



The Causes of Long Waiting Times for Outpatient Pharmaceutical Prescription Services at Hospital “X” in Padang

Adila Kasni Astiena*, Muthia Khairunnisa, Kamal Kasra, & Fadilla Azmi

Faculty of Public Health, Universitas Andalas, Padang, West Sumatera, Indonesia

ABSTRACT: Outpatient pharmacy services in a hospital shows the quality of health service to the community. Data from the internal quality assurance report of Hospital “X” in Padang showed that only 93.76% of non-compounded medication and 94.6% of compounded medication recipes met the waiting time standard. This study aimed to analyze the causes of the long waiting time for outpatient pharmacy services at Hospital “X”. The type of this research was a mix-method sequential type explanatory, conducted from February until May 2022. The quantitative design was a cross-sectional study of 141 for non-concoction and 35 for compounded medication recipes determined by quota sampling. Qualitative research was conducted on seven informants by purposive sampling. Observation, in-depth interviews, and document review collected data. Results showed that the average waiting time was 84.19 (standard ≤ 30) minutes for non-concoction and 164.58 (standard ≤ 60) minutes for compounded medication recipes. The causes of the long waiting time were a need for more staff, prescriptions outside the hospital formulary, equipment errors, and medicines delivery delays. There should be a job redesign by rearranging the shift picket for pharmacy staff, regular equipment maintenance, and updating standard operating procedures related to medicines delivery to the patients.

Keywords: outpatient pharmacy; non-compound; medication; waiting time.

ABSTRAK: Pelayanan farmasi rawat jalan di suatu rumah sakit menunjukkan mutu pelayanan kesehatan kepada masyarakat. Data dari laporan penjaminan mutu internal menunjukkan bahwa hanya 93,76% obat non racikan, dan 94,6% resep obat racikan memenuhi standar waktu tunggu di Rumah Sakit “X” Kota Padang. Penelitian ini bertujuan untuk menganalisis penyebab lama waktu tunggu pelayanan farmasi rawat jalan di Rumah Sakit “X”. Jenis penelitian ini adalah mix-method sequential type explanatory, yang dilaksanakan dari bulan Februari sampai dengan Mei 2022. Desain kuantitatif adalah cross-sectional study pada 141 resep obat non racikan dan 35 resep obat racikan yang ditentukan secara quota sampling. Penelitian kualitatif dilakukan terhadap 7 informan dengan cara purposive sampling. Pengumpulan data dilakukan dengan observasi, wawancara mendalam, dan telaah dokumen. Hasil penelitian menunjukkan bahwa rata-rata waktu tunggu adalah 84,19 untuk obat non racikan (standar ≤ 30 menit) dan 164,58 untuk resep obat racikan (standar ≤ 60) menit. Penyebab lamanya waktu tunggu adalah kurangnya staf, resep di luar formularium rumah sakit, kesalahan alat, dan keterlambatan pengiriman obat. Harus ada redesign pekerjaan dengan menata ulang shift piket untuk staf farmasi, pemeliharaan peralatan secara teratur, dan memperbarui prosedur operasi standar terkait dengan pengiriman obat ke pasien.

Kata kunci: farmasi rawat jalan; non-racik; obat; waktu tunggu.

Introduction

The era of globalization provides opportunities for hospitals to expand their market, but it also poses a threat to hospitals with the emergence of increasingly fierce competition between hospitals. Patients want fast service without having to wait long [1]. Waiting time to give benefits to the patients is one of the keys to a responsive health system [1,2]. The patient waiting time in a pharmacy is defined as the time measured from prescribing medication according to the prescription given to the patient, including all processes during preparation—medicines such as

payment and medicine compounding [3].

Waiting time is a significant indicator in assessing hospital quality [4]. WHO also states that one way to improve the quality of health services is to pay attention to service waiting times [5]. The problem of waiting time for prescription services is often overlooked by hospital management, and it can cause patient dissatisfaction [3,6]. The long waiting time for prescription services can also cause complaints, fatigue, boredom, and discomfort in patients. A survey by the

Article history

Received: 15 Nov 2022

Accepted: 13 Des 2022

Published: 30 Des 2022

Access this article



*Corresponding Author: Adila Kasni Astiena

Faculty of Public Health, Universitas Andalas, Limau Manis Selatan, Kecamatan Pauh, Padang, Sumatera Barat, Indonesia 25175 | Email: adila@ph.unand.ac.id

Indonesian Ministry of Health in 2017 regarding the Community Satisfaction Index in several government-owned hospitals showed that there were still complaints about the long waiting time for pharmaceutical services in hospitals [7]. In the end, the emergence of these complaints can lead to negative perceptions in patients about the quality of hospital services, decreased patient satisfaction, and increased complaints at hospitals, so improvements are needed to improve service quality [8,9].

Efforts to fulfill the waiting time for prescription services to comply with the Hospital Minimum Service Standard (HMSS) still need to be solved in several hospitals in Indonesia [10]. The waiting time problem for prescription services was also found in the Outpatient Pharmacy Unit of Prof. Hospital. dr. Tabrani Pekanbaru in Fallin, Hartono, and Wahyudi's research (2019) showed that the average waiting time for non-compound medication services was 83.76 minutes and compounded medications were 91.08 minutes. The cause of this long waiting time is the lack of human resources, lack of knowledge and skills of new officers in finding medicines, reading prescriptions, and looking for medicine substitutes, lack of work experience, education, and training regarding prescription services have not been carried out, medicine storage rooms are not spacious, Hospital management information system (HMIS) has not been implemented. Integrated, lack of availability of medicines, no specific allocation of funds, unclear SOP, and lack of patient participation, there are still prescriptions that need to follow the formulary [11].

Hospital "X" Padang City is the only hospital under the auspices of the Indonesian National Army under the Ministry of Defense. This hospital was established in 1878 [14]. (15) Hospital "X" is a type C hospital with the highest number of outpatients compared to other type C hospitals in Padang City. In 2021, the number of outpatients will reach 144,574 [15]. Besides serving official patients (TNI), this hospital also serves BPJS patients and non-BPJS general patients for up to hundreds of outpatient visits daily. The average number of outpatient pharmacy prescriptions each month is 9,000, or 300 to 350 drugs per day, in 2021 [16]. This number increased in early 2022, with an average monthly prescription of 10,500 or 400 to 450 medicines per day. This medication increase can impact hospital revenues if accompanied by good services because pharmaceutical services are one of the hospital's revenue centers [17,18]. However, this number of prescriptions can also have a negative impact if the high number of visits is not accompanied by good service and can result in patient complaints and a poor image of the quality of the hospital for patients [8].

The report on Quality Improvement and Patient Safety for the Fourth Quarter of 2021 Hospital shows that the waiting time for outpatient pharmacy prescription services needs to meet the standard, namely 30 minutes for non-compound m medicines and 60 minutes for compound medicines. The average waiting time for non-compound medication is 93.76% from the standard 100%, and prescription medicine concoctions are 94.67% from the standard 100% [19]. This result is in line with the results of initial observations made by researchers on Tuesday, February 15, 2022, on 15 prescription medicine prescriptions and five prescription medicine formulations which also showed that the waiting time for prescription medicine services did not meet the standards with the result that the average waiting time for prescription medicine services was 41.53 minutes or 41 minutes 32 seconds and the average waiting time for prescription medicine concoction services is 72.40 minutes or 1 hour 12 minutes 24 seconds. The long waiting time for services causes patient complaints [20].

Hospital "X" patient complaint data in 2021 shows that there are still patient complaints about the pharmacy installation. Objections to pharmacy installations ranked 2nd overall, with almost 20% of complaints (40 complaints) being complaints to outpatient pharmacy installations, especially about the length of waiting time for prescription services at outpatient pharmacy installations. The results of the interview with one of the pharmacists stated that many patients complained to the pharmacy staff at the medicine delivery counter regarding whether their medicines could be taken or not because they waited too long. The results of the initial observations of researchers also found that many patients complained, and these complaints were conveyed between patients by word of mouth because of the long waiting time for them to get the medicine. In addition, based on the results of initial interviews with 20 patients waiting for a prescription, 13 out of 20 patients, or 65% of patients, were dissatisfied with the service in terms of waiting time for prescription services. The existence of patient complaints will ultimately lead to negative perceptions in patients about benefits and reduce the quality of hospital services [8].

The results of an interview with the Head of the Pharmacy Installation of Hospital "X" were that one of the causes of the long waiting time for prescription services at this hospital is the accumulation of prescriptions at certain times or peak hours. The stacking of recipes usually occurs at 10.00 to 13.00 WIB and 14.30 to 17.00 WIB. This accumulation of medicines is caused by the concurrently starting the practice of polyclinic doctors so

that patients will also leave the polyclinic at the same time and visit the outpatient pharmacy at the same time. As many as 80% of outpatients receiving services at hospitals will get prescriptions and visit pharmacy installations to redeem medicine prescriptions [21]. Another reason that causes long waiting times for prescription services based on the results of an interview with one of the pharmacists is the shortage of human resources and the occurrence of medicine vacancies that require prior confirmation to the doctor for replacement of available medicines, which increases the time for processing prescriptions.

Results of initial observations stated that there was also a delay in prescription services during the day or during breaks for pharmacists, which at that time was busy. The delay occurs because the officers take turns taking breaks so that fewer pharmacists carry out prescription services. Based on the description of the problems above related to the unfulfilled waiting time for prescription services at the Hospital "X" is following the MSS Hospital, so the researchers are interested in conducting a study entitled "Analysis of Waiting Time for Prescription Services in the Outpatient Pharmacy Installation of Hospital "X".

Research Methods

Study Design

This research was designed with a mixed methods study with a sequential explanatory model, which combines quantitative and qualitative research sequentially. Quantitative analysis is obtained from observations and calculations of waiting time for prescription services by observing each stage of service. Waiting time is broken down into action components (value-added activities) and delay parts (non-value-added activities).

Population and Sample

The population is all outpatient prescriptions for a month, namely 10,227 prescriptions. Using the Lameshow formula, a total sample of 160 recipes was obtained. To avoid a shortage of research samples or the possibility of dropping out, the minimum number of pieces is added by 10% so that the model to be studied is 176 prescriptions with details of as many as 141 non-compounded medications and 35 compounded medications as follows:

Non-compounded medication :

$$\frac{8.181}{10.227} \times 176 = 141 \text{ recipes}$$

Compounded medication :

$$\frac{2.026}{10.227} \times 176 = 35 \text{ recipes}$$

The calculation is obtained from the number of prescriptions during January 2022, as many as 8,181 prescriptions for non-compounded medications and 2,046 drugs for compounded medications. The operational terms are shown in Table 1.

Hospital "X" has two types of pharmacy depots for outpatients: the official depot for general and general patients and the BPJS Depot for Insurance patients. Therefore, the sampling for each group is calculated as follows:

Official depot

Non-compounded medication :

$$\frac{1.276}{8.181} \times 141 = 22 \text{ recipes}$$

Compounded medication :

$$\frac{6.905}{8.181} \times 141 = 119 \text{ recipes}$$

BPJS depot

Non-compounded medication :

$$\frac{695}{2.076} \times 35 = 12 \text{ recipes}$$

Compounded medication :

$$\frac{1.331}{2.076} \times 35 = 23 \text{ recipes}$$

The inclusion criteria included 1) The prescriptions received during the study and 2) The prescriptions awaited by the patient. Exclusion Criteria included: 1) The prescriptions could not be redeemed/fulfilled for all items, 2) The emergency prescriptions that must be done immediately, and 3) The prescriptions belonging to the hospital employees and families

Instruments

The instruments in this study were 1) a digital watch or stopwatch that was used to calculate the waiting time for prescription services, 2) an observation sheet used to record waiting times for prescription services, 3) a calculator was used for calculations in calculations, 4) a camera was used to take pictures and documenting research activities.

Determination of informants in this study using

Table 1. Operational term

No	Variable	Operational Term	How to Measure	Measuring instrument	Measuring Scale	Measurement Results
1.	We are waiting time for non-compounded medicine services.	The length of time taken to non-compounded medication from the prescription received by the staff until the patient can acquire the medicine.	Observation and recording	Stopwatch and observation sheet	Ordinal	1. Met the standard if ≤30 minutes 2. Not met the standard if >30 minutes
2.	We are waiting time for compounded medication services.	The length of time taken to compounded medication from the prescription received by the staff until the patient can obtain the medicine.	Observation and recording	Stopwatch and observation sheet	Ordinal	1. Met the standard if ≤30 minutes 2. Not met the standard if >30 minutes

purposive sampling technique with selected information criteria, namely informants who know broadly and deeply about the things being studied and competent and reliable informants in providing information. Purposive sampling is a sample selection technique with specific considerations determined by the researcher based on the needs and objectives of the study [22]. Informants selected in this study include 1) Head of Pharmacy Installation (1 person), 2) Pharmacist (2 people), 3) Pharmaceutical Technical Personnel (2 people), and 4) Patients/Families of Patients (2 people).

Data management and Analysis

Quantitative data from the calculation of the waiting time is searched for the gap according to the operational definition, then compared with the standard value according to table 1. Qualitative data was collected using in-depth interviews, observation, and document review, which were analyzed by validating the data using triangulation of sources and methods. Data processing is done by reducing, displaying data, and drawing conclusions. Data analysis was carried out by thematic analysis. The data's validity was carried out using source and method triangulation techniques

Results and Discussion

Outpatient Pharmacy Service Situation Analysis

The results of in-depth interviews, observations, and a review of personnel documents in implementing prescription services at the outpatient pharmacy installation of Hospital "X" showed that the number of pharmacists and the pharmaceutical technician was by the requirements of type C Hospital. Still, the number

of pharmaceutical technicians was deemed insufficient because it was not by the number of prescriptions—lack of reading medicines and the absence of training to increase officers' ability. Judging from the policy, the hospital already has a formulary, but it has not been implemented optimally; the frequent writing of prescriptions outside the formula, hospital waiting time standards that have not been met, and SOP for medical services that are applied in the service but need improvement so that services are carried out effectively. Regarding facilities, the room is sufficient in quantity, and the equipment quality is enough in quantity but less in quality because there are still errors that improve service.

Based on interviews, and document review, it is shown that prescription observations due to a lack of workforce and computer and network constraints caused delays in reviewing prescriptions. Etiquette errors occur because etiquette data is manually inputted into HMIS, etiquette printing equipment often needs to be corrected, and lack personnel. Medicine shortages during the preparation of non-compound medication still often occur, so pharmacists must be confirmed again to the doctor while prescriptions continue to come in and eventually pile up. A lack of workforce causes the delay in the preparation of compounded medication because the medicine compounder also has the task of preparing the medicine so that the practice of the non-compounded drug is more available. Delays in labeling and packaging medicine are due to pharmacists, especially the dual day shift, simultaneously carrying out two stages of prescription services. Medicine delays also occur when the treatment that has been processed is not immediately handed over to the patient, and the patient asks for an explanation because of medical information.

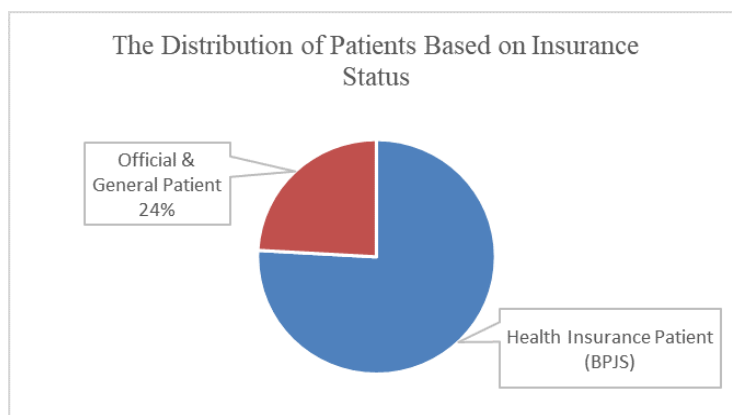


Figure 1. Distribution of respondents by insurance ownership

Based on the results of interviews, observations, and a review of the output documents, it shows that the waiting time for prescription medicine services and outpatient concoctions is not by the hospital standards because of the obstacles that occur in their implementation, namely lack of human resources, implementation of formulary policies is not optimal, equipment often errors, medication, and medicine delay.

Characteristics of Respondents

In [Figure 1](#) it can be seen that most of the respondents are BPJS patients and the rest (24%) are military service patients and general patients.

[Figure 2](#) shows that most of the respondents came from 3 polyclinics, namely Neurology (27%) and Interne (26%), and Pulmonology (22%).

Waiting Time for Medicine Services (Quantitative Results)

Waiting times for medical services are described based on non-compounded and compounded medication. There are two outpatient pharmacy service depots: a depot for BPJS patients and a depot for officers and general patients. [Table 2](#) shows that only 14.9% of the non-compound prescription samples meet the waiting time standard (≤ 30 minutes). Interestingly, only patients from Official Depot met the criteria, while BPJS Depot experienced non-standard waiting times. As many as 85% of prescription medicine services are not up to standard, of which almost 100% are in the services of BPJS insurance patients (Depo BPJS).

Based on [table 3](#), it is known that there are five stages in processing non-compounded medication, namely, 1) recipe review, 2) making medication label, 3) preparation

for non-compounded medication, 4) administration of medication label and packaging, 5) medicine hand over and giving information for patients. Between these stages, there is a delay between one phase and another. The average waiting time for compounded medication services was 84 minutes; most (85%) were delayed between one stage and the next.

[Table 4](#) shows the waiting time for compounded medication services needed to meet the standard for both Pharmacy Depot.

From [table 5](#), the distribution of compounded medication service time is based on the stages of service. There are five stages of compounded medication service, namely 1) review of prescriptions, 2) making medicine labels, 3) preparation of compounded medication, 4) labeling and packaging, and 5) delivery and provision of medical information. Between these stages, there is a delay between one step and another. The average waiting time for compounded medication services was 165 minutes; most of them came from the delay between one stage and the next stage, as many as 141 minutes (85%).

Distribution of Outpatient Pharmacy Service Time

Waiting time for outpatient prescription services at Hospital "X" experienced waiting times that were not following the hospital MSS with an average waiting time for prescription medicines, which was 84.19 minutes, and only 14.9% of prescriptions were according to the hospital MSS (≤ 30 minutes). Results like this with the research of Amaliany, et al (2018) that the average waiting time for medicines exceeds the hospital MSS [23]. The average waiting time for prescription medicine concoctions is 164.58 minutes, and there are no samples (0%) according to the hospital standard (≤ 60 minutes). Results like this

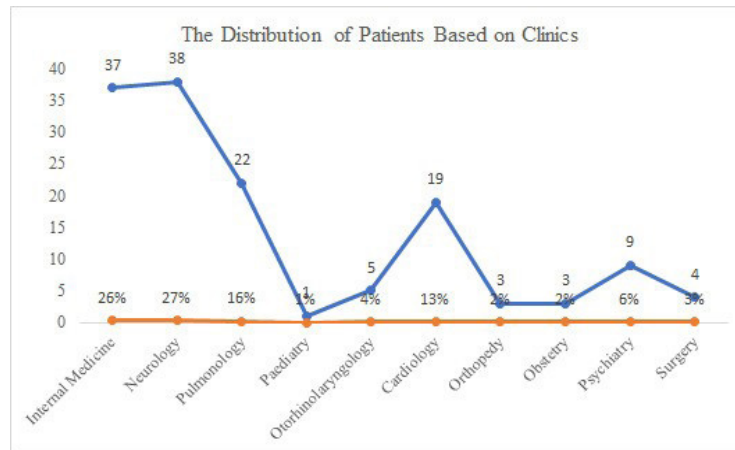


Figure 2. Distribution of patients by polyclinic

with the study of Faulin, et al. (2019) showed that the average waiting time for compounded medication exceeds the hospital standard [11].

Qualitative Results

Characteristics of Informants

Data was collected through in-depth interviews with seven informants who were determined through purposive sampling related to the waiting time for prescription services at the Outpatient Pharmacy Installation of Hospital "X" in 2022. Characteristics of informants can be seen in Table 6. Based on the table 6, it is found that the average informant is female with various ages and various educational backgrounds.

Causes of the Long Waiting Time for Outpatient Pharmacy

Input Component

Human Resources (HR)

Availability of Pharmacists

Prescription services are carried out by 16 staff of three pharmacists, 11 pharmaceutical technicians, and two administrative officers. The number of available teams is following the accreditation requirements for type C hospitals, but one in five informants stated that the number of pharmaceutical technicians still needed to be improved if the number of prescriptions exceeded 500. The shortage of pharmaceutical technicians was felt at the stage of making medicine labels because they had to input data, give tags, and pack the medicine, especially during the day shift. The following informants revealed this;

"In outpatient care, there are 3 pharmacists, there are 11

pharmaceutical technician, there are 2 administrative officers. Well, we'll calculate it according to type C hospital accreditation... if there's a shortage of staff it really depends on the patient... if there's progress of patients up to 500 and above, We have to add that, it will be a hassle in the patient waiting time service earlier" (Inf-1)

Pharmacy Skills

Three of the five informants stated that pharmacists' ability to carry out prescription services was excellent and fluent, starting from the ability to read prescriptions and memorize medicine layouts. However, two out of five informants stated that the pharmacists' knowledge was quite good, but sometimes some pharmacists asked questions about the doctor's writings to other staff. As stated by the informant follows:

"...that's enough, but sometimes there are some pharmacists who still ask the doctor's writing" (Inf-2)

Pharmacist Education/Training

Efforts to improve the skills of pharmacists are carried out through training both by hospitals and from outside parties, such as Pharmaceutical Wholesalers. Still, the movement has yet to be carried out routinely, and one in five informants stated that training is held at least once a year. Only some pharmacists also received the training because pharmacists on duty attended the training according to the type of training retained. This is explained in the following description of the interview results:

"Training was done... the pharmaceutical company gave training on how to use our new preparations... the training is not routinely

Table 2. The waiting time for non-compounded medication based on depot

No	Depo Type	Met The Standard (≤ 30 minutes)		Not Met the Standard (>30 minutes)		Number of Recipes
		Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)	
1.	Official Depot	21	95,5	1	4,5	22
2.	BPIJS Depot	0	0	119	100	119
	Total	21	14,9	120	85,1	141

held but at least once a year, but I don't know how many times it has been"(Inf-2)

Based on observations, it is known that the number of pharmacists on duty is not sufficient because there are pharmacists who do double work, namely at the stage of preparing medicines and giving labels and packaging of medication on Monday, Wednesday, and Friday during the morning shift and on Monday to Saturday when day shift. In addition, pharmacists in the e-ticket-making and medicine preparation departments often ask other pharmacists about the doctor's writing on the prescription, which prolongs the service process. The document review results show that there are 16 pharmacists in outpatient pharmacy installations, namely three pharmacists, 11 Pharmaceutical Technicians, and two administrative officers.

The results showed that there were 16 pharmacists involved in outpatient prescription services, consisting of 3 pharmacists, 11 pharmaceutical technicians, and two administrative staff, but only 13 were on duty daily. This number has met the requirements for type C Hospitals. Still, the number of pharmacy technicians is deemed insufficient because it needs to follow the number of prescriptions, so there are still workers who do double work, which results in high workloads and has an impact on decreasing the quality of medical services. In addition, in terms of quality, some pharmacists need a better ability to read doctors' prescriptions, which causes them to ask other pharmacists, in line with the research of Purwandari et al. (2017) that the quantity and quality of HR factors are a factor in the length of waiting time for medicine services [6].

Policy

Hospital Formulary

All the informants stated that several doctors often wrote prescriptions outside the hospital formulary, so pharmacists had to be confirmed and communicated to doctors to replace medicines outside the formula. The

reason for the discrepancy between prescription writing and the procedure is that there are no substitutes for prescription medicine that have the same type or function, and the strength of the medication prescribed is different from those listed in the formulary. This is explained in the following description of the interview results:

"Often, if there is confirmation to the doctor... usually the doctor wants to change the prescribed medicine because he says it is different"(Inf-2)

Standard Policy for Waiting Time for Hospital Prescription Services

Hospital "X" already has a written policy regarding patient waiting for time standards listed in the Standard Operating Procedures (SOP) which refers to the hospital waiting for time standard released by the Ministry of Health. What is set is 15 minutes for non-compounded medication and 30 minutes for compounded medication, and all informants stated that these standards still need to be met by the hospital. The reason for not achieving the middle is due to the manual system, so data must first enter the SIMRS, prescriptions at certain hours, and lack of human resources. This is following the following informants' descriptions:

"Yes, if the waiting time is not wrong, Mr. how many minutes, yes, it's just not achieved. because this manual system will definitely not be achieved no matter what the story is..."(Inf-1)

Standard Operating Procedure

The pharmacy department prepares Standard Operating Procedures (SOP) for prescription services with the head of the hospital's approval based on the hospital's decision regarding the policy of pharmaceutical services and medicine use. All informants stated that the SOP had been socialized by the pharmacy installation to all pharmacy staff every time it was revised. However, one in five informants noted that the current SOP had

Table 3. The distribution of non-compounded medication service time based on stages

No	Process	Average Delay Before Action (Minute)	Average Process Time (Minute)	Averages Waiting Time (Minutes)
1	Recipe Review	13,09	3,87	16,96
2	Making Medication Label	18,92	2,93	21,85
3	Preparation of non-compounded medication	7,57	2	9,57
4	Administration of Medication Labels and Packaging	17,58	2,45	20,04
5	Medicine handover and giving information to patients	14,01	1,76	15,77
Total (Minute)		71,17	13,02	84,19
		85%	15%	100%

not been revised since 2019, so SOP socialization has not been carried out since then. Although the SOPs are not routinely socialized, according to all informants, prescription services are still carried out according to the SOP because of the supervision of the implementation of SOPs carried out by pharmaceutical installations every day by looking directly or through Closed Circuit Television (CCTV) if not in the room. If there is deviant work, then the head of the installation will reprimand the pharmacist who violates it.

The results showed that writing prescriptions that were not following the formulary often occurred, requiring pharmacists to contact the doctor to confirm medicine replacement so that the following medication was delayed. This is in line with Maemunah's research (2019) that the incompatibility of doctor's prescriptions with the formulary requires pharmacists to ask for and readjust prescriptions which affects waiting times [24].

The results also show that the service has been carried out according to the SOP, but the waiting time for medical services still exceeds the hospital standard. This result is different from the research of Karuniawati et al. (2016) that prescription services carried out according to SOPs cause waiting times for prescription services according to hospital standards [25]. This is because there are still delays in administering medicines to patients in the implementation of services. After all, the prescriptions are stacked first and then handed over to the patient at once. Although the SOP regarding this matter needs to be regulated in detail, there should be no such delay in providing prescription services. Therefore, pharmaceutical installations should update their SOP regarding this matter.

Facilities

The equipment is sufficient in quantity but not in

quality because of several equipment errors. The results showed that the room was satisfactory and adequate, and the layout followed the service flow, so it did not affect the waiting time. At the same time, the equipment was sufficient in quantity but needed to be more adequate in terms of quality because errors often hinder service and cause service waiting times longer. In line with Purwandari et al. (2017) research, damaged equipment affects the waiting time for prescription services [6].

Process Components

Recipe Review Process

All informants stated that the prescription assessment had used Hospital Management Information System (HMIS). Prescription review is carried out by looking at the completeness of patient data and checking requirements, such as duplication, route, medicine name, and medicine strength, along with looking at the availability of the prescribed medicine; if there is an empty medicine, it is confirmed to the doctor first. After that, if a prescription is named for a month, then the status of the treatment must first be seen as whether the treatment can be given according to BPJS rules. Based on interviews with the Head of the Pharmacy Installation and pharmacists that there are often problems with medication for a month because patients receive treatment prematurely, so when reviewing the prescription, it is known that the previous month's medication has not run out and medicine for the next month cannot be given according to BPJS rules so that prescribed medications can only be given for a week. The patient was asked to return for treatment a week later.

Constraints when reviewing prescriptions that affect waiting times, namely lack of human resources when recipes accumulate, computer errors, and network errors. The solution is to help pharmacists who conduct prescription

Table 4. The waiting time for compounded medication based on depot

No	Depo Type	Met The Standard (≤ 60 minutes)		Not Met the Standard (>60 minutes)		Number of Recipes
		Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)	
1.	Official & General Patient	0	0	12	100	12
2.	Insurance Patient (BPJS)	0	0	23	100	23
Total		21	14,9	120	85,1	141

assessments during peak hours, and prescriptions pile up. Based on observations, it is known that the evaluation is carried out manually to see the completeness of patient administration requirements and using HMIS to see medicine availability and medicine status for a month. Constraints that prolong the service process, namely computer and network errors, cause the assessment to be incomplete. Based on the document review, it shows that there is an SOP for reviewing the accuracy of prescriptions before administration that regulates elements that need to be studied, an SOP for handling in the event of medicine unavailability at the hospital that holds procedures when prescribed medications are not available, and SOP for completing prescriptions are not legible/unclear.

The review of recipes was carried out according to the SOP. Still, there were often delays because the assessment of recipes was only carried out by one person, causing an accumulation of recipes, in line with the research of Purwanto et al. (2015) that the cause of the long waiting time is the lengthy screening process [17]. In addition, the delay is also affected by computer and network constraints, which causes the service to be temporarily suspended until the computer and network are back on track. In line with research by Roselina, et al. (2021) that software and hardware constraints will slow down medicine waiting time [26].

Making Medication Label

Based on interviews with five informants, it was found that medication labeling was done manually by typing the rules for medication use directly on the computer, then searching for the medication. This contributes to long waiting times. Medication data that is manually typed into the computer consists of the name of the drug along with the dosage, the amount of the medication, and the rules for using the medicine, then it is printed on the medication label paper. The printed medication labels were only white, while the blue labels were handwritten during the labeling

and medication packaging stages.

Obstacles in making medication labels that affect waiting time include manual medication label data input, lack of human resources, and damaged label printers. Based on the results of observations, it was found that only one person made drug labels, while there were two computers and machine tools for printing medication labels. This results in one other device being idle or rarely used. Based on the document review, it is known that there is an SOP that regulates medication labeling procedures and things that must be listed on the label. Still, there needs to be an SOP to reduce the waiting time for medication services.

The results showed that the manufacture of label medication had been carried out according to the SOP but often experienced delays because there was only one officer while the prescriptions that had to be inputted kept coming, causing the medications to pile up. The hospital has provided two units of computers to support services at this stage, but due to limited personnel, only one computer is actively used. This result is in line with research by Runggadini et al. (2021) that the shortage of input personnel results in the accumulation of prescriptions and delays in service [27].

Labeling and Packaging of Medications

Labeling and medication packaging are carried out by checking the medication's completeness according to the prescription. The pharmacist must first take medicine according to the drug, then put each treatment in a packet, attach the medicine label according to the rules for use, and put all the medications together with the prescription. All informants stated that the constraint that contributed to the waiting time at this stage was the shortage of packers, especially during the afternoon shift when there were many concurrent recipes.

Based on the document review, it is known that there are SOPs for outpatient prescription services and SOPs for medication labeling that regulate the procedures for

Table 5. The distribution of compounded medication service time based on stages

No	Process	Average Delay Before Action (Minute)	Average Process Time (Minute)	Averages Waiting Time (Minutes)
1	Prescription Review	18,45	3,44	21,89
2	Making Medication Label	24,56	3,94	28,44
3	Preparation of Compounded medication	66,30	12,08	78,38
4	Administration of medication labels and Packaging	17,41	2,46	19,87
5	Delivery and Provision of Medicine Information	14,18	1,81	15,99
Total (Minute)		140,84 (85%)	23,74 (15%)	164,58 (100%)

administering labels and drug packaging. However, based on observations, it is known that pharmacists during the morning shift on Monday, Wednesday, and Friday and the afternoon shift every day also serve as medication preparation technical staff. Pharmacists always double-check the suitability of drugs with prescriptions and also work as pharmacy technicians.

The preparation of non-compound medications had been carried out according to SOP, but there were still frequent medicine shortages, causing pharmacists to have to confirm with the doctor and increasing the delay in processing prescriptions afterward, and have an impact on medicine delivery because they have to explain to patients that there is the medicine that is not available. This is in line with the research by Faulin et al. (2019) that medicine availability requires pharmacists to call doctors to confirm and explain medicine vacancies to patients during medicine delivery [11].

The preparation of the compounded medication was carried out according to the procedure. Still, there were obstacles, namely the lack of personnel in the dispensing section of the medicine because concurrently, the task of preparing the finished mixture on the morning shift and together the task of preparing the finished medicine and giving labels and packing the treatment on the afternoon shift so that the preparation of the drug was a concoction postponed. This is in line with Septini's research (2012) that prescription medicine concoctions require more time because medicine compounding is carried out by one pharmaceutical technician, which doubles as packaging [28].

Labeling and packaging of medication had been carried out according to the SOP, but there needed to be more personnel, so the staff had to do double duty. Duties occur during the afternoon shift, where the pharmacist also has the task of preparing medicines which causes

the need to do two stages at once, and there is a buildup of prescriptions. In line with the research of Utami and Rumita (2016), one of the causes of the length of service time is that employees have a double duty and carry out two stages of service at once, which causes bottlenecks or prescription accumulation to occur frequently [29].

Submission and Provision of Medication Information Back Examination

Before the medication is handed over, the pharmacy staff conducts another check to ensure the completeness of the medicine is following the prescription and the conformity of the labels on the packaging with the medication. During the implementation, errors were still found, namely a medication shortage. Hence, the medicines had to be taken first and reminded the pharmaceutical staff had to prepare the drugs, give the labels, and pack the medication to be more careful at work.

Provision of Medication Information

Before the medication is dispensed, the pharmacy staff reconfirms the patient's identity with the drug recipient by asking for the patient's name, date of birth, and polyclinic origin. If the drug recipient does not know the patient's identity, the pharmacy staff asks for the patient's BPJS card to see the patient's identity. After that, the pharmacy staff will hand over the medicine and provide information regarding the use of the medication and how to use the drug. Based on interviews with patients, it is known that pharmacists can answer the questions they ask, and pharmacists are willing to repeat medication information that has been given and are eager to rewrite the use of medication based on the disease.

Deadline for Medication Collection

Suppose the patient summoned is unavailable at the

Table 6. Characteristics of Informants

No.	Position	Gender	Age (Years)	Educational Background
1.	Head of the pharmacy	Male	54	Pharmacist
2.	Pharmacist	Female	34	Pharmacist
3.	Pharmacist	Female	26	Pharmacist
4.	Pharmaceutical Technician	Female	25	Diploma in Pharmacy
5.	Pharmaceutical Technician	Female	25	Diploma in Pharmacy
6.	Patient	Male	60	No school
7.	Patient	Female	52	Elementary School

time of medication delivery. In that case, the hospital will allow the patient to take the medicine within two days for a week's treatment and one week for a month's prescription. However, the treatment is not taken within that period. In that case, the pharmacy staff can still give the medicine until before the medication is returned. When delivering the prescription, the pharmacist reminds me that the grace period for taking medicine is only two days.

Patient Complaints

During the medication delivery, the pharmacist received a complaint that the patient insisted on getting medicine for a month which could not be given based on BPJS rules, medicine shortages, and time constraints. Based on the results of observations, it is known that when the medication is finished, the pharmacy staff always double-checks the medicines with a prescription so that there are no medication administration errors. When the drug is packed, the treatment does not immediately hand the antidote to the patient, but the mixture is first stacked in a basket of up to 15-25 medicines. The medicine is handed over to the patient by dialing the patient's queue number. Then, many patients asked for medication information clarification and questions regarding the use of the medication. The service had to be temporarily stopped several times because they served taking medication on different days. The document review shows an SOP for outpatient prescription services that regulate matters that must be rechecked before the drug is dispensed and at the time of medication delivery, accompanied by patient education.

The delivery of medication information was carried out according to the procedure. Still, there were often delays because the finished medicines were not delivered directly to the patient but were piled up first until 15-20 new prescriptions were given at once. This is in line with

Berti's research (2019) that the long waiting time is caused by the finished medicine not being delivered directly to the patient but waiting for several prescriptions to be collected before being handed over to the patient at once [30].

Output Component

Waiting time for medical services at pharmacy installations start from the prescriptions received by pharmacists until the medicines received by the patients. From the calculation, they still needed to meet the hospital Standard. The waiting time for outpatient medicine services is 1-2 hours. The medicine waiting time is quite fast in the morning, but when at noon, it can be almost 2 hours. This condition makes the patient less satisfied.

Waiting times and not the following standard are caused by the accumulation of prescriptions due to the recipe arrival simultaneously at the spot time, lack of pharmacy staff, data on drugs still must be inputted manually to HMIS, and medication vacancies so it must be confirmed to the doctor previously, and medicine that is ready not directly delivered to the patient. Based on observations, it is known that the waiting time for prescription services is still quite long; the average patient waits up to 1 hour 24 minutes 11 seconds for prescription medicines and 2 hours 44 minutes 35 seconds for prescription medicine concoctions. This was caused by a shortage of personnel, especially in the stages of making e-tickets and giving labels and packaging of medicine which caused a buildup of prescriptions, doctors wrote prescriptions outside the hospital formulary, equipment made several errors, and medication was void so that the doctor had to confirm first, and delays. At the time of medicine delivery, the prescriptions are stacked first and then handed over to the patient. Based on the document review, it shows that the results of the evaluation of waiting time for outpatient prescription services in the

fourth quarter of 2021 did not meet hospital standards, namely 93.67% of the 100% standard for prescription medicine prescriptions and 94.67% of the 100% standard for prescription medicine prescriptions.

The waiting time for prescription medicine services and outpatient concoctions differed from the hospital MSS. The quantitative study showed that the average pharmaceutical service was 84.19 minutes for non-compounded medication and 164.58 minutes for compound medication. Many factors related to the long waiting time were the shortage of staff, accumulation of prescriptions, prescriptions outside the formulary, error equipment, and medicines that needed to be prepared to be delivered directly to patients. This result is in line with the research of Yunus et al. that the waiting time for prescription medicine services and prescription medicines is different from the hospital MSS, which is 35.62 minutes for prescription medicines and 61.27 minutes for prescription medicines [31].

The waiting time in pharmacies still needs to be solved in several hospitals in Indonesia. Margiluruswati and Irmawati (2017) research stated that the waiting time for prescription services at the Outpatient UPF of RSUD Bhakti Dharma Husada for non-concoction recipes was 1 hour 26 minutes 36 seconds and concoction recipes 1 hour 02 minutes 32 pieces. This is caused by several factors, which in each recipe has a different cause. The long waiting time for non-concoction recipe services is caused by the manual writing of labels and the delay from the verification process to the data entry process because the verification process is carried out faster than the data entry process. Whereas in the service of concoction prescriptions, it is caused by supporting equipment that is carried out when inserting medicines into capsules using simple tools [32].

Research by Astiena, et al. (2019) related to a survey of minimum service standards for waiting time and customer satisfaction at the Pharmacy Installation of a Hospital in Padang, also found that the waiting time needed to meet the hospital standard. The average waiting time at that hospital was 74 minutes for non-compounded medication and 88 minutes for compounded medications [12]. Furthermore, based on previous research conducted by Rizal et al. (2017) at the Outpatient Pharmacy Installation of Hospital "X" shows that there are still complaints from pharmacy patients against pharmaceutical services in terms of long queue times, and this affects patient satisfaction with the dimensions of responsiveness, assurance, empathy, and direct evidence [13].

Hospital management should be able to reduce

waiting time for outpatient pharmacy services based on several underlying causes. Efforts that can be taken come from pharmaceutical services' input and process side. From the input side, improvements can be made by fulfilling the need for pharmaceutical personnel and completing facilities such as equipment, policies, and information technology. From a process standpoint, management should encourage the improvement of work processes according to standards. It can be done in terms of reviewing prescriptions, optimizing administrative procedures, and providing medicines education to patients. Therefore, it is hoped that the waiting time for outpatient pharmacy services can be reduced. These need full consideration from hospital management and pharmacy staff because outpatient pharmacy services are the main gate of community assessment of the hospital's image.

Research Limitation

The research design was a mix-method. The findings of quantitative data were explained by the findings of qualitative data which is the strength of this research. Behind it all, this research was descriptive explorative in nature. It is needed a quantitative analytic research in the future, by examining several variables that cause the long waiting time that have been found in this study.

Conclusion

The average waiting time for outpatient pharmacy services at Hospital "X" did not meet the standards. The causes of long waiting times were the need for pharmacists, writing prescriptions outside the formulary, error equipment, and ready medicines that are not given directly to patients but are piled up first. It is expected that the pharmacy should rearrange the distribution of the pharmacists in each shift. The regular socialization of the hospital formulary should be done with the doctor. Moreover, periodic and continuous equipment maintenance should be carried out, besides making more effective work procedures related to delivering and providing medical information.

Acknowledgment

We want to thank the leadership and staff of the Faculty of Public Health, Andalas University, and The Head and Staffs of Hospital "X" Padang in facilitating this research.

References

- [1]. U. Fauzia, E. P. Setiawati, and E. S. Surahman, "Analysis of Waiting Time for Filing Prescriptions in Hospital Pharmacy," *Pharmacol. Clin. Pharm. Res.*, vol. 2, no. 3, 2017, DOI: 10.15416/pcpr.v2i3.16226.
- [2]. J. Sun et al., "Reducing waiting time and raising outpatient satisfaction in a Chinese public tertiary general hospital-an interrupted time series study," *BMC Public Health*, vol. 17, no. 1, pp. 1–11, 2017, DOI: 10.1186/s12889-017-4667-z.
- [3]. M. A. Bader M. Al Sadi, Zakari Harb, Faris El-Dahiyat, "Improving patient waiting time: A quality initiative at a pharmacy of a public hospital in United Arab Emirates," *Int. J. Healthc. Manag.*, vol. 14, no. 3, 2021.
- [4]. N. Laeliah and H. Subekti, "Waktu Tunggu Pelayanan Rawat Jalan dengan Kepuasan Pasien Terhadap Pelayanan di Rawat Jalan RSUD Kabupaten Indramayu," *J. Kesehat. Vokasional*, vol. 1, no. 2, pp. 102–112, 2017, doi: 10.22146/jkesvo.27576.
- [5]. W. H. Organization, *Delivering quality health services : a global imperative for universal health coverage*, no. July. 2018.
- [6]. N. Purwandari, A. Suryoputro, and S. Arso, "Analisis Waktu Tunggu Pelayanan Resep Pasien Rawat Jalan di Depo Farmasi Gedung MCEB Rs Islam Sultan Agung Semarang," *J. Kesehat. Masy.*, vol. 5, no. 1, pp. 103–110, 2017.
- [7]. Permenpan-RB, "Peraturan Menteri Pendayagunaan Aparatur Negara dan Birokrasi Republik Indonesia Nomor 14 Tahun 2017 Tentang Pedoman Penyusunan SurveiKepuasan Masyarakat Unit Penyelenggara Pelayanan Publik," Jakarta, 2017. doi: 10.1016/0014-4827(75)90518-2.
- [8]. H. D. Arini, A. N. Y, and A. Suwastini, "Waktu Tunggu Pelayanan Resep di Depo Farmasi RS X," *Lomb. J. Sci.*, vol. 2, no. 2, pp. 40–46, 2020.
- [9]. F. Aryani, H. Husnawati, S. Muharni, M. Liasari, and R. Afrianti, "Analisa Kepuasan Pasien Rawat Jalan Terhadap Kualitas Pelayanan Di Instalasi Farmasi Rumah Sakit Islam Ibnu Sina Pekanbaru," *Pharm. J. Farm. Indones.*, vol. 12, no. 01, pp. 101–112, 2015.
- [10]. I. P. Sari, "Evaluasi Standar Pelayanan Minimal Waktu Tunggu Pelayanan Resep Rawat Jalan di RSUD Dr. H. Koesnani Bondowoso," Universitas Jember, 2018.
- [11]. D. S. Faulin, B. Hartono, and A. Wahyudi, "Analisis Waktu Tunggu Pelayanan Resep Pasien JKN Rawat Jalan di Unit Farmasi RS Prof. Dr. Tabrani Pekanbaru Tahun 2018," *J. Akrab Juara*, vol. 4, no. 3, pp. 47–64, 2019.
- [12]. A. K. Astiena, N. I. Lipoeto, M. A. Surya, D. E. P. Andima, and F. Azmi, "Laporan Survey Standar Pelayanan Minimum Waktu Tunggu dan Kepuasan Pelanggan," Padang, 2019.
- [13]. R. Rizal, M. Suardi, and Y. Yuliharsi, "Pengaruh Kualitas Pelayanan dan Kepuasan Pasien Peserta BPJS Kesehatan sebagai Mediasi terhadap Loyalitas Pasien," *J. Sains Farm. Klin.*, vol. 3, no. 2, p. 108, 2017, doi: 10.29208/jsfk.2017.3.2.112.
- [14]. Rumah Sakit Tk. III dr. Reksodiwiryono, *Profil Rumah Sakit Tk. III dr. Reksodiwiryono Padang Tahun 2022*. Padang, 2021.
- [15]. Badan Pusat Statistik, "Kota Padang Dalam Angka 2020," Padang, 2020.
- [16]. Rumah Sakit Tk. III dr. Reksodiwiryono, "Laporan Jumlah Kunjungan Pasien Instalasi Farmasi Rawat Jalan Tahun 2021 Rumah Sakit Tk. III dr. Reksodiwiryono Padang," Padang, 2022.
- [17]. H. Purwanto, Indiati, and T. Hidayat, "Faktor Penyebab Waktu Tunggu Lama di Pelayanan Instalasi Farmasi Rawat Jalan RSUD Blambangan," *J. Kedokt. Brawijayajaya*, vol. 28, no. 2, pp. 159–162, 2015.
- [18]. F. Amirudin and Koesnadi, "The Effect of Drug Types, Facility, and Infrastructure against the Waiting Times at the Pharmacy Installation of Caruban General Hospital," *J. Qual. Public Heal.*, vol. 4, no. 2, pp. 204–210, 2021, DOI: 10.30994/jqph.v4i2.211.
- [19]. Rumah Sakit Tk. III dr. Reksodiwiryono, "Laporan Peningkatan Mutu dan Keselamatan Pasien Rumah Sakit April Tahun 2022," Padang, 2022.
- [20]. I. Nurjanah, F. R. . Marais, and S. Engkeng, "Hubungan Antara Waktu Tunggu Pelayanan Resep Dengan Kepuasan Pasien di Apotek Pelengkap Kimia Farma BLU Prof. Dr. R.D. Kandou Manado," *Pharmacon*, vol. 5, no. 1, pp. 362–370, 2016, doi: 10.35799/pha.5.2016.11379.
- [21]. S. D. Insani, L. Hakim, and K. Widyaningrum, "The Effect of Outpatient Pharmaceutical Service Quality on Patient Loyalty Through Patient Satisfaction of Karsa Husada General Hospital Batu," *J. Apl. Manaj.*, vol. 15, no. 4, pp. 616–623, 2017, doi: 10.21776/ubjam2017.015.04.08.
- [22]. Sugiyono, *Metode Penelitian Pendidikan : Pendekatan Kuantitatif, Kualitatif dan R&D*. Bandung: CV. Alfabeta, 2015.
- [23]. A. Amaliany, R. Hidana, and H. Maryati, "Gambaran Waktu Tunggu Pelayanan Obat Instalasi Farmasi Rawat Jalan Rumah Sakit Umum Daerah Kota Bogor Tahun 2018," *J. Mhs. Kesehat. Masy.*, vol. 1, no. 1, pp. 1–7, 2018.
- [24]. N. Maemunah, "Faktor yang Mempengaruhi Lama Pelayanan Obat di Instalasi Farmasi Rumah Sakit Islam Malang," *J. Keperawatan Florence*, vol. 4, no. 1, pp. 1–6, 2019.
- [25]. H. Karuniawati, I. G. Hapsari, M. Arum, A. T. Aurora, and N. A. Wahyono, "Evaluasi Pelaksanaan Standar Pelayanan Minimal (Spm) Farmasi Kategori Lama Waktu Tunggu Pelayanan Resep Pasien Rawat Jalan Di Rsud Kota Salatiga," *Kartika J. Ilm. Farm.*, vol. 4, no. 1, 2016, doi: 10.26874/kjif.v4i1.53.
- [26]. E. Roselina, A. Nurfikri, and O. Aulia, "Evaluasi Layanan Resep Rawat Jalan Di Instalasi Farmasi: Waktu Tunggu Dan Kendala," *J. Vokasi Indones.*, vol. 9, no. 2, pp. 56–63, 2021, doi: 10.7454/jvi.v9i2.257.
- [27]. S. A. Runggandini, L. Indrawati, and T. Suratmi, "Waktu Tunggu Pelayanan Obat Jadi di Instalasi Farmasi Unit Rawat Jalan (Studi Kasus di RS X Bekasi Tahun 2020)," *J. Manaj. dan Adm. Rumah Sakit Indones.*, vol. 5, no. 2, pp. 194–206, 2021.
- [28]. R. Septini, "Analisis Waktu Tunggu Pelayanan Resep Pasien Askes Rawat Jalan di Yanmasum Farmasi RSPAD Gatot Soebroto Tahun 2011," Universitas Indonesia, 2012.
- [29]. O. W. Utami and R. Rumita, "Analisa Beban Kerja Pegawai Dan Usulan Perbaikan Sistem Antrian Pada Instalasi Farmasi Depo Askes Rsud Dr Soeselo Slawi," *Ind. Eng. Online J.*, vol. 5, no. 4, 2016.
- [30]. N. Berti, "Analisis Waktu Tunggu Pelayanan Obat di Instalasi Farmasi RSUD dr. Rasidin Padang Tahun 2019," Universitas Andalas, 2019.
- [31]. Muhammad Yunus, Wiryanto, and Yuandani, "Evaluation of Waiting Time for Outpatient Prescription Services at the Pharmacy Installation at the Universitas Sumatera Utara Hospital," *Indones. J. Pharm. Clin. Res.*, vol. 3, no. 2, pp. 54–61, 2021, DOI: 10.32734/idjpcrv3i2.4430.
- [32]. P. Margiluruswati and L. I. Irmawati, "Analisis Ketepatan Waktu Tunggu Pelayanan Resep Pasien Jkn Dengan Standar Pelayanan Minimal Rumah Sakit 2017 (Studi Di UPF Rawat Jalan Rsud Bhakti Dharma Husada) Pipintri," *J. Manaj. Kesehat. Yayasan RS. Dr. Soetomo*, vol. 3, no. 1, pp. 115–126, 2017..



Copyright © 2022 The author(s). You are free to share (copy and redistribute the material in any medium or format) and adapt (remix, transform, and build upon the material for any purpose, even commercially) under the following terms: Attribution — You must give appropriate credit, provide a link to the license, and indicate if changes were made. You may do so in any reasonable manner, but not in any way that suggests the licensor endorses you or your use; ShareAlike — If you remix, transform, or build upon the material, you must distribute your contributions under the same license as the original (<https://creativecommons.org/licenses/by-sa/4.0/>)