

Evaluation Of Drug Storage System In A Pharmacy Of Medan City Based On Pharmaceutical Services Standards

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Abstract.

Pharmacy is a place where pharmaceutical services are held by pharmacists who are responsible for patients. Pharmaceutical services in pharmacies are related to drugs with the aim of achieving definite results to improve the quality of life of patients. So the management of drugs in pharmacies needs to be done properly and precisely to ensure the availability of sufficient and quality drugs in order to achieve optimal service goals by implementing a storage system that is in accordance with pharmaceutical service standards no.73 of 2016. Therefore the purpose of this research is to evaluate the drug storage system in one of the Medan city pharmacies based on pharmaceutical service standards. This research is descriptive with retrospective data collection. The data obtained were grouped into quantitative data presented in tabular form to see visual comparisons, and qualitative data obtained through observation and interviews with informants. The results showed that in several indicators of drug storage in one of the Medan city pharmacies based on Permenkes No. 73 of 2016 there are still those that have not complied with, namely in the preparation of LASA drugs and writing document numbers on drug stock cards. Meanwhile, the standard drug storage indicators are the columns on the stock card consisting of receipt or dispensing date, receipt or disbursement document number, source of origin of the drug, no. batch/no. Lot, expiry date, receipt and disbursement amount, remaining stock, and officer's initials, as well as suitability for drug storage based on dosage form, alphabetical order, and FEFO and FIFO storage methods. Based on the results of the study it was concluded that the drug storage system carried out in one of the pharmacies in the city of Medan did not meet pharmaceutical service standards based on Permenkes No. 73 of 2016.

Keywords: Evaluation, storage, drugs and pharmaceutical service standards.

I. INTRODUCTION

Pharmacy is a pharmaceutical service facility where pharmacists practice pharmacy, while pharmacy service is a direct and responsible service to patients related to pharmaceutical preparations with the aim of achieving definite results to improve the patient's quality of life [9]. So the management of drugs in pharmacies needs to be done properly and precisely to ensure the availability of sufficient and quality drugs in order to achieve optimal service goals [12]. Planning, procurement, storage, distribution, and recording or reporting of drugs are the scope of drug management [7]. According to the Minister of Health (2016) Drug storage is one way to maintain pharmaceutical supplies so that they are safe from physical tampering and theft which can damage the quality of a drug. Storage must be able to guarantee the quality and safety of pharmaceutical preparations, medical devices and medical consumables according to pharmaceutical requirements. Pharmaceutical requirements in question include requirements for stability and safety, sanitation, light, humidity, ventilation, and classification of types of pharmaceutical preparations, medical devices, and ready-to-use medical materials[6]. The pharmacy drug warehouse is one of the facilities that need attention in efforts to store drugs. The purpose of drug storage is to maintain drug quality, avoid irresponsible use, and maintain supply continuity, facilitate search and control [3].

Doctor's prescription services in pharmacy services must be carried out by pharmacists. Because drug storage is an important link in the drug management process. All efforts made in the entire series of drug management will be in vain if the drug storage is not carried out properly, namely according to the guideline procedures set by the Republic of Indonesia Ministry of Health regulation No.1197/Menkes/SK/X/2004 concerning Pharmaceutical Service Standards in Hospitals. And poor drug storage can have a negative impact on health care facilities, such as a decrease in drug quality. Based on the description above, the researcher wants to evaluate the drug storage system in one of the Medan city pharmacies based on Minister of Health Regulation No. 73 of 2016, with the aim of finding out whether the

drug storage system in one of the Medan city pharmacies meets good drug storage standards, so with this research it is hoped that the drug storage system in pharmacies in Medan city can comply with pharmaceutical service standards regulated in the Regulation of the Minister of Health No. 73 of 2016.

II. METHODS

This research uses a descriptive method that uses a qualitative approach that is descriptive in nature. This research was conducted at the Kimia Farma Pharmacy in Medan City. Data collection methods in this study by conducting interviews and observations. In-depth interviews are one of the data collection techniques to obtain more in-depth information by conducting question and answer directly to informants. The informants in this study were taken using a purposive sampling technique, which is a technique used to select informants who are able to provide information related to the research topic, namely the implementation of drug storage in one of the Medan city pharmacies. Informants consisting of Responsible Pharmacist and Pharmacist Assistant. Observation is one of the data collection techniques by making direct observations of the completeness of data related to research.

III. RESULT AND DISCUSSION

The results of the research that will be described are regarding drug storage, recording and reporting related to the management of drug storage in one of the Medan city pharmacies, so that the quality and quality of the drug is guaranteed. Drugs in one of the Medan city pharmacies are arranged according to dosage forms, alphabetically, and the FEFO and FIFO methods. Drug storage is a process starting from receiving the drug and continuing with drug storage. The main purpose of drug storage is to maintain the quality of drugs from damage due to improper storage and to facilitate the search and control of drugs [1]. To facilitate stock control, the following steps are taken:

1. Using the principles of FEFO (First Expired First Out) and FIFO (First In First Out) in the preparation of drugs, namely drugs with an earlier expiration date or those received earlier must be used earlier because generally drugs that arrive earlier are also produced earlier .
2. Arrange drugs in large packages on pallets in a neat and orderly manner.
3. Using a special cupboard for storing narcotics.
4. Store drugs that can be affected by temperature, air, light and bacterial contamination in the appropriate place.
5. Store drugs in a shelf and separate internal drugs from drugs for external use.
6. Include the name of each drug on the shelf neatly.
7. If the drug supply is quite large, then let the drug remain in the box and be stored in the warehouse.
8. Medicines that have a limited expiration date need to be stock rotated so that the drugs are not always left behind so that the drugs can be used before the expiry date runs out.

Drug Arrangement in One of the Pharmacies in Medan City

The results of the research on the suitability of drug storage methods in one of the Medan city pharmacies with pharmaceutical service standards based on Minister of Health Regulation No. 73 of 2016 can be seen in **Table 1**.

Drug Storage Requirements Standard (Permekes no. 73 of 2016)	Yes	No
Dosage forms and types of pharmaceutical preparations and consumables	<input type="checkbox"/>	
FIFO method	<input type="checkbox"/>	
FEFO method	<input type="checkbox"/>	
Alphabetically	<input type="checkbox"/>	
LASA storage is not placed close together and must be marked		<input type="checkbox"/>

Judging from the conclusion of the table above, LASA storage does not comply with storage standards. Based on the results of interviews with the pharmacist in charge of the pharmacy, this is because

all the drugs have been separated according to their use and grouping of drugs, there are also not many LASA drugs in the pharmacy and the medicine shelves are still lacking. According to the Minister of Health (2016) drug storage is one way to maintain pharmaceutical supplies so that they are safe from physical tampering and theft which can damage the quality of a drug [6]. How to store drugs arranged alphabetically, pharmaceutical dosage forms (liquids, tablets, capsules, infusions, medical devices, etc.) are then arranged according to the FEFO and FIFO systems (Lidyawati, 2018). Based on research conducted by Bayang, et al (2014) showed that errors in drug administration were caused by inappropriate drug storage procedures, especially for LASA (Look Alike Sound Alike) drugs, namely drugs whose shape/appearance and pronunciation/name are similar [2]. In addition, in a study by Silvia et al (2011) [11].

Stock card

Card stock is a book or record used to record goods or drugs from receipt to drug out. In order to make it easier to search or check an item or drug if there is a discrepancy or loss. If an error occurs at one stage, the consequences will disrupt the overall cycle which can cause effects such as waste, unavailability of drugs, undistributed drugs, damaged drugs, and so on [4]. The results of a study of drug stock cards at one of the Medan city pharmacies based on pharmaceutical service standards can be seen in **Table 2**.

Stock Card Standard	Yes	No
Received/issued date	<input type="checkbox"/>	
Document number	<input type="checkbox"/>	<input type="checkbox"/>
Source of drug origin		
Batch	<input type="checkbox"/>	
Expired date	<input type="checkbox"/>	
Total receipts and expenses	<input type="checkbox"/>	
Remaining stock	<input type="checkbox"/>	
Initials	<input type="checkbox"/>	

Based on the table above, it shows that the stock card at one of the Medan city pharmacies still does not meet the standards based on pharmaceutical services in Permenkes no. 73 of 2016, namely writing the document number on the drug stock card. Based on Permenkes no. 73 of 2016 concerning pharmaceutical service standards in pharmacies explains that the columns that must be present on the stock card include receipt or dispensing date, receipt or dispensing document number, source of origin of the drug, no. batch/no. lot, expired date, number of receipts and disbursements, remaining stock, and initials of officers [6].

IV. CONCLUSION

Based on the results of the research evaluation of the drug storage management system in one of the Medan city pharmacies that has been described above, it can be concluded that the drug storage system in one of the Medan city pharmacies has not met the Minister of Health standards No.73 of 2016 because errors are still found in drug storage LASA medicine, apart from that there are still errors in the stock card, namely the absence of writing the document number in the column of the drug stock card. As for the drug storage system based on dosage form, alphabetical order, and the FIFO and FEFO methods, it meets the pharmaceutical service standards in pharmacies. In addition, the drug stock card in one of the Medan city pharmacies is almost in accordance with the Minister of Health Regulation No. 73 of 2016.

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