Waiting Time for Prescription Services on Social-Health-Insurance Patients at X Kendal Hospitals: Why Takes Too Long?

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ABSTRACT

Background: Excessive waiting time for prescription services at the pharmacy can negatively impact a hospital's reputation. Exceeding the minimum service standard for prescription service waiting time may indicate bottlenecks in the process, leading to inefficient service delivery.

Objectives: This research aimed to determine the average waiting time for the prescription services for social health insurance patients and identify external and internal factors that prolong the prescription process.

Methods: The research employed a mixed-method approach using an explanatory sequential design. Quantitative data was collected by measuring prescription waiting times from the submission of the prescription sheet by the patient to dispensing medicine to the patients. Qualitative data was gathered through in-depth interviews.

Results: The results of the analysis of 100 prescriptions (38 compound and 62 non-compound) showed that the average waiting time for compound prescriptions was 50.42 minutes and 41.03 minutes for non-compound prescriptions. The longest stage in compound and non-compound prescription processes was prescription review, averaging 19 minutes from all outpatient clinic prescriptions sampels. Results of in-depth interviews revealed that incomplete prescription information by doctors, the total number of medicine items, distraction from patients, inadequate staff skills, and a shortage of prescription pharmacists contributed to delays in prescription services.

Conclusion: Duration of prescription services for social health insurance that exceeded the standard time was observed in non-compound prescriptions, with bottlenecks occurring during the prescription review. Therefore, pharmacy management should evaluate and improve prescription services to enhance the efficiency of service time.

Keywords: Hospital-Pharmacy; Prescription Services; Waiting Time

INTRODUCTION

Hospitals are facing increasingly intense competition, not only in terms of examination technology but also quality services.[1] Hospitals compete with one another to gain public trust by offering efficient and high-quality services, as this will determine the hospital's reputation. Building a hospital's initial reputation is important for hospital managers because people's perceptions of service quality will determine their decision to use healthcare services.[2,3,4] One crucial aspect determining a hospital's initial reputation is the patient's

waiting time to receive services because patient waiting time is a potential component that can cause patient dissatisfaction. Patients often spend more time waiting for services than they do receiving services. It can have a negative impact on the hospital's service quality reputation, which could be perceived as poor.[3,5] Patients may perceive a hospital's service negatively if their pain levels do not improve, the queues are long, and they experience unfriendly behavior from the staff.[6] The length of patient waiting time can also have a negative impact on patient health, causing anxiety, service inefficiencies, and a loss of valuable time for patients or their families. Therefore, hospitals should prioritize addressing the issue of waiting time.[7]

Prescription waiting time is a crucial indicator of hospital service quality, as mandated by the Indonesian Ministry of Health's Decree No. 129/Menkes/SK/II/2008. This indicator stipulates patients' time to receive their medications from the pharmacy. The standard waiting times for non-compound and compound prescriptions are 30 minutes and 60 minutes, respectively.[8] According to the 2019 Technical Guidelines for Pharmaceutical Services in Hospitals, the medication prescription process comprises six key steps: prescription acceptance, prescription review, medication availability check, medication preparation, medication review, and medication dispensing.[9] Existing research suggests that not all hospitals effectively manage prescription waiting times. A 2017 study at RSUD Bhakti Dharma Husada revealed that the average waiting times for non-compound and compound prescriptions were 86 minutes and 62 minutes, respectively, exceeding the stipulated standards.[10] Another study at Atma Jaya Hospital in 2018 attributed prolonged waiting times to factors such as prescription backlogs, underdeveloped hospital information systems, and ineffective communication between pharmacy staff and other hospital personnel.[11] Factors influencing prescription waiting times include medication unavailability, inadequate patient categorization, handling prescriptions from all departments, unclaimed prescriptions, and limited pharmacy space.[12]

X Hospital in Kendal Regency is a private general hospital that accepts social health insurance patients. A single outpatient pharmacy installation serves all prescriptions from outpatient clinics. The pharmacy installation operates 24 hours a day, with the critical service period being in the afternoon from 2:00 PM to 8:00 PM. The number of outpatient prescriptions the pharmacy installation receives is significantly higher for social health insurance patients than general patients. In 2021, there were 22,895 (79.7%) social health insurance patient prescriptions and 5,827 (20.3%) general patient prescriptions. This indicates that the proportion of social health insurance outpatient prescriptions is approximately four times higher than that of general patient prescriptions at this hospital. Therefore, this study focused on social health insurance outpatient prescriptions.

The minimum service standard for prescription waiting time in X Hospital Kendal is based on Ministerial Decree No. 129/Menkes/SK/II/2008. The standard for non-compound prescription waiting time is ≤30 minutes, and compound prescription waiting time is ≤60 minutes, with a hospital quality achievement target of 95% each month. Based on the data on the achievement of the minimum service standard (MMS) indicator for prescription waiting time from January 2020 to March 2022, there was a consistent fluctuation in the results. The findings demonstrate that a considerable number of outpatient prescription services did not meet the MMS target each month, both for compound and non-compound prescriptions. The highest point of MMS achievement for compound prescriptions was in March 2020 (99.62%) and non-compound prescriptions in June 2020 (97.20%), while the lowest point of MMS achievement for compound prescriptions was in April 2021 (71.58%) and non-compound prescriptions in March 2021 (58.40%). The fluctuating MMS waiting time achievement indicates that pharmacy management has not been able to manage the timeliness of drug services according to hospital standards. In addition, based on a direct observation, the prescriptions submitted by the patients were not immediately followed up by the officers. The prescriptions took about 10-16 minutes, and then the officers followed up individually. This certainly was lengthy, resulting in a significant delay for patients to receive their medication. Based on the survey results, 5 out of 6 patients stated that the outpatient social health insurance prescription service was slow. The amount of time they spent waiting for medication was around 41 to 69 minutes.

Considering the fluctuating achievement of the minimum service standard (MMS) for prescription waiting times, patient complaints, and delayed prescription processing by staff, the authors were motivated to conduct further research on the waiting time for outpatient social health insurance patient prescription services at the hospital pharmacy of X Hospital in Kendal Regency. The objectives of this study were to determine the average waiting time for outpatient social health insurance patient prescription services, identify the bottleneck process in the prescription services that might contribute to the longest waiting time, and identify the obstacles that might lead to prolonged waiting time for outpatient social health insurance patient prescription services. A key strength of this study is in the identification of external and internal obstacles through in-depth interviews.

These obstacles might potentially contribute to prolonged prescription service time at the identified bottleneck stage and may impact patient's waiting time for medication.

METHODS
Study design
This descriptive study combined quantitative and qualitative approaches using an explanatory sequential model. The model began with quantitative research to provide initial evidence, followed by qualitative research for deeper exploration. This study was conducted at X Hospital in Kendal Regency from August to September 2022. The research variables comprised six components of the hospital's prescription service process: prescription acceptance, prescription review, medication availability check, medication preparation, medication review, and medication dispensing.

Population and samples
A total of 100 prescription records were analyzed for this study, and they were selected using accidental sampling. The inclusion criteria were prescriptions received and medication dispensed on the same day between 2:00 PM and 8:00 PM Western Indonesian time (WIB). The sample size was determined using Slovin's formula with an error tolerance of 10% from the average monthly prescription population of 6,490 prescriptions. A 10% error tolerance is acknowledged as a limitation of this study. For the qualitative component of the study, purposive sampling was employed to select research subjects/informants based on the following criteria. For pharmacy personnel, they had to have a minimum of 1 year of experience and direct involvement in the prescription service process at the outpatient pharmacy. Meanwhile, for patients, they had to be able to communicate verbally and willing to participate as research informants. These criteria were established to ensure the adequacy of the information obtained, ensuring that informants could provide information relevant to the research questions based on the researchers' interview guide. Using these criteria, eight informants were selected, comprising four main and four triangulation informants. The role of the triangulation informants was to compare and cross-check information obtained from the main informants. The main informants of this study consisted of 2 outpatient pharmacists and 2 outpatient pharmaceutical technicians. The triangulation informants included 1 head of the hospital pharmacy, 1 head of the outpatient pharmacy, and 2 social health insurance patients at the outpatient pharmacy of X Hospital in Kendal Regency. The addition of patient triangulation informants in this study aimed as a complement to enrich the research findings from the patient's perspective.

Study instrument and data collection
Quantitative data was collected by measuring waiting times using a stopwatch as a measuring tool. The collected data on waiting time for medication prescriptions were recorded on an observation sheet. The purpose was to record the waiting time for pharmaceutical services for social health insurance patients. In the qualitative study, the instrument used was the researchers themselves (human instrument) guided by interview guidelines that had been prepared based on the modified framework method of the theory of constraints and the outpatient prescription service process. Qualitative data was collected using an in-depth interview. The researcher was assisted by a voice recorder, writing utensils, and a camera. The purpose of collecting qualitative data in this study was to delve deeper into the issue and obtain information on the obstacles that caused prolonged waiting time for prescription services. This involved interviewing informants/research subjects.

To collect data on patient prescription service waiting time, the researchers employed a stopwatch and a prescription service waiting time observation sheet to collect quantitative data on patient prescription service waiting time. The research focused on social health insurance outpatient prescriptions. Each prescription was marked with a sticky note to track its movement through the various stages of the prescription service process. Prescriptions were randomly selected due to the single-handed nature of the data collection. The researchers initiated the observation and recorded the total waiting time for each prescription using a stopwatch, starting from the submission of prescription to the pharmacy staff by the patient to dispensing the medication to the patient. The researchers further divided the waiting time into two categories: prescription delay time (the period during which the prescription awaited processing by the staff) and prescription processing time (the time spent by the staff on processing the prescription). The aim was to identify the stages in the prescription service process that consumed the most time and hindered workflow. The researcher recorded the time readings from the stopwatch onto the observation sheet for prescription service waiting time. Data collection for prescription

service waiting time spanned 14 days (started from Agust 16, 2022 to September 5, 2022). The quantitative data was analyzed, the research continued with qualitative research through in-depth interviews. The researcher employed a semi-structured interview approach, utilizing a predetermined guide that could be adapted and developed during the interviews to elicit more comprehensive information. The interview guide was tailored to pharmacy staff and patients to ensure consistency in data collection across informants. In-depth interviews focused on exploring external and internal constraints at the stage that took the longest time in prescription service process. The guidelines for the main interview questions that were used to delve deeper into the research on the process stages that prolong prescription waiting times can be seen in Table I.

Data Analysis

Collected data on waiting time was analyzed descriptively using Excel tools to determine the duration of prescription services with average, minimum, and maximum values. Qualitative data obtained from in-depth interviews was analyzed using content analysis with the following stages: data reduction, data presentation, and conclusion drawing. The qualitative data processing involved the manual transcription of audio recordings from the interviews into written format and Word tools. The transcribed data was simplified and categorized according to themes into a research matrix, then presented in interview boxes and concluded with conclusions from the presented data.

RESULTS AND DISCUSSION

The study sample consisted of the prescriptions of social health insurance patients, comprising non-compound and compound prescriptions. The non-compound prescriptions accounted for 62 of the total prescriptions analyzed, and the compound prescriptions made up 38. Compound prescriptions require the mixing or compounding medications, while non-compound prescriptions do not. The higher percentage of non-compound prescriptions compared to compound prescriptions indicates that the most prevalent type of prescription received at the outpatient pharmacy of X Hospital in Kendal Regency was the non-compound prescription.

A Description of Waiting Times for Prescription Services for Social Health Insurance Outpatient Patients

Patient prescription service waiting time is defined as the time interval starting from the patient's submission of a prescription to a pharmacist until the patient receives the medication. The Ministry of Health has established Minimum Service Standards (MMS) for waiting times, categorized into non-compound medication prescription of service waiting time with a standard of ≤30 minutes and compound medication prescription service waiting time of ≤60 minutes.[8] The waiting time for compound and non-compound medication prescription services is calculated starting from the submission of the prescription by the patient until the pharmacist dispenses the medication to the patient. It involves calculating the time at each stage of the process and distinguishing between action time and delay time components to identify the stages of the process that cause the prescription service process to be lengthy. The prescription delay time is defined as the amount of time a prescription awaits to be processed by the pharmacist, while prescription action time is the amount of time it takes for the pharmacist to process the prescription.[13] Hospital prescription services consist of six processes: prescription acceptance, prescription review, medication availability check, medication preparation, medication review, and medication dispensing to the patient.[9] Table II shows the overall waiting time for prescription services and the percentage of compliance with the Minimum Service Standards (MMS) for prescription service waiting times at the outpatient pharmacy of X Hospital in Kendal Regency.

As shown in Table II, the percentage of non-compound prescriptions that did not meet the standards was higher than that of compound prescriptions. The percentage of non-compound prescriptions with an average waiting time of less than or equal to 30 minutes that did not meet the standards was 77.4% or 48 out of 62 prescriptions processed. Meanwhile, the percentage of compound prescriptions with an average waiting time of less than or equal to 60 minutes that did not meet the standards was 50%, or 19 out of 38 prescriptions processed. The average waiting time for compound prescriptions was 50.42 minutes with standard deviation of 24.55, while the average for non-compound prescriptions was 41.03 minutes with standard deviation of 23.03 . On average, the time required to complete compound prescriptions from the moment they were received until the medication was dispensed to the patient was longer than that of non-compound prescriptions. However, the average waiting time for compound prescriptions met the standard waiting time set by the Ministry of Health. In contrast, the average waiting time for non-compound prescriptions was 11.03 minutes longer than

Tabel I. The Interview Questions Guide

Variable	Question Theme	Question
Prescription Review (Based on the results of waiting time data analysis, the prescription review variable had become the stage that had taken the longest time)	Implementation process	1. How has the process of reviewing compounded prescriptions for social health insurance patients? 2. How has the process of reviewing non-compounded prescriptions for social health insurance patients? 3. Who has been involved in the process? 4. Has a checklist been utilized during the prescription review process?
	Prescription Review Requirements	1. What requirements have a prescription (compounded and non-compounded) had to meet to be processed? 2. What procedure has been followed if a prescription has not met the requirements? Has it taken a long time?
	Obstacles in the Prescription Review Process	1. Why have the prescription review delay time prolonged? 2. What internal constraints have prolonged the prescription review process? 3. What external constraints have prolonged the prescription review process? 4. Why could these obstacles occurred?

Table II. Adherence of Compound and Non-Compound Prescriptions to Minimum Service Standards (MMS) for Prescription Service Waiting Time

Prescription Type	Prescription Waiting Time				Adherence to Standards				Frequency (f)
	Mean (Minutes)	Min (Minutes)	Max (Minutes)	Standard Deviation	Yes		No		
					f	%	f	%	
Compound Medication	50.42	12.50	130.26	24.55	19	50	19	50	38
Non-compound Medication	41.03	06.36	116.22	23.03	14	22,6	48	77.4	62
			TOTAL						100

the set standards. This indicates that the speed of completing compound prescriptions surpassed that of non-compound prescriptions when referred to the standards. The failure to meet the standard waiting time for non-compound prescriptions might be because most prescriptions received at the outpatient pharmacy of X Hospital in Kendal Regency were of the non-compound type.

Sari's study found that the waiting time for compound prescriptions was longer than that for non-compound prescriptions due to the compounding process. The average waiting time for compound prescriptions was 30.9 minutes, while for non-compound prescriptions, it was only 18.7 minutes. Waiting times may vary depending on the time of day and the number of prescriptions received. The longest waiting times were observed between 09:00 and 11:00 WIB, coinciding with the peak hours of clinic operations.[14] Karuniawati's study suggests that waiting times for prescription services can be significantly reduced with proper management. It is supported by the average time to complete compound and non-compound prescriptions, which was less than 10 minutes, at 9.18 minutes and 5.70 minutes, respectively.[15]

Nurjanah's study found that waiting times for non-compound prescriptions were shorter than those for compound prescriptions due to the absence of compounding process.[16] However, waiting times for non-compound prescriptions can be prolonged due to the large number of prescribed items and the simultaneous arrival of multiple prescriptions.[17] The waiting time for medication services in the pharmacy installation can vary depending on the type of prescriptions received, with the most being either non-compound or compound

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prescriptions.[18] Nevertheless, waiting times for non-compound prescriptions should not be lengthy, as the prescribed medications are already in their final form. Other studies have shown that the average waiting time for non-compound prescriptions is only 2.65 minutes. Prolonged waiting times for prescription services can lead to decreased patient satisfaction as time is valuable for patients.[19]

As shown in Table III, the stage in the prescription service process that was lengthy was the prescription review process. The average prescription review time for compound prescriptions was 19.31 minutes, and for compund prescriptions, it was 19.45 minutes. The prescription review time was longer than the other stages of the process because the process had the highest average delay time. The average delay time for compound prescriptions was 17.24 minutes, while for non-compund prescriptions, it was 17.50 minutes. This indicates that the waiting time for prescriptions is spent waiting for staff to review prescriptions, even though the average review time was only 1.54 minutes for non compund prescriptions and 2.07 minutes for compound prescriptions. Compared to the time required for staff to process prescriptions, the long delay in the prescription review process indicates that the prescription service process for social health insurance patients in the outpatient pharmacy of Hospital X in Kendal Regency has not been managed optimally.

A study conducted by Miftahudin found that if the delay time component is greater than the action time component, the management of the prescription service process is ineffective. The results of this study showed that the longest stage of the process was the preparation and dispensing of medication to patients, with an average of 33.36 minutes and 14.06 minutes, respectively. This is because the prescription time is spent waiting for staff to work on the prescriptions.[18] A delay time factor in the process will prolong the process. The causes of the delay include staff are working on other tasks or processing previous prescriptions.[20]

Based on our observations of the pharmacy staff, the causes of the long delay in the prescription review process for compound and non-compound prescriptions were the backlog of prescriptions waiting to be processed by the prescription review staff. The increase in prescriptions was a consequence of the heavy workload between 2:00 PM and 8:00 PM in the outpatient pharmacy and the inconsistency in doctors' practice times with the established practice schedule. This is in line with the results of Fitriah's research which showed that the accumulation of prescriptions at the screening officer station is due to doctors running behind schedule for their appointments, leading to a backlog of patients waiting at once, which ultimately causes a backlog of prescriptions at the pharmacy. Doctors are late due to technical constraints such as surgical activities, doctors attending to inpatients, and others.[20] Late arrival of doctors is one of the obstacles leading to the suboptimal performance of the pharmacy service.[21] The influx of prescriptions during the hospital's busy service hours will simultaneously have a direct impact on the backlog of prescriptions after the staff receives the prescriptions.[22]

Internal and External Barriers Hindering the Prescription Review Process at X Hospital in Kendal Regency

The results of the quantitative analysis of prescription service waiting times at the outpatient pharmacy of X Hospital in Kendal revealed that the prescription review was the stage that became a bottleneck that prolonged the process of preparing compound and non-compound medicines for social health insurance patients. The prescription review is a crucial step following prescription acceptance. It is conducted by a pharmacist to verify the conformity of the received prescription. It involves assessing three aspects: administrative, pharmaceutical, and clinical criteria.[23] Prescription review, or screening, aims to analyze prescribed medications to prevent errors.[24]

The time required for pharmacists to review a prescription is prolonged due to various obstacles that hinder their efficiency and prevent them from meeting established time standards. Barriers are defined as factors that restrict the performance of an organizational or corporate system in achieving its predetermined goals.[25] Hansen's constraint theory categorizes barriers into two types based on their origin: external and internal barriers. External barriers stem from outside the organization and limit its operations, while internal barriers arise from within.[26] Therefore, this study delves into the internal and external barriers contributing to the lengthy prescription review process for compound and non-compound medications at the outpatient pharmacy of X Hospital in Kendal. The characteristics of the informants are summarized in Table IV.

Based on the in-depth interviews with the research informants, the following external and internal barriers may have contributed to the prolonged prescription review process for compound and non-compound medications at the outpatient pharmacy of X Hospital in Kendal:

Incomplete Prescription Information

Incomplete prescription written by doctors was the source of external obstacles that greatly hindered the prescription review process at the outpatient pharmacy of X Hospital in Kendal Regency. All informants in

Table III. Time Required for Each Stage of Compound and Non-Compound Prescription Service

No	Process	Average Time (Minutes)					
		Compound			Non-compound		
		Delay	Action	Total	Delay	Action	Total
1	Prescription Acceptance	00.00	00.06	00.06	00.00	00.05	00.05
2	Prescription Review	17.24	02.07	19.31	17.50	01.54	19.45
3	Medication Availability Check	00.23	00.47	01.11	00.07	00.42	00.49
4	Medication Preparation	07.16	08.50	16.06	04.50	03.13	08.04
5	Medication Review	11.37	00.57	12.34	10.20	00.47	11.07
6	Medication Dispensing	00.06	01.09	01.15	00.09	01.04	01.13
	TOTAL	36.46	13.56	50.42	33.16	07.45	41.03

Table IV. Characteristics of Research Informants

No	Research Informant	Age	Position	Years of Work Experience
1	Main Informant 1	29	Functional Pharmacist	3
2	Main Informant 2	40	Functional Pharmacist	13
3	Main Informant 3	23	Pharmaceutical Technician	1
4	Main Informant 4	38	Pharmaceutical Technician	12
5	Triangulation Informant 1	28	Head of Outpatient Pharmacy	4
6	Triangulation Informant 2	43	Head of Outpatient Pharmacy	21
7	Triangulation Informant 3	44	Outpatient Patient	-
8	Triangulation Informant 4	61	Outpatient Patient	-

this study stated that the pharmacist in the prescription review section was hampered from working when the prescription written by the doctor was incomplete. Many doctors fail to provide a complete prescription, especially regarding the amount of medicine, dose, rules for taking, and the frequency of medicine use. Moreover, doctors sometimes inaccurately inputted the patient's name on the prescription, prescribed the wrong dosage form, and the medication did not match the patient's needs. As a consequence, the pharmacy staff had to re-edit the prescription and re-confirm it to the doctor who prescribed the medicine, which prolonged the process to review a prescription.

"Incomplete prescriptions require confirmation, which is time-consuming. The dosage is sometimes incorrect, and the quantity, instructions, and frequency are not fully specified. Sometimes the medication is inappropriate for the patient's symptoms, or the name is incorrect." (Main informant 2)

"Incomplete prescription filled by doctors is a problem for us, and there are also instances of double prescriptions, with the dosage being written down two or three times for the same medication. We then have to confirm with the doctor. Some doctors copy and paste their previous prescriptions." (Triangulation informant 2)

This is in line with previous studies that found that non-compliant prescription writing requires pharmacists to reconfirm. The time required cannot be determined because it all depends on the doctor's cooperation in responding to the pharmacist's confirmation. Prescription service waiting times may become longer due to delayed confirmation processes because the doctor is unavailable or does not respond to the pharmacist.[27] Unclear prescriptions, such as dosage, writing, and others, require pharmacists to reconfirm them with the doctor.[19] Concerns have been raised that incomplete prescriptions may lead to medication errors.[28]

Incomplete prescriptions at X Hospital in Kendal Regency was often found in patients with regular check-ups or chronic diseases. Because there were no new complaints reported by the patient, the doctor prescribed the same medication as in the previous visit without verifying the completeness of the previous prescription. According to a study conducted at Ahmad Yani Surabaya Islamic Hospital, doctors often overlook or fail to verify the details in a patient's prescription due to their lack of focus on the patients' past medication history.[29] Doctors

should provide prescriptions that contain sufficient and clear information to avoid misunderstanding from pharmacists or pharmaceutical technicians when examining and dispensing drugs to patients.[24]

Number of Prescribed Medication Items

The number of medication items physicians prescribe was another external factor that caused pharmacist to spend an excessive amount of time to review a patient's prescription at the outpatient pharmacy of X Hospital in Kendal Regency. According to the study informants, the number of prescribed medications may vary depending on the doctor's diagnosis of the patient's complaints. Nonetheless, this posed a challenge when the number of prescribed medications exceeded five items, as pharmacists had to meticulously review each item, considering both pharmaceutical and clinical aspects. The underlying causes of excessive medication prescriptions are multifaceted, including patient's complaints and the prescribing habits of individual physicians. It is noteworthy that a single medication can often address multiple patient's complaints. It highlights the potential divergence in perspectives between physicians and pharmacists regarding the appropriate medication selection and dosage for patients.

"The number of prescribed medications is often high, and we also have to double-check everything, so this automatically slows down the process. It depends on the doctor's diagnosis and the patient's complaints, but usually, it is more than 5 items, sometimes even 11 items." (Main Informant 1)

"There are many medications, which is unavoidable, but it slows down the process. The more medications there are, the longer it takes us to process them, as we have to check each medication carefully." (Triangulation Informant 1)

The findings of this study are consistent with research conducted at Dr. Zainoel Abidin General Hospital, which demonstrated that the number of medication items can significantly impact the amount of time pharmacists require to process prescriptions. After implementing an intervention, the study found a four-minute difference in prescription review time between prescriptions with less than six items and those with more than six items.[27] Another study also highlighted that the type and quantity of compound medications significantly impact prescription service wait times, primarily due to the lack of consensus between doctors and pharmacists regarding effective patient therapies.[20]

While doctors have the ultimate authority to determine the number of medications prescribed to patients, effective communication and shared understanding between doctors and pharmacists are crucial to promoting rational medication use.[30] Careful consideration should be given to the number of medications prescribed to patients to avoid irrational medication use or polypharmacy, which refers to the prescription of more than two medications for a single diagnosis. The more medication items a doctor prescribes on a prescription sheet, the higher the likelihood of drug interactions.[31] Polypharmacy can put patients at risk even though the intention of prescribing multiple medications is to alleviate patient symptoms. However, not all patient complaints require medication.[32] The more medications prescribed, the longer it takes to enter medication usage into the system. Therefore, physicians should be encouraged to prescribe rationally to minimize polypharmacy.[33]

Distraction from patients

According to research informants, patient inquiries posed an external obstacle at the outpatient pharmacy of X Hospital in Kendal Regency due to the unavailability of reception counters which provided information to patients. The informants considered this as a hindrance as they had to spare time to address inquiries from patients while reviewing prescriptions. It divided their focus and extended the time required to process a single prescription. Common patient inquiries revolved around the placement of prescriptions and their queue numbers. This indicates that the availability of essential information resources is crucial for patients to easily navigate the prescription service flow at the outpatient pharmacy of X Hospital in Kendal Regency, ultimately reducing the likelihood of patients approaching busy staff with inquiries.

"The patients ask many questions, like where to put the prescription and their queue number, and we have to answer them while trying to focus on reviewing other prescriptions. Sometimes patients have left and come back to ask us for their queue number, and we have to look for their name again." (Main Informant 3)

"Patients ask many questions, and instead of being able to focus, our attention is divided. Some patients have never been to the pharmacy before, and there is no information on the counter above." (Triangulation Informant 1)

"I was unsure of where to go when I first came here, and the sign that read 'Place prescriptions here' was small and placed low down." (Triangulation Informant 3)

Consistent with previous research, patient behavior can also contribute to extended prescription service wait times. This includes factors such as patient knowledge of the prescription service flow and non-cooperative patient behavior. These actions by patients can impact the performance of pharmacy staff and lead to poor service quality. Hospitals must provide information resources in the prescription service flow and the estimated time required for each stage of the prescription service process.[27] The behavior of patients who lack discipline affects the prescription service wait time.[15]

Lack of Staff Skills in Utilizing the System

The internal obstacle that hindered the prescription review process at the outpatient pharmacy at X Hospital in Kendal Regency was the lack of staff skills in using the system. The time required to review prescriptions is also influenced by the speed at which pharmacy staff can review prescriptions using the system. Based on the in-depth interviews with research informants, it was found that the pharmacy service had begun implementing electronic prescriptions. However, not all pharmacy staff were skilled in using the hospital's pharmacy information system, notably in operating the system quickly during the prescription review process. This was because not all pharmacy staff were accustomed to reviewing prescriptions using the system, especially pharmacy technicians. Therefore, as explained by the research informants, the lack of staff skills was an obstacle that prolonged the prescription review process due to its impact on the speed of staff in processing prescriptions. In line with previous research, differences in work speed among staff will lead to increased patient waiting times.[27] Prescription service waiting times are also influenced by the speed of staff in operating computers.[15] The speed of staff in working is greatly influenced by the knowledge and skills possessed by the pharmacy staff.[34]

"The speed of each staff is different. All can get e-prescription training. The level of understanding of the technicians is the same, but in terms of the restriction of chronic drugs, not all of them know." (Main informant 4)

"Not all of them are skilled in using e-prescriptions, so some are fast, and some are slow. I am not used to e-prescriptions, but training has been given. Although not all of them, I see some of them self-study with other staff. Training also requires funds. And the average staff here is already old, the young ones are agile." (Triangulation informant 2)

The research informants also stated that the cause of the insufficient staff skills in operating the system was that not all pharmacy technicians received training on the use of the pharmacy information system in the application of electronic prescriptions, with age-related factors also contributing to this issue. All pharmacists had received pharmaceutical system training, but only a few pharmacy technicians had attended the training as representatives of pharmacy technicians. The lack of training for pharmacy technicians was because not all pharmacy technicians were willing to spare time to attend training outside their work shifts. In addition, almost all informants stated that pharmacy staff under 30 were more proficient in using the system than those over 30. However, regular training for pharmacy staff is important to ensure the continuous improvement of their knowledge and skills, which significantly impact the quality of pharmacy services.[14]

Insufficient Number of Pharmacists Reviewing Prescriptions

A further internal obstacle hindering the prescription review process at the outpatient pharmacy of X Hospital in Kendal Regency was the shortage of prescription review personnel. The hospital's pharmacy had two pharmacists and one pharmacy technician assigned to the prescription review section. According to the research informant, the prescription review should have been carried out by a pharmacist. However, due to the work system being divided into several shifts, the number of pharmacists was divided evenly across each shift. As a result, there were only three pharmacists per shift. Only one pharmacist and one pharmacy technician were available during the prescription review process because the other two pharmacists dispensed medication. Research informants believed that the number of prescription review personnel during peak pharmacy service hours was insufficient if only two personnel were available. Outpatient pharmacy prescription services saw a surge in prescriptions during the evenings, making it a critical period at the pharmacy. Therefore, at least three to four prescription review personnel were needed. The shortage of personnel also led to delays in prescription review. The head of the outpatient pharmacy justified the allocation of pharmacists during peak service hours (day to evening shift) by pointing out that the presence of more pharmacists assigned to a single shift resulted in pharmacy technicians relied more on pharmacists for assistance. Consequently, the allocation of prescription review personnel was not proportional to the number of prescriptions received, leading to a backlog of prescriptions for review and ultimately extending prescription wait times.

"*There are not enough personnel. It could be faster if we added about four more. It is lacking because during peak hours in the afternoon, when all the doctors are practicing, the data entry is experiencing the most crowded point*." (Main Informant 4)

"*There are not enough pharmacists, so one pharmacy technician assists them. Actually, according to our standards, the number of pharmacists is adequate. However, three pharmacists are insufficient during peak hours because they are divided into morning and afternoon shifts. With only three pharmacists, the pharmacy technicians become complacent and rely too much on the pharmacists. So, the pharmacists prepare them, and then hand them out.*" (Triangulation Informant 1)

The number of available pharmacy human resources was found to affect the speed of prescription services in the outpatient pharmacy. Only one or two personnel on duty can lead to a backlog of prescriptions when the personnel calculate dosages, prepare medications, and compound medications.[19] Only 3-4 pharmacists per shift can significantly impact the speed of the prescription service process due to the high volume of prescriptions received due to insufficient personnel.[14] According to the Regulation of the Minister of Health Number 72 of 2016 concerning Pharmacy Standards in Hospitals, the prescription review process must be conducted by a pharmacist. The number of pharmacists needed in outpatient pharmacies must be adjusted to the workload, including managerial and clinical pharmacy services such as prescription review, medication dispensing, medication use recording, and counseling. It also states that the ideal pharmacist-to-patient ratio is 1:50.[23] Pharmacist-filled prescriptions are faster than pharmacy technician-filled prescriptions, with a wait time reduction of 3.1 minutes if a pharmacist fills the prescription items because they are more knowledgeable about medications.[35]

Study informants also revealed that there are several obstacles beyond prescription review that hinder the prescription service process. These include delays in some doctor' practices, causing simultaneous prescription backlogs at the pharmacy; drug stock system errors, requiring staff to wait for system restoration; limited outpatient pharmacy drug availability, necessitating retrieval from the main pharmacy warehouse; inefficient patient administrative files hindering final review; and patients requesting repeated education, requiring additional time. Although this study focuses on exploring the constraints in the prescription review process, which that stage consumes the most time. The aforementioned issues cannot be ignored. These contribute to patient complaints too, due to the long medication wait times. One patient (triangulation informant 4) stated, "*Waiting for a long time, only starting practice at 9 o'clock. Still having to wait again at the pharmacy. It feels long, boring*". Long waits cause complaints and stress in patients with weak physical conditions, particularly when collecting prescriptions. Lengthy wait times also create patient discomfort, resulting in negative perceptions of hospital service quality, decreased patient satisfaction, and potentially affecting future trust.[36] Patient complaints are an indication of problems in healthcare services, often related to safety and quality of care issues.[37]

The findings of this study have implications for practical implications in hospital prescription services. Prompt delivery of prescription services is undoubtedly a common expectation among patients. However, various service bottlenecks in practice can delay the process of providing medications to patients. Consequently, the results of this study can serve as valuable input for hospitals, particularly for pharmacy management, pharmacists, and pharmacy technicians. These stakeholders should pay closer attention to patient waiting times for medications to ensure adherence to service standards and evaluate all factors that hinder the service process. It is crucial to recognize that prolonged waiting times can negatively impact a hospital's reputation among patients.

CONCLUSION

Prolonged waiting times for social health insurance patients prescription services at X Hospital in Kendal Regency posed a significant challenge to patient access to timely medications. The identified obstacles can serve as a consideration for the pharmacy management in evaluating prescription services to improve the time efficiency in delivering services. Further research should quantify the impact of these obstacles on the overall waiting times and patient satisfaction.

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STATEMENT OF ETHICS

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