALUE	CONSUMPTION %	CUMMULATIVE %	ABC	VED
1	SEVOFLURANE-SOLUTION-250ML-SEVORANE-	6612	124748.05	22.3553%	22.30%	A	V
2	SODIUM HYALURONATE-INJECTION-60MG-DUROLANE-	3	42078.62	7.5406%	30%	A	E
3	TEICOPLANIN-INJECTION-400MG-T PLANIN-	25	9975	1.7876%	64%	A	D
4	HUMAN ALBUMIN-INJECTION-20%/100ML-ALBUREL-	1	3454.5	0.6191%	81%	B	E
5	MEROPENEM-INJECTION-1GM-PENMER-	11	2805	0.5027%	87%	B	V
6	THIOPENTAL SODIUM-INJECTION-500MG-THIOSOL-	63	2098.53	0.3761%	89%	B	D
7	OXYTOCIN-INJECTION-5IU/1ML-PITOCIN-	98	1680.44	0.3011%	93%	C	V
8	RANITIDINE-INJECTION-50MG/2ML-ACILOC-	353	960.7	0.1722%	96%	C	E
9	FERACRYLUM-SOLUTION-100ML-SEPGARD-	4	657.08	0.1178%	97%	C	D

CRITERIA TO SELECT VITAL, ESSENTIAL AND DESIRABLE CATEGORY DRUGS-

Vital-

- Drugs without which treatment arrives at stop: non- availability can not be tolerated.
- Vital drugs must be present in the drug cart or emergency cart of every department.
- For ex- IV fluids , Amiodarone(antiarrhythmic), Hydrocortisone,

Essential –

- Drugs whose non-accessibility can be endured for 2-3 day, because similar or alternative items are available.
- For ex- Pantoprazole , Meropenem

Desirable-

- Drug whose non availability can be adjusted for a long period.

Although the proportion of vital, essential and desirable items varies from company to company depending on the type and quantity of workload.

RESEARCH FINDING & ANALYSIS:

A combination of ABC and VED analysis can be gainfully employed to evolve a meaningful control over the material supplies.

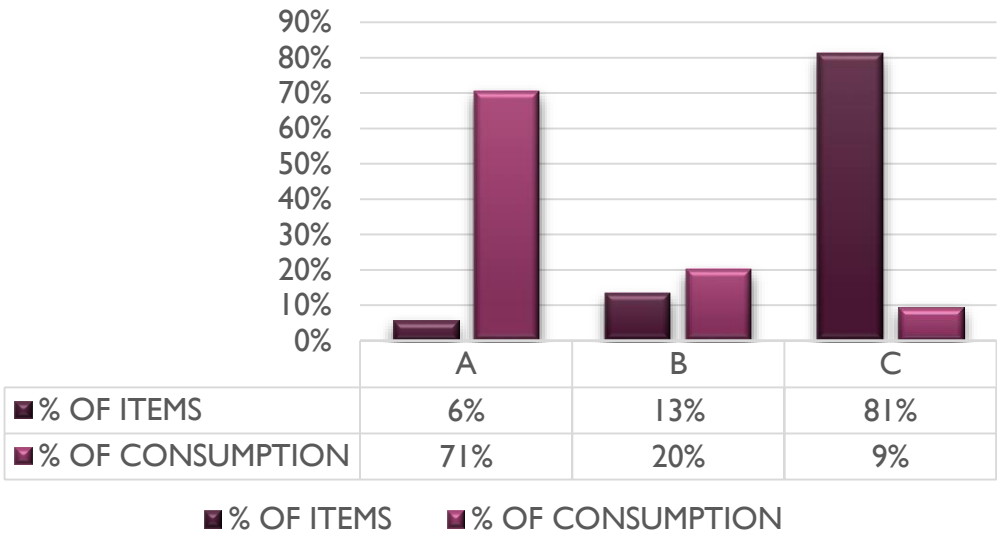
- Category I includes all vital and expensive items (AV, BV, CV, AE, AD).
- Category II includes the remaining items of the E and B groups (BE, CE, BD)
- Category III includes the desirable and cheaper group of items (CD).

CATEGORY	CLASS	MAIN STORE	OT PHARMACY	IP PHARMACY	OP PHARMACY	CATHLAB
I	AV+BV+ CV+AE+ AD	7.4%	22.6%	8.81%	19.3%	22.80%
II	BE+CE+ BD	29.8%	20%	41.04%	21.9%	77.1%
III	CD	62%	57.3%	50%	58%	0
TOTAL		1369	150	1440	1393	57

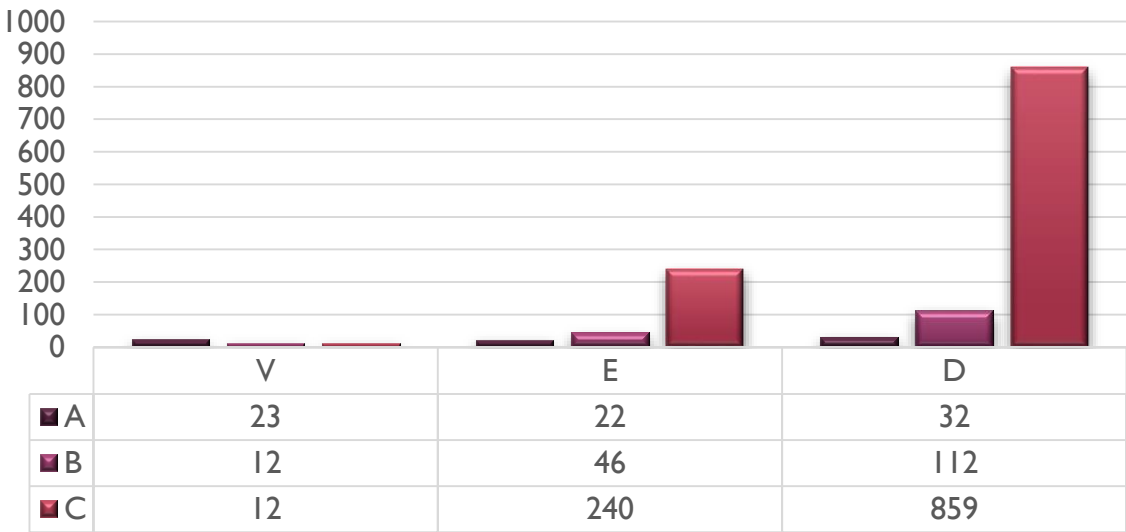
Category	Suggestions	Frequency of Purchase
I AV+BV+CV+AE+AD	Stores must make a very strict monitoring, tight level of control, and top level of management for Category I items	Most Frequent
II BE+CE+BD	Stores must make a strict monitoring, moderate level of control, and middle level of management for Category II items	Occasional
III CD	Store must make a moderate monitoring, low level of control, and middle level of management for Category III items	Infrequent

ABC analysis of Main Store

Total drugs=1369

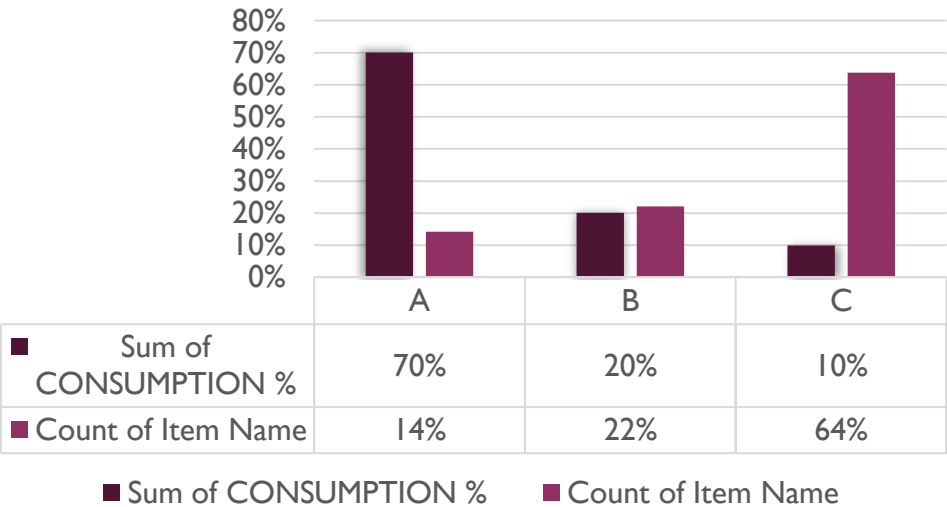


VED Analysis of main store

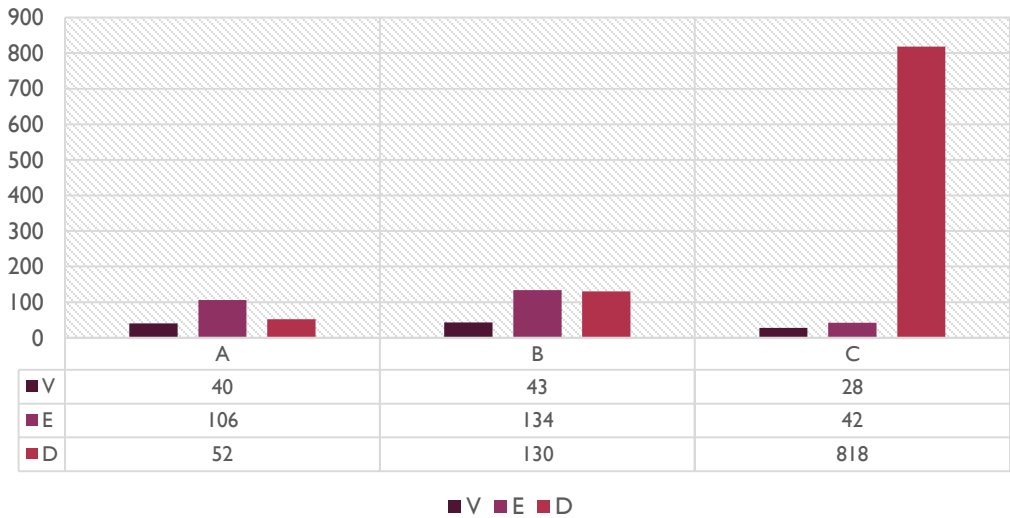


ABC Analysis of OP Pharmacy

Total drugs=1393

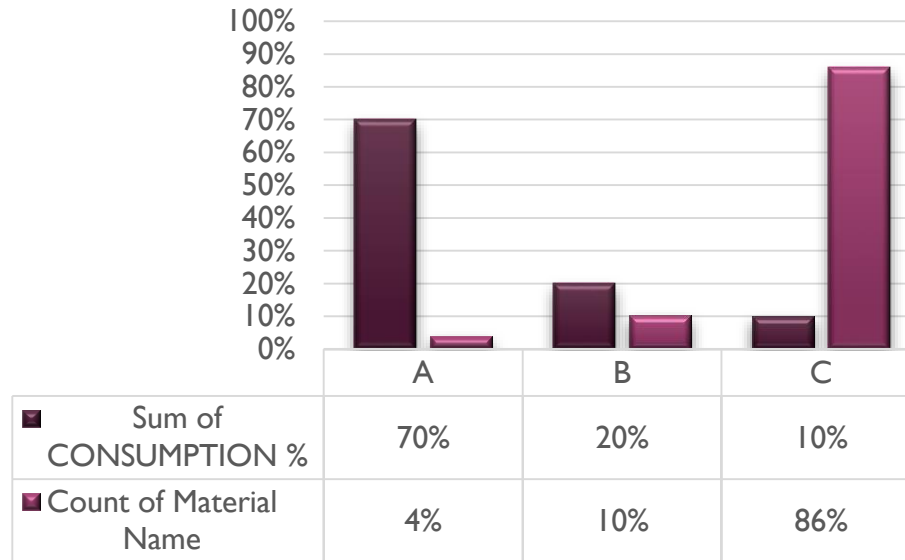


VED Analysis of OP Pharmacy

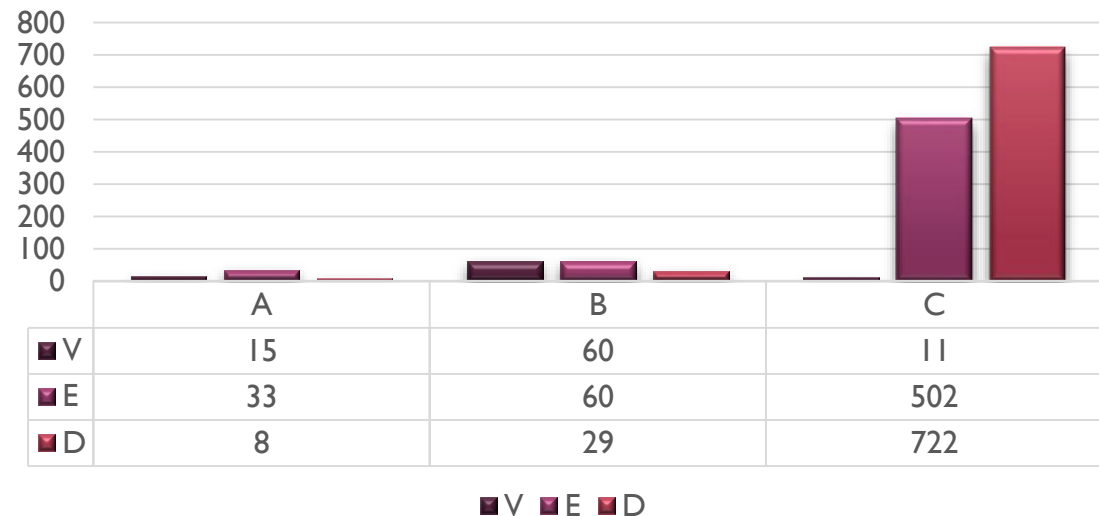


ABC analysis of IP pharmacy

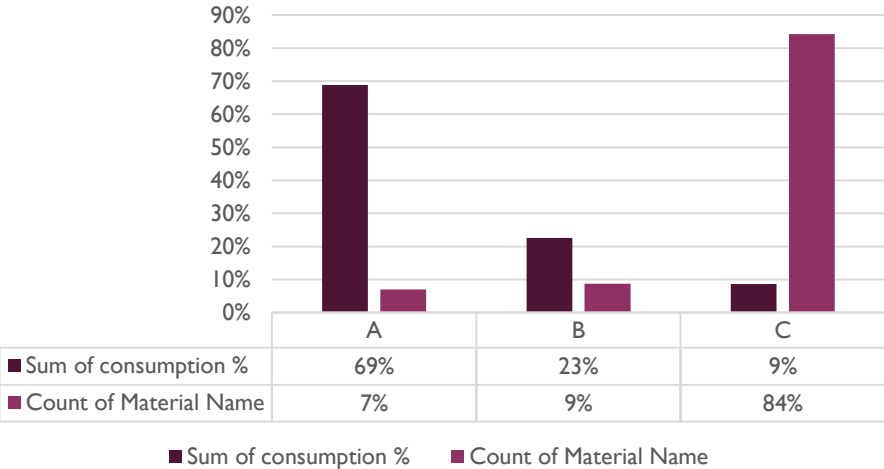
Total drugs=1440



VED Analysis of IP Pharmacy

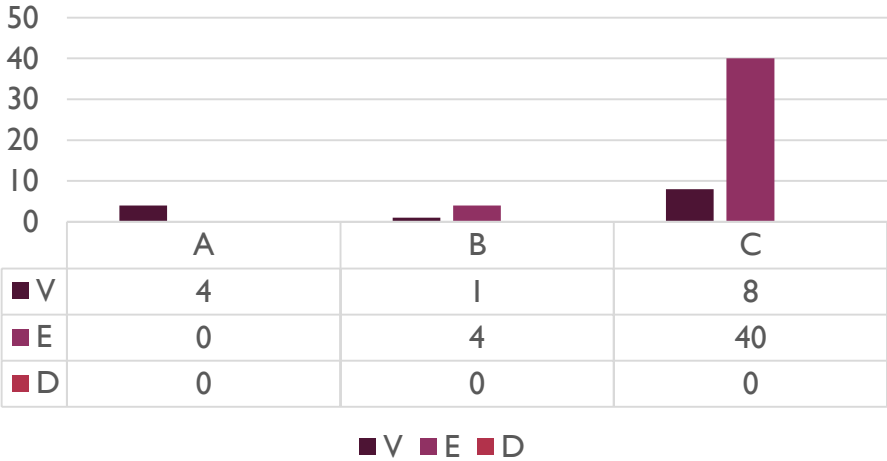


ABC Analysis of Cath Lab Pharmacy

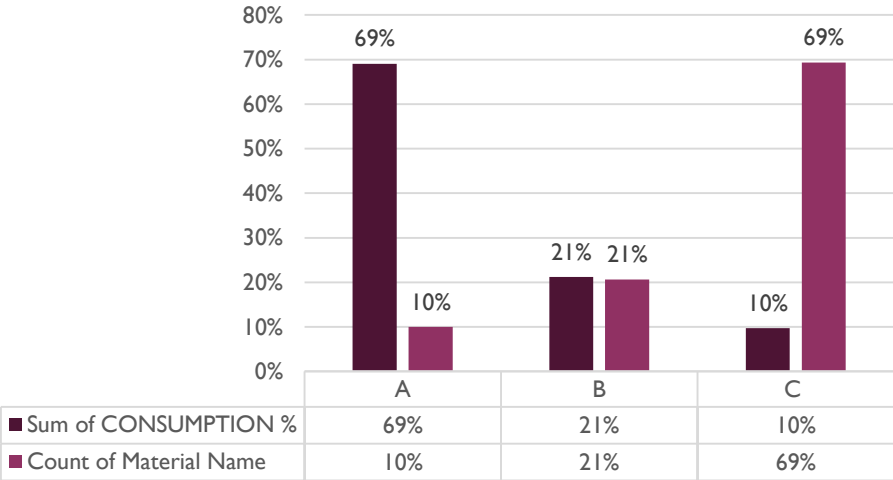


Total drugs=57

VED Analysis of Cath Lab Pharmacy



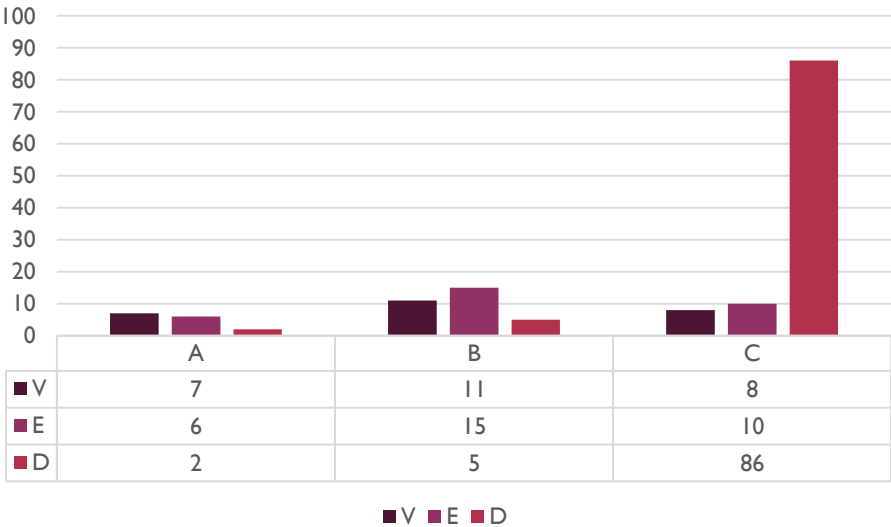
ABC Analysis of OT Pharmacy



Total drugs=150

Sum of CONSUMPTION % Count of Material Name

VED Analysis of OT Store



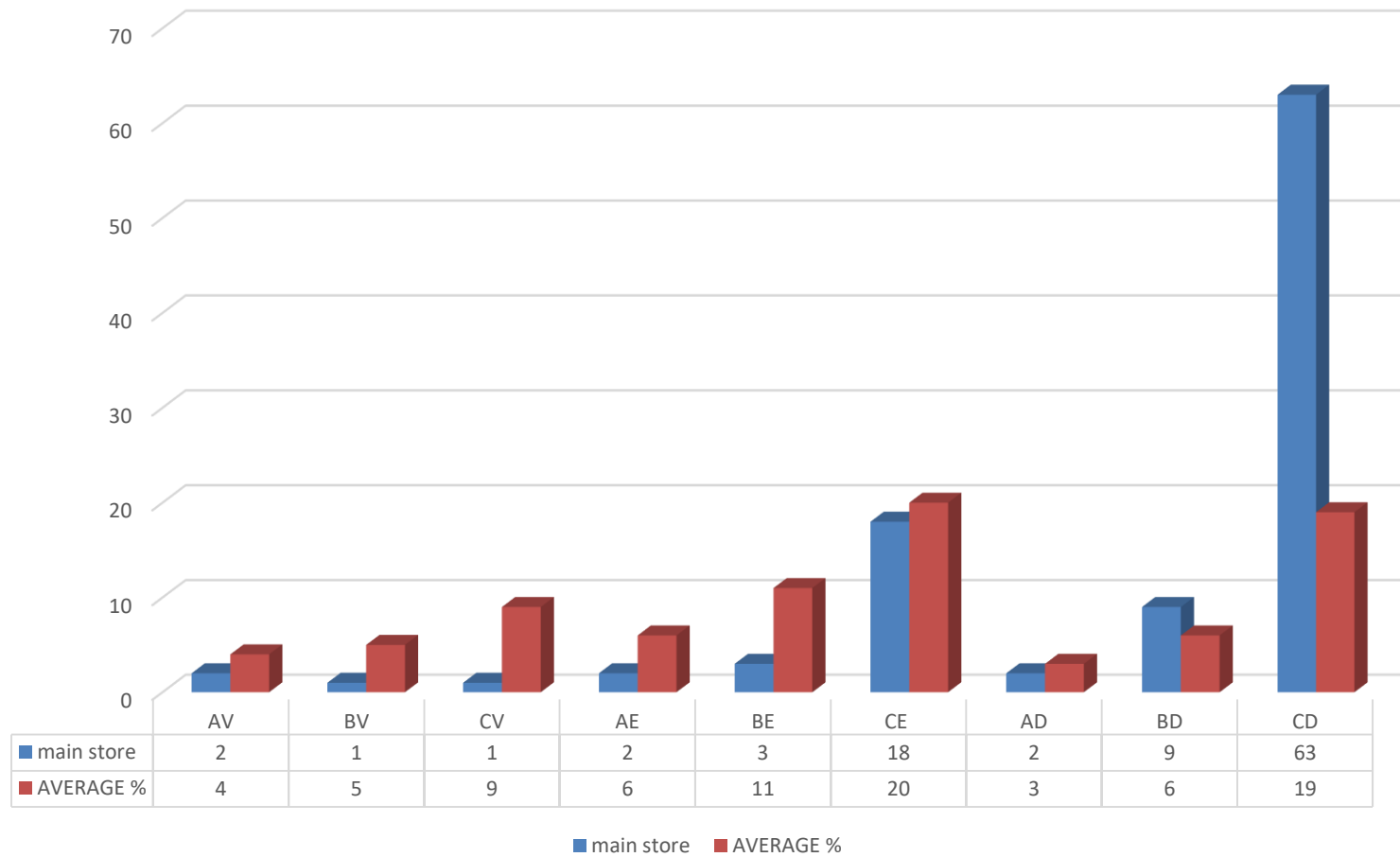
CONCLUSION:

- ❑ During the last 3 months , drug Consumption approx. of Rs. 39779748 by MMI Narayana multi specialty hospital.
- ❑ This necessitates the application of scientific inventory management tools for effective and efficient management of all the drug stores, efficient priority setting, decision making in purchase and distribution of specific items and close supervision on items belonging to imp categories.
- ❑ By performing ABC and VED analysis of we can identify the drugs acquiring stringent control for optimal use of funds and elimination of out of stock situation in drug stores.

Comparison from other studies-

Category of items	main store	Tertiary care hospital	PGIMER	SKIMS	Average %
AV	2%	2%	4%	6%	4
BV	1%	2%	4%	10%	5
CV	1%	2%	4%	22%	9
AE	2%	4%	5%	10%	6
BE	3%	7%	17%	9%	11
CE	18%	18%	20%	22%	20
AD	2%	1%	4%	3%	3
BD	9%	2%	14%	3%	6
CD	63%	12%	28%	17%	19
TOTAL	1369	842	1535	105	

Comparison of MMI main store with other studies



RECOMMENDATION:

- ❖ From the study we observed that the procurement of CD category is more in main store, so it should be reduced to maintain the proper inventory and also for reduction of inventory holding days
- ❖ The consignment basic stock should not be invoiced before consumption.
- ❖ Re-order levels should be based on consumption on monthly basis.
- ❖ First expiry first out method should be applied to prevent expiry of drugs.
- ❖ The drugs were arranged as per ABC & VED as it leads to an organised form in which inventory can be controlled.
- ❖ To sustain the initiative, it is important to supervise the system in monthly BRM meetings to keep a regular check on the stock status.

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thank you 😊