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Drug Availability Profile at X Hospital, Kebayoran Lama Based on the ABC Combination VEN Analysis

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ABSTRACT

Effective drug availability management plays an important role in supporting optimal healthcare services, improving hospital quality, and promoting cost efficiency in drug procurement. One of the main challenges in drug inventory control is determining the appropriate quantity and types of medicines that should be ordered. Therefore, identification and analysis of drug availability patterns are necessary to maintain adequate supply. This study aimed to evaluate drug availability, determine the percentage of drugs based on VEN (Vital, Essential, Non-essential) analysis, and assess the conformity of drug procurement with the hospital formulary at X Kebayoran Lama Hospital. This research used a descriptive analytic design with a retrospective approach using data from pharmaceutical products and medical supplies recorded at the Pharmacy Installation of X Kebayoran Lama Hospital during September–November 2024. Data were collected through document observation and interviews with relevant personnel. All pharmaceutical products and medical supplies were classified according to their categories and analyzed using the VEN method, then combined with ABC analysis to identify items with the highest utilization. The results showed 889 drug items, consisting of 56.13% Essential, 41.05% Non-essential, and 2.82% Vital drugs. Overall, drug procurement was consistent with the hospital formulary, although emergency conditions required special procurement of drugs outside the formulary.

INTRODUCTION

Determining drug availability is one of the pharmaceutical tasks that pharmacists must perform in hospitals. With coordination and an integrated, one-stop drug procurement planning process, it is hoped that the planned drugs will be of the correct type, quantity, and time, while ensuring quality. The purpose of preparing a Drug Requirements Plan (RKO) is to serve as a reference for hospital pharmacy installations in planning drug needs and controlling drug inventory, as well as serving as a guide for hospital management in budget control and fulfilling drug needs (Regulation of the Indonesian Minister of Health, 2019).

Researchers have learned that Hospital X Kebayoran Lama has partnered with the Social Security Agency (BPJS) and is therefore required to participate in the RKO (National Health Insurance) program organized by the Ministry of Health to ensure drug availability meets applicable standards and regulations to support the National Health Insurance (JKN) program. Hospital X Kebayoran Lama only joined the RKO program in 2025 and has submitted a report to the Ministry of Health through the e-Monev system.

This study was conducted to determine drug availability and calculate the percentage of drugs based on VEN analysis combined with ABC analysis. The purpose and benefits of VEN-ABC analysis are efficiency and budget adjustment, allowing for the assessment of drug procurement at X Hospital, Kebayoran Lama, based on the hospital formulary. This study is expected to benefit institutions (hospitals) in determining policies for effectively and efficiently planning drug availability needs (Abdul Rofiq et al., 2020). This research was conducted from January to March 2025, located at the Pharmacy Installation of Hospital X Kebayoran Lama.

METHOD

This research was conducted using a descriptive analytical approach with retrospective data collection. The sample consisted of all Pharmakesi items available at X Hospital, Kebayoran Lama, using procurement and usage data for three months, from September to November 2024.

Primary and secondary data collection was conducted through field document observation and interviews with relevant parties. Primary data collection was conducted through the National Formulary and then referring to the Hospital Formulary published by the Pharmacy Therapy Team (TFT) to obtain the number of drug items available at Hospital X Kebayoran Lama in 2024. Secondary data collection was conducted by looking at drug data already in the drug list of Hospital X Kebayoran Lama.

All medical devices are classified according to their respective groups and then analyzed using VEN. The VEN analysis results are then reclassified using ABC analysis to identify the medical device groups with the highest usage. The analysis results are then re-percentaged.

RESULTS AND DISCUSSION

VEN analysis is used to obtain data regarding the classification of drug items according to the views and opinions of the Head of the Pharmacy Installation of X Kebayoran Lama Hospital seen from the results of observations and drug use of each doctor because the drug needs for each patient served are different so that in this

case both doctors and the Pharmacy Installation (Hospital) have an important role in terms of drug procurement including distribution (Abdurrahman et al., 2022).

ABC analysis is an inventory management method that groups items based on their value and turnover rate. This analysis is performed by counting the drugs and then sorting them from highest to lowest budget usage (Murni, 2018). Group A consists of items with the highest values. or most importantly, group B consists of items with medium value while group C consists of items with the lowest value or less important.

Based on Table 1, the classification of Pharmaceutical Equipment (Pharmaceuticals) at X Hospital, Kebayoran Lama, based on their classification categories, it can be seen that the group with the largest number of items is the Medical Devices group, with 288 items. This large number of medical device groups aims to optimize and streamline all healthcare services. Adequate medical devices ensure that patients receive appropriate care tailored to their needs. The use of medical devices can also accelerate diagnosis and treatment (Minister of Health Regulation No. 15, 2023).

Table 1. Grouping of Pharmaceutical Drugs Based on Classification Categories in the Pharmacy Installation of Hospital X Kebayoran Lama

Group	Number of Items	Percentage (%)
Medical Devices	288	32,39
Fluid	26	2,92
Generic	216	24,29
Narcotics	10	1,12
Patent Medicine	208	23,39
Otc	102	11,47
Psychotropic	15	1,68
Vaccine	24	2,74
Total	**889**	**100**

The next largest group is generic drugs, with 216 items. Generic drugs are cheaper than patented drugs. By using generics, hospitals can save on procurement costs. This class of generic drugs is often used by BPJS patients. The availability of generic drugs in sufficient quantities and types, affordable to the public, and guaranteed quality and safety, needs to be encouraged and their use encouraged in government healthcare facilities. (Permenkes No 02, 2010).

The next group is the Patented Drugs group, consisting of 208 items. Patented drugs are new medications that have undergone extensive research and clinical trials and can be an option for patients who require medications with specific efficacy or are not available in generic form. Hospital X is a private hospital where the use of Patented Drugs is often used by patients with general payments or insurance to increase hospital revenue (Amanda Dwijayanti et al., 2025).

Table 2. Grouping of Pharmaceutical Drugs Based on their Classification CODE in the Pharmacy Installation of Hospital X Kebayoran Lama

Group	Number of Items	Percentage (%)	CODE
Medical Devices	288	32,39	AL
Fluid	26	2,92	C
Generic	216	24,29	GE
Narcotics	10	1,12	N
Patent Medicine	208	23,39	OB
Otc	102	11,47	OTC
Psychotropic	15	1,68	PS
Vaccine	24	2,74	V
Total	**889**	**100**	

Table 2 shows the grouping of Pharmaceutical Equipment at X Hospital, Kebayoran Lama, based on codes. These codes are used to simplify data entry. After all data is entered, it is then grouped according to the VEN (vital, essential, and nonessential) groups. The VEN analysis results are then regrouped using ABC analysis, which aims to identify the Pharmaceutical Equipment groups with the highest usage. The percentage of each type of pharmaceutical preparation is calculated using the calculation formula:

$$\mathbf{x} = \frac{f}{n} \mathbf{x\ 100\%}$$

Note :

x : research results (percentage results of vital/essential, non-essential groups)

f : frequency of achievement results (number of vital, essential, non-essential group items)

n : total of all observations (number of all drugs)

100% : fixed number

Table 3. Grouping of Pharmaceutical Drugs Based on VEN Analysis at the Pharmacy Installation of Hospital X Kebayoran Lama

Group	Number of Items	Percentage (%)
V (vital)	25	2,82
E (Essential)	499	56,13
N(Nonessential)	365	41,05
Total	**889**	**100**

Based on Table 3, the grouping of pharmaceutical medical devices at Hospital X Kebayoran Lama based on VEN analysis shows that the Vital (V) group consists of 25 items with a percentage of 2.82%. Drugs in this category must be available at the Pharmacy Installation because they are urgently needed due to their potential to save lives or to prevent death. For the Essential (E) group, there are 499 items with a percentage of 56.13%. The Essential Group (E) is the group of drugs most needed in health services and its provision should be prioritized, while the Nonessential Group (N) consists of 365 items with a percentage of 41.05%. The N Group has a fairly large number because it is often used as a supplement to support treatment.

Table 4. Grouping of Pharmaceutical Drugs Based on ABC Analysis in the Pharmacy Installation of Hospital X Kebayoran Lama

Group	Amount Items	Percentage (%)
A (Highest Score)	553	62,20
B (Average Score)	224	25,19
C (Owest Score)	112	12,61
Total	**889**	**100**

Based on table 4, the grouping of medical devices at Hospital X Kebayoran Lama based on ABC analysis shows that group A has 553 items (62.20%), group B has 224 items (25.19%) and group C has 112 items (12.61%). Where according to the 2019 Minister of Health Regulation, group A absorbs ± 70% of funds, group B absorbs ± 20% of funds and group C absorbs ± 10% of funds. From the combined results of the VEN and ABC analysis, the researcher then analyzed the purchase and sales data from September to November 2024 to determine whether the procurement of drugs at Hospital X was in accordance with the Hospital Formulary.

Table 5. Combined Research Results of VEN and ABC Analysis

Group	Number of Items	Total Purchases During September - November 2024	Total Sales September-November 2024
	20	15.048.992,-	15.912.816,-
VB	5	0,-	0,-
VC	0	0,-	0,-
EA	341	321.370.462,-	449.071.328,-
EB	110	2.009.723,-	9.913.090,-
EC	48	148.530,-	0,-
NA	193	136.603.801,-	156.743.007,-
NB	108	1.706.748,-	5.970.486,-
NC	64	245.134,-	95.904,-
TOTAL	**889**	**477.133.389,-**	**637.706.631,-**

From the VEN and ABC analysis in table 5, it can be seen that the highest sales are in the EA group of 449,071,328,- with a total purchase expenditure of 321,370,462,- followed by NA sales of 156,743,007,- with a total purchase expenditure of 136,603,801. This EA group is a group of drugs that are highly needed with the most use, has a high and efficient selling value so that drug shortages can be prevented while the NA group is a group of drugs used as a support in overcoming minor complaints but its use is high so it has a high selling value. This shows that the Farmalkes that are frequently purchased are the Farmalkes that are often sold too.

Based on research and observations on drug availability conducted by the author, obstacles were found such as the lack of availability of Hepatitis B Immunoglobulin (HBIG) due to Its use is very rare, outside the hospital formulary so that its procurement is not given enough attention, so to meet the need for Hepatitis B Immunoglobulin, the Pharmacy Installation of Hospital X must immediately purchase it from partner hospitals or the nearest hospital. This happens because the use of Immunoglobulin must be immediate.

Every prescribing doctor may only prescribe Pharmacy that is in the Hospital Management Information System (SIMRS), all Pharmacy in SIMRS is in accordance with the hospital formulary so that if you need Pharmacy outside the formulary, the prescribing doctor must write a request on the prescription sheet. Then the Pharmacy Installation purchases Pharmacy that is outside the formulary from partner hospitals or the nearest hospital and immediately record and then enter the Pharmacy into SIMRS so that the prescribing doctor can prescribe it in SIMRS.

The Hospital Formulary is always updated annually by the Pharmacy and Therapeutics Team attended by all doctors serving at Hospital X Kebayoran Lama, Management of Hospital X Kebayoran Lama, Head of Medical Support, Head of Medical Services, Head of Nursing, Head of Pharmacy Installation, Head of Pharmacy Warehouse of Hospital X Kebayoran. For this reason, it is necessary to carry out special handling and review of Pharmacy outside the formulary. So that the procurement of Pharmacy outside the formulary can be arranged in an SOP for special recording so that the handling of Pharmacy outside the Formulary can be handled properly.

CONCLUSIONS AND RECOMMENDATIONS

Based on the research results, it can be concluded that the availability of drugs in The Pharmacy Installation of X Hospital, Kebayoran Lama, has 889 drugs, where the availability of drugs using the VEN Analysis method for group V (vital) is 2.82%, E (essential) is 56.13%, and N (non-essential) is 41.05%. Drug procurement at X Hospital, Kebayoran Lama, is in accordance with the hospital formulary, but in emergency conditions, special procurement is needed for drugs outside the hospital formulary.

From this conclusion, it is recommended that hospitals hold regular training for planning staff to create superior, prime and comprehensive services and conduct a review of the availability of Pharmakesi which are rarely used or outside the formulary.

Furthermore, further research is needed on the factors that influence drug management at the planning stage in the Hospital Pharmacy Installation.

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