
The Evaluation of the Pharmaceutical Planning and Procurement System at Pharmacies in Western Semarang District

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Abstract: Pharmaceutical planning and procurement become important matters for medicine management at pharmacies. The inaccurate plan leads to budget extravagances of medicine procurement, procurement cost, overloaded medicine supply, and lack of medicine supply. Ineffective procurement led to limited medicine supplies in terms of the amount and the correct price. This research evaluated the pharmaceutical matter plan and procurement at pharmacies in Western Semarang District. This descriptive research used a cross-sectional design so this research was also non-experimental research with a qualitative approach. The data collecting technique was direct observation of the pharmaceutical plan and procurement system from various conventional pharmacies in the Western Semarang area. The results obtained from 5 pharmacies showed an average mean percentage of 91.43%. On the other hand, the average mean percentage of procurement was 85.45%. These results were categorized as "appropriate", higher than 50%. The results indicated that the pharmacies had met the 2019 Technical Term of Pharmaceutical Service Standard for Pharmacies.

Keywords: Planning, Procurement, Conventional Pharmacy, Western Semarang District

INTRODUCTION

Pharmacies refer to places with pharmaceutical services promoted by pharmacists. The administration of pharmaceutical practices must guarantee the availability of pharmaceutical matters, healthcare devices, safe-disposable medical matters, excellent qualities, and affordability (Permenkes RI, 2017).

The medical cycle covers four stages. They are selection, procurement, distribution, and use. These inter-correlated steps in the pharmaceutical management cycle require an organized supply system to ensure a supportive healthcare service (Werawati et al., 2020).

Planning is the activity of arranging medicine necessity lists, both the types and the amounts, based on the needs and budget, before procuring the medicines. Planning is important to arrange accurate and appropriate medical necessities based on the needs. Thus, procurement can prevent overloaded or inadequate pharmaceutical matter supplies, healthcare device provisions, overloaded disposable medical materials, effective and efficient pharmaceutical matter improvement, supportive data provision for procurement estimation purposes, storing and distributing costs, and healthcare devices.

Pharmaceutical matter procurement, healthcare devices, and disposable medical materials are important matters to do with purchases. The most important method to reach the accurate balance between quality and price requires purchase. When a pharmacist has two supplier preferences, the pharmacist must make



the decisions based on some criteria, such as product quality (guaranteed with the distribution license number), producer reputation (guaranteed distributor with pharmacist as the person-in-charge to meet the order requirement), price, requirement (including the obtained pharmaceutical matters and the pharmaceutical wholesaler proved with permission), healthcare device, disposable medical material obtained from permitted medical device distributor, originality, legality and quality of the pharmaceutical matter, purchased health care device and disposable medical material, punctual delivery of the ordered healthcare device and disposable medical material, related document of pharmaceutical matter, traceable healthcare device and disposable medical material, complete health care device and disposable medical material, plan compliance, fast-lead time, trusted quality of supply, return policy, and packaging (Kepmekes RI, 2019).

METHOD

Research Design and Type

This descriptive research used a cross-sectional design. Thus, the research was non-experimental research with a qualitative approach. The researchers collected the data by directly observing the pharmaceutical matter plan and procurement administratively and healthcare device procurement at some conventional pharmacies in Western Semarang District.

Population and sample

The population consisted of all conventional pharmacies in Western Semarang District. The selected sample consisted of five conventional pharmacies in Western Semarang. The pharmacies were K, B, G, P.S, and P.F pharmacies. The applied inclusion criteria were: 1) pharmacies located in Western Semarang, 2) pharmacies with strategic locations, 3) conventional pharmacies, and 4) pharmacies with legal permission. The applied exclusion criteria were: 1) pharmacists or pharmacy owners with the unwillingness to join the research, 2) franchise pharmacies.

Research Variables

1. Planning

No	The Evaluation Parameters of Planning
1	Selecting the suppliers (1) Price (2) Wholesaler permission (3) Distances or locations of the wholesalers (4) <i>Lead time</i> (5) Returnable/non-returnable
2	Selecting the medicine (1) The ordered medicines based on the classes of therapies or fast-moving (2) The amounts, names, doses, and forms of the ordered medicines

2. Procurement Variable (Administration)

No	The Evaluation Parameters of Procurement
1	Pharmacies bought medicines from wholesalers with permission grants
2	Pharmacies purchased medicines from legal wholesalers or sub-distributors
3	Pharmacies bought healthcare devices and disposable-medical



	materials from healthcare device suppliers with legal permissions
4	Pharmacies bought the medicines based on the groups of the medicines
5	Pharmacies bought the pharmacy mandatory with minimum items.
6	Pharmacies arranged the documents, including agreements and invoices, related to pharmaceutical matters, healthcare devices, and disposable-medical material so that they are traceable.
7	Pharmacies purchased pharmaceutical matters and disposable-medical materials based on the plan.
8	Pharmacies procured the pharmaceutical matters based on the mail order signed by the licensed pharmacists who attached their pharmacist practice license numbers.
9	Pharmacies prepared two identical mail orders without being copied.
10	Pharmacies with mail-order electronic systems had to ensure product traceability within 5-recent years, supported by an electronic data backup system.
11	Pharmacies sent the electronic mail order to the distributors and had to ensure the distributors received the mail order, proved by electronic notifications of the distributors about the mail order receipts.

The Data Analysis

The researchers analyzed the data by comparing the indicators of planning, procuring, and real product conditions. The researchers put the obtained data in a checklist table.

The researchers calculated the gained scores based on the following criteria:

Appropriate : 1

Inappropriate : 0

The percentage of the planning and procuring system implementation on the medicine applied Guttman scale by grouping the values into percentage categories (Saputra et al, 2019). They were:

$$\text{Percentage} = \frac{\text{Jumlah Skor Penelitian}}{\text{Skor Total}} \times 100\%$$

Remark:

An "appropriate" pharmaceutical service standard implementation = score \geq 50%.

An "inappropriate" pharmaceutical service standard implementation = score \leq 50%.



RESULT AND DISCUSSION

Results

1. Planning

Num be r	The Evaluation Parameters of Planning	Ph G		Ph K		Ph B		Ph P.S		Ph P.F	
		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
1	Selecting the suppliers	✓		✓		✓		✓		✓	
	(1) Price	✓		✓		✓		✓		✓	
	(2) Wholesaler permission	✓	✓	✓		✓		✓	✓	✓	
	(3) Location or distance of the wholesaler	✓		✓		✓		✓		✓	✓
	(4) <i>Lead time</i>										
	(5) Returnable/non-returnable										
2	Selecting the medicine	✓		✓		✓		✓		✓	
	(1) purchased medicines based on the therapy classes or fast-moving	✓		✓		✓		✓		✓	
	(2) the amounts, names, doses, and forms of the purchased medicines										
The total the appropriateness		6		7		7		6		6	
Percentages		85.71 %		100%		100%		85.71%		85.71%	
The mean percentage of the plan		91.43%									



2. Procurement Variable (Administration)

No	The Evaluation Parameters of Procurement	Ph G		Ph K		Ph B		Ph P.S		Ph P.F	
		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
1	Pharmacies bought medicines from wholesalers with permission grants	✓		✓		✓		✓		✓	
2	Pharmacies purchased medicines from legal wholesalers or sub-distributors	✓		✓		✓		✓		✓	
3	Pharmacies bought healthcare devices and disposable-medical materials from healthcare device suppliers with legal permissions	✓		✓		✓		✓		✓	
4	Pharmacies bought the medicines based on the groups of the medicines	✓		✓		✓		✓		✓	
5	Pharmacies bought the pharmacy mandatory with minimum items.	✓		✓		✓		✓		✓	
6	Pharmacies arranged the documents, including agreements and invoices, related to pharmaceutical matters, healthcare devices, and disposable-medical material so that they are	✓		✓		✓		✓		✓	



	traceable.						
7	Pharmacies purchased pharmaceutical matters and disposable-medical materials based on the plan.	✓	✓	✓	✓	✓	✓
8	Pharmacies procured the pharmaceutical matters based on the mail order signed by the licensed pharmacists who attached their pharmacist practice license numbers.	✓	✓	✓	✓	✓	✓
9	Pharmacies prepared two identical mail orders without being copied.	✓	✓	✓	✓	✓	✓
10	Pharmacies with mail-order electronic systems had to ensure product traceability within 5-recent years, supported by an electronic data backup system.	✓	✓	✓	✓	✓	✓
11	Pharmacies sent the electronic mail order to the distributors and had to ensure the distributors received the mail order, proved by electronic notifications of the distributors about the mail order receipts.	✓	✓	✓	✓	✓	✓
The total the appropriateness		9	9	9	11	9	



Percentages	81.81%	81.81%	81.81%	100%	81.81%
The mean percentage of procurement	85.45%				

Discussion

1. The Planning

From the observation, the researchers found some variables were not promoted based on the 2019 Technical Guideline of Pharmaceutical Service Standard. The researchers found these results on G and P.F pharmacies. These pharmacies did not consider the lead time variables because of the limited products so they did not store or supply the products in large quantities. The pharmacies would purchase the products on the subsequent order once the products ran out. The remaining pharmacies considered the lead time variable to prevent supply absence. These three pharmacies also considered the lead time as the pharmaceutical preparedness. The observed lead times of these three pharmacies were between 2 and 3 days. Incorrectly chosen suppliers would lead to corporate disadvantages due to prolonged lead time and supply. These matters led to an interrupted production process and hindered the efforts to meet customer demands (Umairah et al., 2018). The lead time was important because lead time determined the re-order time. Pharmacies that did not consider this variable, lead time, would possibly have ineffective performances and high extravagances. Thus, lead time directly influenced the production and distribution process. Lead time also indirectly influenced the order-decision making of the customers and customer satisfaction (Faizol et al., 2021).

Selecting suppliers became an important activity for a corporation to determine accurate strategies. In this research, all pharmacies selected legal suppliers and distributors to prevent fake products and medicines, and cheap prices. The pharmacies selected large-scale distributors, such as APL (Anugerah Pharmindo Lestari, ENSEVAL, and BSP (Bina San Prima). The pharmacies also could purchase products from other distributors or sub-distributors, such as PT. Muria Utama. This corporation frequently offered higher discounts than other large-scale distributors. The pharmacies also considered the preference of wholesalers based on the return policies of the wholesalers.

The process of selecting the medicines also included writing the order plan, The pharmacies also checked the fast-moving medicines or medicines with high-sale possibilities. The pharmacies also noted the medicine orders in the evening. Thus, the next morning, the pharmacies were ready to order.

Dewi et al (2021) also found three matters to consider while planning pharmaceutical matters and disposable-medical materials based on the Ministerial Regulation of Health Ministry Number 73 the Year 2016. The matters were the amount or quantity, type, and time. The respondents explained that procurement was the key factor to increase cash flow and improve customer service. The plan and procurement of medicines became the initial important step to determine the success of the subsequent steps. A plan was useful to adjust the needs of procurement with the available budget to provide healthcare services for hospitals. Poor planning and procuring systems led to an overloaded quantity of medicines or a lack of medical supplies (Puspikaryani et al., 2021).

The researcher found a pharmacy that did not consider the distances of the wholesalers from the pharmacy. On the other hand, the remaining pharmacies, G, K, B, and P.F did consider the distance to save the delivery cost. Soraya (2015) found that daily purchases by checking the supply availability for a month would lead to 1 or 2 high-quantity purchases. In the research, the location of the pharmacy was full of distributors so that procurement could be done immediately and easily. The



longest lead time for the distributor to deliver the products should be within 3 working days. However, if the distributor did not respond to the order, pharmacies had to reorder.

The promoted observation of the pharmaceutical logistics management at some pharmacies in Western Semarang indicated appropriate results. The planning step obtained a mean average of 5 pharmacies with 91.43%. The value fell within the "appropriate" category, >50% (Saputra et al., 2019). The results indicated that the pharmacies had met the 2019 Technical Term of Pharmaceutical Service Standard for Pharmacies. The G, P.F, and P.S pharmacies obtained a planning percentage of 85.71%. On the other hand, for K and B pharmacies, the percentages were 100%.

2. Procurement

The procurement step had 11 parameters but all pharmacies only met 9 parameters. The pharmacies did not order the medicine by tracing the medicines electronically with a computerized system or application. The finding showed the pharmacies ordered the products manually via WhatsApp. The pharmacies purchased the medicines once the medicines were running out. The manual order via WhatsApp was done by writing a mail order. Then, the pharmacies scanned the mail order and sent the order via WhatsApp to the wholesalers or the sub-distributors.

In this research, all pharmacies documented the mail order administrations and the invoices as excellent. Thus, the pharmacies could trace the orders with batch numbers, expired dates, doses, and availabilities easily. The pharmacists also labeled and marked with the pharmacies' signs and attached the pharmacist practice license numbers. The pharmacies wrote the orders twice to order the medicines.

All pharmacies ordered the medicines from legal wholesalers as suggested by the 2019 Technical Guideline for Pharmaceutical Practice Standard. Supriyanta et al (2020) also found that pharmacies had to purchase the medicines legally to ensure the originality and quality of the medicines. These legal purchases prevented fake and unqualified medicine distributions. All pharmacies also arranged mail orders and invoices. Thus, the documents could be traced. The pharmacies also audited the transaction if they purchased from legal distributors to ensure the security and legality of the order process.

In this research, the researchers found four pharmacies obtained a mean percentage of 81.81% while the other pharmacy obtained a percentage of 100%. The score fell within the "appropriate" category, >50%. The results indicated that the pharmacies had met the 2019 Technical Term of Pharmaceutical Service Standard for Pharmacies.

CONCLUSION

The results from five conventional pharmacies in Western Semarang District indicated the implementation of the 2019 Technical Guideline for Pharmaceutical Service Standard about the plans and procurements of pharmaceutical matters, disposable-medical materials, and health care. The obtained mean percentage average was 91.43% while the mean percentage average for procurement was 85.45%. The values fell within the "appropriate" category, >50%. The results indicated that the pharmacies had met the 2019 Technical Term of Pharmaceutical Service Standard for Pharmacies.

AUTHOR CONTRIBUTION

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CONFLICT OF INTEREST

There are no conflicts of interest

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Should be included at the end of the text and not in the footnotes. Personal acknowledgments should precede those of institutions or agencies; include any grant numbers where appropriate. (Font: Arial, 10pt, line spacing 1)

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