

Supplement

Key Strategies to Reduce Waiting Time in Outpatient Pharmacy

Strategi Kunci untuk Mengurangi Waktu Tunggu Farmasi Rawat Jalan

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ABSTRACT

Waiting time in the outpatient pharmacy is still a problem in hospitals. This study aimed to identify the root causes and implement solutions to reduce the waiting time at a type C hospital. This study applied a descriptive approach. The potential causes were identified using HFMEA (Healthcare Failure Mode Effect and Analysis) confirmed through an online survey on 15 staff involved in pharmacy services. Scoring and Focus Group Discussion were used to identify the priority problems and solutions. The study results revealed six causing factors of the lengthy waiting time at the outpatient pharmacy, which were doctor's schedule, absence of specific time target for each drug preparation stage, changes of the drug storage, drug stock different from the planning, incomplete standard operating procedures, and one counter for prescription collection and drug dispensing. Three solutions were implemented in six days: checking drug stock in every shift, developing an SOP, and separating the counters for prescription collection and drug dispensing. The implementation results showed a significant increase in the waiting time percentage of compounded drugs, which met the standard (≤ 60 minutes) from 26% to 43%. This increase was even higher for non-compounded drug waiting time (< 20), from 27% to 48%. Drug stock checking, procedure standardization, and separation of service counters are the keys to reducing outpatient pharmacy waiting time.

Keywords: Waiting time, pharmacy service, outpatient, strategy

ABSTRAK

Waktu tunggu farmasi rawat jalan masih menjadi kendala di rumah sakit. Penelitian ini bertujuan untuk mengidentifikasi akar permasalahan dan menerapkan solusi untuk mengurangi waktu tunggu pada salah satu rumah sakit tipe C. Penelitian dilakukan dengan pendekatan deskriptif. Penyebab potensial diidentifikasi menggunakan HFMEA (Healthcare Failure Mode Effect and Analysis) yang dikonfirmasi melalui survei secara online dengan 15 staf yang terlibat dalam layanan farmasi sebagai. Skoring dan Fokus Group Discussion digunakan untuk mengidentifikasi prioritas masalah dan solusi. Hasil penelitian mengungkap enam faktor penyebab lamanya waktu tunggu di farmasi rawat jalan, yaitu jadwal dokter, tidak ada target waktu spesifik untuk tiap tahapan penyiapan obat, perubahan atau perpindahan tempat obat, stok obat tidak sesuai perencanaan, tidak lengkapnya standar prosedur operasional, satu loket untuk penerimaan resep dan penyerahan obat. Tiga solusi diimplementasikan dalam enam hari, pengecekan stok obat di setiap shift, pengembangan SPO, dan loket yang terpisah antara penyerahan obat dan penerimaan resep. Hasil implementasi menunjukkan peningkatan yang signifikan pada prosentase waktu tunggu obat racikan yang memenuhi standar (≤ 60 menit) dari 26% menjadi 43%. Peningkatan ini bahkan lebih tinggi untuk waktu tunggu obat non-racikan (< 20 yang meningkat dari 27% menjadi 48%). Pengecekan stok obat, standarisasi prosedur dan pemisahan loket layanan adalah kunci untuk menurunkan waktu tunggu farmasi rawat jalan.

Kata Kunci: Waktu tunggu, pelayanan farmasi, rawat jalan, strategi, strategi

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INTRODUCTION

In accordance with the vision of "to become the community's preferred hospital that prioritizes quality improvement and patient safety," the hospital of the study site continuously improves its quality, including the quality and the waiting time of pharmaceutical services. Although the customer satisfaction rates for hospital services and outpatient pharmacy have surpassed the standards, that are 90.11% and 85%, respectively, the management wants to improve pharmaceutical services by reducing the waiting time according to hospital standards. Another consideration is the complaints stated on its website concerning the long waiting time (1).

Waiting time in health services felt by outpatients is one indicator of patient satisfaction that affects the quality of health services. Patient waiting time is defined as the length of time from when the patient entered the pharmacy to the time the patient received his or her prescription and left the pharmacy (2). Overall patient satisfaction with pharmaceutical services is closely related to their satisfaction with the waiting time (1). The waiting time for non-compounded drug services is faster than the service time for compounded drugs because the former does not go through the compounding process (3). According to the Hospital Minimum Service Standards, the waiting time for pharmacy services is 30 minutes for non-compounded drugs and 60 minutes for compounded drugs. The hospital where the study was conducted has set the standard waiting time for pharmaceutical services, 20 minutes for non-compounded drugs and 60 minutes for compounded drugs. Referring to this, the service achievement that met the standards was below 30%. It underlies the need for a study to explore the causes of the problem and develop solutions to reduce waiting time in pharmacy services.

METHOD

This research was conducted at a type C hospital in Kediri from August to October 2020 using a descriptive approach. The potential problems were identified using HFMEA (Healthcare Failure Mode Effect and Analysis) based on the failure mode in the process of providing drug services in outpatient pharmacy. The observations involved the Head and eight staff of the Outpatient

Pharmacy Subdivision and the Head and five staff of the Polyclinic and Specialist Subdivision. From the results of observations and discussions with the Head of Subdivision and the Outpatient Pharmacy Installation staff, the service process that had the greatest possibility and potential for failure was the drug preparation process, which became the focus of the study. The drug preparation sub-process includes checking the prescription inputs, calculating the dosage of compounded drugs, drug-taking, compounding, drug labeling, and preparing the drugs to be handed over to patients (Table 1).

In the sub-process, potential failures, data clarification, and data retrieval methods were identified (Table 2). Data were obtained through online confirmation on 15 staff involved in pharmacy services, followed by an FGD (Focus Group Discussion) involving the Head of the Outpatient Pharmacy Subdivision and eight pharmacy staff. The FGD was carried out to identify the causes of each potential failure using the 5 Whys method, followed by potential solution analysis. The selection of priority solutions was made by scoring using the GForm on five criteria, ease of application (0.2), probability of success (0.2), effectiveness of solution (0.5), and resistance value (0.1). The score used is in the range 1 (one) to 5 (five); a value of 5 is considered a solution that is easily applied, effective with relatively low resistance, and has greater probability of success. The respondents involved were 15 respondents consisting of the Head of the Outpatient Pharmacy Subdivision, the Head of the Polyclinic Subdivision, Pharmacists, pharmacy staff, and polyclinic nurses. After obtaining the selected solution, a simulation was carried out, and the evaluation was done after six days of implementing the solution. The indicator assessed was the waiting time for the drug dispensing procedure.

RESULTS

The study results identified six factors that caused long waiting time in outpatient pharmacy (the 5 Whys analysis is attached), which were identified based on potential failures in the sub-process of drug preparation. Simultaneous doctors' schedule and the absence of a standard time of each preparation stage were the causes in the process of checking the prescription data input. The drug storage location which had been moved and the drugs that did not meet the drug planning prolonged the

Table 1. The root causes of problems and the alternative solutions

No	Root Cause of Problem	Alternative Solution
1	Simultaneous doctors' schedule	1. Determination of timely doctors' working hour 2. Arrangement of doctors' schedule
2	The absence of a standard time of each preparation stage	1. Establishing target work time for each stage of the service flow 2. Implementing a reward and punishment system in the implementation of the service flow
3	Drug storage location which had been moved	1. Changing the layout of pharmacy installation into a more effective and efficient 2. SOP of medicine pick up
4	Drug stock that did not meet the drug planning	1. Communication with doctors in charge of patient 2. Checking drug stock in the morning (when starting working)
5	The SOP of compounded drugs manufacture has not been implemented	Dissemination and evaluation of the application of standard operating procedures for the manufacture of compounded drugs
6	One counter for two services (drug dispensing and drug collection)	1. Create a separate counter between receiving prescriptions and dispensing drugs 2. Splitting the existing counter into two, for receiving prescriptions and dispensing drugs

Table 2. Alternative solution Scoring

Alternative Solution	Ease of application	Probability of success	Effectiveness of solution	Low resistance value	Score total	Ranking
	0.2	0.2	0.5	0.1	1.0	
1. Determination of timely doctors' working hour	2 (0.4)	3 (0.6)	5 (2.5)	1 (0.1)	3.6	IX
2. Arrangement of doctors' schedule	1 (0.2)	3 (0.6)	5 (2.5)	1 (0.1)	3.4	X
3. Establishing target work time for each stage of the service flow	3 (0.6)	2 (0.4)	8 (4.0)	1 (0.1)	5.1	VIII
4. Implementing a reward and punishment system in the implementation of the service flow	2 (0.4)	3 (0.6)	2 (1.0)	2 (0.2)	2.2	XI
5. Changing the layout of pharmacy installation	5 (1.0)	3 (0.6)	7 (3.5)	3 (0.3)	5.4	VI
6. SOP of medicine pick up for drug supply	7 (1.4)	5 (1.0)	8 (4.0)	6 (0.6)	7.0	IV
7. Communication with doctors in charge of patient about the drugs used	4 (0.8)	4 (1.2)	6 (3.0)	2 (0.2)	5.2	VII
8. Checking drug stock in the morning (when starting working)	7 (1.0)	6 (1.6)	8 (4.0)	7 (0.6)	7.2	III
9. Developing, disseminating, and evaluating the application of standard operating procedures for the manufacture of compounded drugs	8 (1.0)	6 (1.6)	11 (5.0)	7 (0.6)	8.2	II
10. Using the counseling room as a prescription reception counter	7 (1.4)	9 (1.8)	9 (4.5)	9 (0.9)	8.7	I
11. Make a counter on the glass sheet next to counter 1 as a special counter for receiving prescriptions	6 (1.2)	7 (1.4)	8 (4.0)	4 (0.4)	7.0	V

Table 3. The results of the solution implementation test evaluation

No	Solution	Before implementation	After implementation
1	Check drug stock at the beginning of each shift (morning and evening)	No provision for checking stock at the beginning of the shift Warehouse staff interview: a. Morning shift: the average demand for drugs to the warehouse is ten times b. Afternoon shift: the average demand for drugs to the warehouse is five times	Drug stock checks are carried out at the beginning of each shift Document tracing in the warehouse: a. Morning shift: the average demand for drugs to the warehouse is twice b. Afternoon shift: the average demand for drugs to the warehouse is once
2	Development, socialization, and implementation of SOP for the preparation of compounded drugs	No SOP for the preparation of compounded drugs	SOP for the preparation of compounded drugs has been published a. SOP for Preparation of Compounded Drugs, No RST/IFRS/058/2020 b. SOP socialization was carried out during shift c. Implementation of the preparation of compounded drugs is according to SOP
3	Separating the drug delivery counter and prescription reception counter	Prescription reception and drug dispensing counters are just one	Prescription reception and drug dispensing counters are separated
4	Waiting time for drug pick up	Waiting time for taking non-compounded drugs that meet hospital standards has only reached 27% Waiting time for compounded drugs that meet the RS standard ≤60, has only reached 17%	Waiting time for non-compounded drugs that meet the standard ≤20 minutes reaches 41% Waiting time for compounded drugs that meet the standard ≤ 60 minutes reaches 43 %

stages of taking and preparing the drugs. The absence of standard operating procedure (SOP) was also the cause of the unsystematic service flow. In addition, one counter for two services (drug dispensing and drug collection) caused the accumulation and prolonged the service time. Based on the identification of the six causes, alternative solutions were developed (Table 2).

From the 11 alternative solutions, scoring was carried out on the four chosen criteria to identify the priority solutions (Table 3). Three priority solutions to reduce waiting time for outpatient pharmacy were found: checking the drug stock, standardizing the procedures, and separating the service counters. Drug stock checking as the first solution was done by checking drug supplies on the computer at the beginning of morning and afternoon shifts. If the drug stock was found empty or only few left, a request for drugs was immediately made to the pharmacy warehouse. The second solution was the development, socialization, and evaluation of SOP for the compounded drugs preparation. To prepare the SOP, a discussion was held with the Head of the Outpatient Pharmacy Subdivision and the pharmacist regarding the SOP of compounded drug preparation and submitted the SOP draft to the management. After the SOP was approved, socialization and implementation test were carried out. The third solution was to separate the drug delivery counter and prescription reception by utilizing (splitting) a portion of the counseling room as a drug disposal counter.

The implementation test was carried out for six days, and the waiting time for drug dispensing before and after the test was measured (Table 4). Implementing the stock checking mechanism at the beginning of the shift has reduced drug lending in the warehouse in every shift. Observations on the development and implementation of SOPs for drug preparation also showed that processes and flows had been implemented. The output of the evaluation results showed an increase in the percentage of waiting time that met the standards for both compounded drugs (17% to 43%) and non-compounded (27% to 41%).

DISCUSSION

This study identified six causes of prolonged waiting time of drug preparation in the outpatient installation. A simultaneous doctor's schedule and the absence of a time target at each stage of drug preparation cause a buildup of prescriptions, thus reducing staff accuracy in inputting patient data and obtaining the drugs. It extends the time in the data input process and dose calculation. The next cause is the drug storage that is moved from its original position, thus prolonging the time of taking the drug. The drug stock that is not according to the plan and the SOP for compounded drugs preparation that has not been implemented are the causes that impact the stock availability, so it takes time to submit request of drugs to the warehouse. The sixth cause is the buildup of patients who hand the prescriptions and who pick up the drugs at

one counter. This cause is similar to the study at the Outpatient Pharmacy Installation at Blambangan General Hospital, which identified the contributing factors of the lengthening of drug preparation time, namely long screening process at one counter, the distance to the Internal Medicine clinic that had the highest prescription submissions, and the prescription counter where BPJS and non BPJS patient prescriptions were combined (4).

Management of waiting time for drug services is important because it affects patient satisfaction in the outpatient services (5). Based on the identified causes, this study determines three solutions implemented for six days: checking drug stocks at the beginning of each shift (morning and evening), developing and implementing SOP for compounded drug preparation, and dividing the room for separating between prescription and drug dispensing counters. Drug stock checking at the beginning of each shift makes drug demand planning better, thereby reducing the frequency of submitting drug requests to pharmacy warehouses in a day and ultimately decreasing the drug preparation time. The drug availability in the pharmacy must be monitored because the drug availability is related to the satisfaction of consumers who use pharmacy services (6,7). Moreover, drug availability in the service area also affects the speed of drug preparation for patients.

The SOP development for compounded drugs needs to be carried out to ensure service quality, process continuity, minimize errors that may occur due to misinterpretation or miscommunication, avoid mixed-up procedures, avoid confusion, and serve as a vital tool for transferring knowledge and skills (8). The development of SOP must involve all elements, and its implementation should be monitored; and when done, the SOP should be placed within reach for easy access. In this study, the SOP preparation process involved all components, and socialization was carried out to ensure understanding, followed by observations to ensure the implementation. The SOP development followed by supervision is one of the important factors in pharmaceutical services. In addition, the SOP should be useful in reducing the level of errors from the staff, ensuring consistency of quality, time, and service procedures, and assisting in tracing the procedural errors during providing services (9,10).

Separation of receiving prescriptions and dispensing drugs counters will reduce the crowd of patients who submit prescriptions and take drugs in one counter. According to Purwanto et al., one solution to reduce waiting time for drug taking is to increase the screening staff and queue counters. As a result, before adding screening staff and queuing counters, the average waiting time for non-compounded and compounded drugs were 70.81 minutes and 139.85 minutes, respectively. After the implementation, the average waiting time for non-compounded and compounded drugs were 63.88 minutes and 108 minutes, respectively. It shows that the proposed solutions have decreased the waiting time, that the waiting time for the non-compounded drug is reduced by 7 minutes, and the compounded drug is reduced by 31 minutes (4).

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