IOSR Journal of Nursing and Health Science (IOSR-JNHS)
e-ISSN: 2320–1959.p- ISSN: 2320–1940 Volume 9, Issue 4 Ser. II (Jul. – Aug. 2020), PP 24-28
www.iosrjournals.org

The Relationship between Planning and Procurement of Drugs and Pharmaceutical Services

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Abstract : *Pharmaceutical Services at the health care centre become an integral part of the implementation of health efforts. They play an essential role in improving the quality of health services for the community. The purpose of this study is to determine the relationship between planning and procurement of drugs and pharmaceutical services at the Health Office of Kolaka District. The study was a quantitative observational study using a cross-sectional study design. The populations in this study were Pharmacists and Pharmaceutical Technical Workers at the Pharmacy Installation and Community Health Center in Kolaka District consisting of 56 people. The numbers of samples in this study were 36 people determined using simple random sampling technique. Data were analyzed using the chi-square test. The results showed that there is a relationship between drug planning and pharmaceutical services. Furthermore, there is a relationship between drug procurement and pharmaceutical services. It is expected that revitalization of drug warehouses that are not in accordance with the standards. Additionally, the health care centre facilities in Kolaka Regency are also required, such as standardized pallet medicine cabinets, filing cabinets, psychotropic and narcotics cabinets, split air conditioners, and patient waiting rooms.*

Keywords: *Planning, Procurement, Pharmaceutical Services*

Date of Submission: 25-06-2020 Date of Acceptance: 13-07-2020

I. Introduction

Drug management or pharmaceutical preparation is a series of activities involving aspects of planning, procurement, storage and distribution of drugs. It must be managed optimally to ensure the accuracy of the number and type of pharmaceutical supplies and medical devices, by utilizing available resources such as staffs, funds, facilities and software. It is conveyed to achieve the goals set at various levels of the work unit. The goal of drug management is the availability of drugs at any time whether it is demanded regarding the type, quantity or efficiency. Thus, drug management can be utilized as a process of mobilizing all available resources to be utilized in order to realize the availability of drugs at all times needed for effective and efficient operations [1].

Pharmaceutical Services at the health care centre become an integral part of the implementation of health efforts. They play an essential role in improving the quality of health services for the community. Pharmaceutical Services at the health care centre must support the three primary functions of the health care centre. First, it is a centre for health-oriented development. Second, it is a community empowerment centre. Third, it is a first-level health service centre that includes individual health services and community health services [2].

The planning factor can be a determinant of the inadequacy of drugs. The drug planning includes the calculation of estimates of the need for drugs that are not precise, ineffective and less efficient. Drug supply or demand is also an aspect where demand is carried out in accordance with the needs of existing drugs so that there is no excess or lack of drugs. Whether the drug is excessive or empty can occur due to the inaccurate and irrational calculation of drug needs. The dug management must pay attention to the receipt, storage and proper recording and reporting to overcome these problems. Guaranteed availability of drugs in health services will maintain the image of health care itself. Therefore, the management and supply of drugs effectively and efficiently are essential [3].

The stock out of the drug can affect the quality of services provided. It can affect treatment in patients because of limited treatment options for patient prescriptions. Additionally, hospitals or public health centres will suffer losses due to the loss of cost opportunities to benefit from drugs. The occurrence of drug emptiness is one of the obstacles in meeting the demand for drugs for patients. It shows that drugs cannot be provided in the right amount when they are needed [4]. Therefore, the goal of control, according to the Ministry of Health, is to ensure that there is no excess and emptiness of pharmaceutical preparations can be achieved.

Referring to the Republic of Indonesia Minister of Health Regulation No. 5 of 2014, the health care center in the era of social insurance administration organization were given primary health care authority covering 144 kinds of disease diagnoses, so that the need for drugs in the health care centre should be adjusted

to 144 kinds of disease diagnoses. However, when ordering drugs in 2013, the need for drugs did not entirely refer to 144 kinds of disease diagnoses.

The issue of Human Resources (HR) is still in the spotlight for organizations to survive in the era of globalization. The role of HR in organizational activities is crucial. However, without the support of reliable human resources, organizational activities will not be completed properly [5].

Based on data from the Health Office of Kolaka District, it is known that there are ten drug management staffs in the Pharmacy Installation of the Health Office Kolaka District, and there are also 5 Pharmacists. Moreover, there are five pharmaceutical technical staffs. Furthermore, there are 46 drug management staffs at the health centre consisting of 17 pharmacists and 29 pharmacy technical workers. Moreover, it is known that the fulfillment of drug needs in Kolaka Regency has not reached 100%. It only reached 91.94%, which means that 8.1% of the drugs needed were not fulfilled. The procurement process through E-Purchasing or E-Catalog is not entirely fulfilled because it is only 80%. Drug distribution to health care facilities is often late because the request report is late reported. Additionally, vaccine storage is still stored in the department of health because there is no Cool Room in the pharmacy installation and is still managed by the programmer [2].

Based on the background description above, medicine is critical in the process of health services to the community. Therefore, research on the relationship between planning and procurement of drug and pharmaceutical services at the Health Office of Kolaka District is exciting to discuss.

II. Materials and Method

This research used quantitative research methods using a cross-sectional study design. This research was conducted from 7 May to 7 July 2019. The populations in this study were 56 Pharmacists and Pharmaceutical Technical Workers at the Pharmacy Installation and Community Health Center in Kolaka District. The samples were 36 people determined using proportional random sampling technique.

The data were analyzed using descriptive analysis and inferential analysis. The formulation in descriptive analysis can be seen as follows.

$$x = \frac{f}{n} x\, k$$

Notes :
x : Percentage of results
f : Examined variables or frequency of correct answer scores
n : Number of samples
k : Constants (100%) (Sugiyono, 2011).

Inferential analysis was performed using the chi-square statistical test. The Chi-square test formula is as follows.

$$X^2 = \sum \frac{(O - E)^2}{E}$$

Notes:
X^2 = Chi – square value.
O = Frequency observed.
E = Expected frequency

Decision making:
1) If $X^2_{count} > X^2_{table}$, Ho is rejected and Ha is accepted. It means that that there is a relationship between the independent variable and the dependent variable.
2) If $X^2_{count} < X2_{table}$, Ho is accepted and Ha is rejected. It means that there is no relationship between the independent variable and the dependent variable.

III. Results

Data collection was conducted on 36 respondents with the following results.

Table 1. Frequency distribution of planning, procurement, storage, distribution and recording of reports in the Kolaka District Health Office

Variables	Pharmaceutical Services		Total
	Good	Low	
Planning			
Good	14	6	20
Low	3	13	16
Procurement			
Good	12	3	15
Low	5	16	21

Table 1 shows that there are 20 respondents with good planning and 16 respondents with poor planning. Procurement variables indicate that there are 15 respondents in good category and 21 respondents in the low category.

Inferential Analysis

Table 2. Analysis of the relationship between drug planning & procurement and pharmaceutical services at the Health Office of Kolaka District

Variables	X^2_{count}	P_{Value}	φ
Drug planning	7.424	0.006	0.51
Drug procurement	8.945	0.003	0.55

Table 2 data shows that the value of X^2_{count} (the planning variable) is 7.424 in which the significance value is 0.006 and phi value is 0.51. Meanwhile, the value of X^2_{count} (the procurement variable) is 8.945 in which the significance value is 0.003 and phi value is 0.55.

IV. Discussion

Analysis of the relationship between planning and pharmaceutical services in the Health Office of Kolaka District

Planning and determining needs is the first step in the process of drug management. According to the Regulation of the Minister of Health of the Republic of Indonesia No. 72 of 2016, planning needs is an activity to determine the number and period of procurement of pharmacy supplies. However, this planning must be in accordance with the results of the election activities. It is to ensure the fulfillment of the right type of criteria and the right amount. The purpose of planning is to avoid emptiness and excessiveness of drugs by using methods that can be accounted for. It should be based on the basics of planning that have been determined, including consumption, epidemiology, a combination of consumption methods and epidemiology. Furthermore, it should be adjusted to the available budget [2].

The results showed that from the 20 respondents with good planning, there were 14 respondents (70.0%) with good pharmaceutical services. Meanwhile, from 16 respondents with less category planning, there were 13 respondents (81.2%) with poor pharmaceutical services. It means that respondents who are good in carrying out pharmacy services are the respondents who have good planning.

The results showed that there is a relationship between planning and pharmaceutical services at the Health Office Kolaka District. This result is in line with research entitled title analysis of drug management as a basis for controlling safety stock in drug stagnant and stockouts [6]. The planning and procurement of drugs submitted by the health care centre based on the study in 2014 only corresponded to 16.03% with the use of drugs in 2014.

Every year, the health care centre must plan medicine for the health care centre needs for one year. The plan, which is planned by the health care centre covers the total amount of drugs needed in each unit at the health care centre. Drug planning at the health care centre is not good due to the selection of inappropriate types of drugs so that the number of drugs and types of drugs which are planned is inappropriate. In fact, according to the Ministry of Health, there are some stages in the process of drug planning, namely drug segregation, a compilation of drug use, and calculation of drug needs. Drugs that are not used should be sorted for reconsideration whether they need to be planned for the next year period or not. Furthermore, for drug calculations, it is necessary to pay attention to their compatibility with the reality of drug use in order to avoid the stagnant and stockout of drugs in the health care centre.

The results showed that planning is a factor related to pharmaceutical services. The problem faced in drug planning in pharmaceutical installations is that planning uses only consumption methods and pays little attention to disease patterns. Therefore, the existing stock of drugs is uncertain, and the implementation of planning for drug needs is not maximal so that there are still some drugs that are experiencing stockout.

In the process of planning medication needs, the health care centre in the Health of Office Kolaka District is in compliance. However, there are still obstacles in carrying out the process of planning the need for drugs. One of the obstacles is the mismatch between the desired conditions and the real conditions. Meanwhile, the consumption method is applied based on the real pharmaceutical supply consumption data of the prior period, with various adjustments and corrections [7]. This method of consumption requires that the use of drugs in the previous period must be ensured rational. It is because the consumption method is only based on previous consumption data that does not consider the epidemiology of the disease. To prevent drug emptiness and anticipate soaring demand and use of drugs in planning for drug needs, it is better for methods of planning the needs of drugs to also pay attention to patterns of disease. Moreover, officers pay more attention to safety stock and periodically check stock in the end year [8].

Planning should involve all stockholders in the scope of the relevant health service regarding drugs when carrying out integrated planning (all doctors, drug managers, pharmacy installations, pharmacy sections, health service programmers, elements of the planning, finance). This plan must be accompanied by accurate proposal data from the health care centre level and then discussed together to produce an excellent planning document.

Analysis of the relationship between drug procurement and pharmaceutical services in the Health Office of Kolaka District

The essential requirements in the drug procurement function must be according to planning, ability, needs, and system requirements or procurement methods [9]. Drug management in each health care centre receives supervision from the Health Office of Kolaka District. Likewise, in the procurement of medicines, all health care centres must go through the Health Office of Kolaka District. The health care centre cannot do drug procurement independently. There has been a change in the procurement system for national health insurance drugs since the entry into force of the social security administration agency in early 2014. The regulation states that the health care centre may purchase drugs using capitation money obtained from capitation payments from the social security organizing agency to the health care centre every month. Medicines which are purchased using this money are called drugs [9].

The results showed that from the 15 respondents with good procurement, there were 12 respondents (80.0%) with good pharmaceutical services. Meanwhile, from 21 respondents with less category procurement, there were 16 respondents (76.2%) with poor pharmaceutical services. It means that respondents who lack pharmaceutical services are more likely to be found in respondents with less procurement.

The results showed that there is a relationship between drug procurement and pharmaceutical services at the Health Office of Kolaka District. This result is in line with research conducted by [6] with the title analysis of drug management as a basis for controlling safety stock in drug stagnant and stockouts. The planning and procurement of drugs submitted by the health care centre based on the study in 2014 only corresponded to 16.03% with the use of drugs in 2014.

According to the regulation of Health Ministry No. 74 of 2016, several things need to be considered in the procurement of pharmaceutical preparations, medical devices, and medical consumables. First, medicinal raw materials must be accompanied by a Certificate of Analysis. Second, hazardous materials must include material safety data sheet. Third, pharmaceutical supplies, medical devices, and consumable medical materials must have a circular permit number and expiry date of at least 2 (two) years except for particular pharmaceutical, medical devices and consumable medical supplies (vaccines, reagents, etc.). Fourth, drug procurement can be conducted through the purchase, production of pharmaceutical preparations, and donations.

In the process of procuring drugs, a problem that often occurs is that distributors are often late in distributing drugs to the health department. Moreover, the ordered drugs are empty from the distributors. Thus, it takes about one month from the provider or manufacturer to the distributor and the health office so that a drug stockout occurs, especially ordering through e-purchasing or e-catalogue.

Ordering drugs through this e-catalogue takes a long time. However, the price is low or efficient, but it is not sufficient. Meanwhile, some medicine items are empty, and the medical needs are urgent while the capitation fund is limited. Moreover, drugs purchased at pharmacies are limited because of the procurement requirements that should be for large pharmaceutical traders whose volume can be more. However, there is a problem in the procurement process because there is only one distributor existed in Kolaka Regency, and the medicines provided by this distributor are incomplete.

In addition, it is seen based on drug planning using the consumption method which is considered to be influential in the process of drug procurement which will have fatal consequences such as shortages and excess stocks of certain drugs. Meanwhile, the procurement of drugs is a process of determining drug items and the number of each item based on plans that have been made, supplier selection, writing an order letter until the supplier receives it [7]. Factors that influence procurement are the determination of suppliers, the determination of the number of drug items, the number of items for each drug item and the completeness of the order and contract letters, price negotiations, order times and payment methods.

Drug planning is the initial stage of drug management and drug procurement activities. This planning is the most significant factor that can cause waste. Therefore, efficiency and cost savings need to be done. Inefficient management of drug supplies will harm hospitals, both medical and economic aspect [10].

V. Conclusion

Based on the results of research and discussion above, it can be concluded that there is a relationship between drug planning and pharmaceutical services. Furthermore, there is a relationship between drug procurement and pharmaceutical services. Therefore, it is expected that medicine warehouses that are not in accordance with standards, the facilities of the health care centre in the district of Kolaka such as standardized pallet medicine cabinets, filing cabinets, psychotropic and narcotics cabinets, split air conditioners, patient waiting rooms need to be revitalized.

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Nursalam, et. al. "The Relationship between Planning and Procurement of Drugs and Pharmaceutical Services". *IOSR Journal of Nursing and Health Science (IOSR-JNHS)*, 9(4), 2020, pp. 24-28.