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Evaluation of Drug Management of Pharmacy Installation at Universitas Sumatera Utara Hospital

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Abstract. Drug management is an important aspect for health services in hospital. Pharmacy Installation in hospital responsible in running drug management in hospital, including selection, planning, procurement, and distribution of the drugs. Poor management will cause inadequate health services, moreover hospital loss. The aim of this research was to evaluate drug management system of Pharmacy Installation in Universitas Sumatera Utara Hospital. It is a descriptive-evaluative research, and the data for this research was collected retrospectively and concurrently. This research used a indicator to analyze the data and comparing those data with the standard. The result of this research showed that there was 93.8% drug selection in hospital suitable with National Formulary. In, this research showed that the drug planning and procurement frequency of each drug item per year were categorized as low with less than 12 times in a year. Then, this research showed that Pharmacy Installation in the hospital distributed the drugs precisely with 100% accuracy in terms of drugs amount in stock cards and shed management system. Further, it was also known that the percentage of expired and broken drugs was below 0.05%, while the percentage of dead stock was 100%, and the level of drugs availability period was for 17 month 16 days. In conclusion, this research showed that drug management system of Pharmacy Installation in Universitas Sumatera Utara Hospital was accordance to the standard.

Keyword: Evaluation, Management, Drug, Pharmacy Installation

Abstrak. *Manajemen obat merupakan aspek penting bagi pelayanan kesehatan di rumah sakit. Manajemen obat di rumah sakit dilakukan mulai dari tahap seleksi, perencanaan, pengadaan dan distribusi obat yang merupakan tanggung jawab dari instalasi farmasi rumah sakit. Manajemen obat yang tidak baik akan menyebabkan pelayanan kesehatan yang tidak berjalan dengan lancar sehingga mengakibatkan kerugian bagi rumah sakit. Tujuan dari penelitian ini adalah untuk mengevaluasi sistem manjemen obat yang dilakukan di instalasi farmasi Rumah Sakit Universitas Sumatera Utara. Penelitian ini bersifat deskriptif-evaluatif dengan pengambilan data secara retrospektif dan concurrent. Data yang diperoleh dianalisis menggunakan indikator dan dibandingkan dengan standar yang telah ditetapkan. Hasil penelitian menunjukkan bahwa pada tahap seleksi 93,8% obat-obatan yang disediakan di rumah sakit sesuai dengan Formularium Nasional. Pada tahap perencanaan dan pengadaan diketahui bahwa frekuensi tiap item obat per tahun termasuk kategori rendah yaitu ≤12x/tahun. Manajemen obat pada tahap distribusi diketahui bahwa ketepatan jumlah obat pada kartu stok sebesar 100%, sistem penataan*

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1. Introduction

Drug management is an important aspect to improve the quality of pharmaceutical cares in hospital [1]. Pharmaceutical cares in hospital including standard management of pharmaceutical supplies, medical devices, disposable medical materials, and clinical pharmacy services. Pharmaceutical service is aimed to identify, prevent, and solve drugs related problems [2].

Universitas Sumatera Utara Hospital is categorized as type C hospital in Indonesia. It was known from interview with informant at Pharmacy Installation in that hospital, there was no previous evaluation about drug management there.

Drug management in hospital has several steps that related one to each other; those are selection, planning, procurement, and distribution steps. Fair coordination between each steps will ensure the system run optimally. Poor coordination among those will cause inefficiency of supply system and the usage of available drugs [3].

Inefficient of drug management will cost the hospital. It was mentioned in previous researches from various researchers, such as Fakhriadi Akhmad et.al [4] in their research, they tried to analyze the efficiency of drug management at Pharmacy Installation in PKU Muhammadiyah Temanggung Hospital. The result of this research told that the drug management in that hospital was simply inefficient. Then, similar research that conducted by Wati et.al [5] in different setting also mentioned that drug management was not suited the standard requirement. Next, it was known from the research by Romero [6] that started from drug acceptance in shed until distribution into hospitals, there was any sector that caused inefficiency. Those sectors such as; improper inventory management, prolong inventory administration cycle, and long process on recalling products due to any errors.

Therefore, it was considered to conduct an evaluation to drug management to identify the problems and weaknesses of the system. By knowing those, it was believed that any improvement could be done to improve health services for community.

2. Methods

This was a descriptive evaluative research. The procedure of this research was to evaluate the management of drugs including selection process, planning, procurement, and distribution. The data was collected concurrently and retrospectively. Data collection was conducted by several

methods. First, this research collected the data by direct observing to accuracy indicator of drug amount in stock cards, shed management system, expired stock percentage. Then, it was collected by doing interview to related sectors in drug management at Pharmacy Installation in Universitas Sumatera Utara Hospital. Lastly, to assess the indicator of suitability of drug items available with the National Formulary, the frequency of yearly drugs procurement, the percentage of expired and/or damaged drugs, and drugs availability level, this research collected the data from documents in 2017 and 2018.

This research used the standards that have been created by Health Department of Republic Indonesia in the Supervision and Evaluation for Public Drugs and Medical Supplies Guidelines [1], Decree of the Republic Indonesia's Director General of Health Services Ministry of Health [2], Pudjaningsih [7], Quick [3] and WHO [8].

3. Results and Discussion

3.1 Selection

The purpose of available drug items suitability with National Formulary indicator was to identify the level of drug usage against National Formulary. To identify the percentage of this indicator, this research compared the amount of drug items in Hospital Formulary to drug items that suited to National Formulary are shown in Table 1.

Table 1. Suitability of available drug items in hospital with National Formulary

Description	Item	Standard
Number of drug items that suited to National Formulary	846	-
Number of drug items in Formulary of Universitas Sumatera Utara Hospital	901	-
Suitability available drug items to National Formulary (%)	93.8%	≥80%

Based on Table 1, it showed that suitability of available drug items in hospital to National Formulary was meet the standard requirement, with 93.8%. Based on that result, it means that drugs given to patients in the hospital was mostly suited to drug items in National Formulary.

3.2 Procurement

Drug procurement frequency is the summed of each drug items in a year. The value of each rug item procurement was collected from retrospective data collection. The source of the data was from drug procurement documents by counting procurement frequency of each drug items in a

year 2018. There were 452 drug items was used as the sample in this research to identify procurement frequency of each drug items per year.

Table 2. Procurement frequency of each drug items per year

Procurement Frequency	Total Drugs
One time	81
Two times	69
Three times	58
Four times	58
Five times	71
Six times	53
Seven times	32
Eight times	20
Nine times	6
Ten times	2
Eleven times	2

Table 2 showed that the highest procurement frequency in 2018 at Pharmacy Installation atUniversitas Sumatera Utara Hospital was 11 times, and the lowest was only once a year. Based on the standard of procurement frequency, it was categorized as low if the frequency was low as 12 times a year. Furthermore, it was considered as medium and high if the procurement frequency was 12-24 times and more than 24 times a year respectively [7].

It can be said that procurement frequency of each drug items at Universitas Sumatera Utara hospital was labelled as low with procurement frequency was less than 12 times a year. From the interviewed with related sectors in Pharmacy Installation at the hospital, this low procurement frequency was due to long and complicated procurement procedures that consumed much time.

3.3   Distribution

One of the main task in pharmaceutical cares at hospital is drug distribution. Distribution step in drug management plays important roles, such as pharmaceutical drugs and medical devices delivery to destination unit in hospital, including to the patient [9]. Insufficient drug distribution caused the decreased of drugs availability level. In contrast, not only caused an emptiness in drug shed, but also it will cause high number of unused accumulated drugs that will lead the drugs into expired or unusable. This condition will affect the current budget for drugs management [10].

In this research, the number of drugs suitability in stock card, shed management system, the percentage of expired drugs, percentage of dead stock, and drugs availability level were used as

indicators for distribution steps. The result of this research against the indicator in distribution steps as mentioned below:

Table 3. The Result of Distribution Indicator

No.	Indicator	Standard	Result
1.	Suitability of drugs amount in stock card	100%	100%
2.	Shed management system	100%	100%
3.	Percentage of expired or damaged drugs	≤0.2%	0.05%
4.	Percentage of dead stock	0%	0%
5.	Drugs availability level	12-18 months	17.56 months /17 months 16 days

From Table 3 above, it showed that drug distribution in Pharmacy Installation at Universitas Sumatera Utara Hospital had met the minimum standard. Therefore, it can be said that drug distribution system in the Hospital was proper and suited to the standard.

4.   Conclusion

In conclusion, drugs management in Pharmacy Installation at Universitas Sumatera Utara Hospital that consist of selection, planning, procurement, and distribution steps was categorized as well managed by this research.

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