

EXPLORING THE MEDIATING ROLE OF PATIENT SATISFACTION IN THE RELATIONSHIP BETWEEN PHARMACY SERVICE PERFORMANCE AND PATIENT LOYALTY

Tris Yulianti¹, Hery Winoto TJ²

Faculty of Economics and Business, Universitas Kristen Krida Wacana
Correspondence E-mail: hery.winoto@ukrida.ac.id

Received : 01 June 2026

Accepted : 15 June 2026

Revised : 05 June 2026

Published : 20 July 2026

Abstract— The Study aims to analyze the effect of drug availability and prescription waiting time on patient loyalty , with patient satisfaction as a mediating variable in the outpatient pharmacy unit. The main issues in outpatient pharmaceutical services include limited drug availability and long prescription waiting times, which may reduce patient satisfaction and ultimately impact patient loyalty. This research employs a quantitative approach using a survey design. Data were collected through questionnaires distributed to outpatient who had received pharmacy services. The sampling technique used was purposive sampling based on specific criteria. Data analysis was conducted using Structural Equation Modeling (SEM) with a Partial Least Square (PLS) approach to examine the relationships among variable. A total of 100 respondents participated in this study. Drug availability significantly influenced patient satisfaction ($p=0.000$) and patient loyalty ($p=0.006$), whereas prescription waiting time had significant negative effects on patient satisfaction ($p =0.000$), and patient loyalty ($p=0.128$) Patient satisfaction partially mediated both relationships.

Keywords— Drug Availability , Prescription waiting time, patient satisfaction , patient loyalty, outpatient pharmacy services.

Introduction

Healthcare organizations worldwide are experiencing increasing pressure to provide patient-centered services that emphasize not only clinical effectiveness but also service quality and patient experience. In today's competitive healthcare environment, hospitals are expected to deliver integrated healthcare services that create value for patients while maintaining operational efficiency. Among various hospital departments, outpatient pharmacy services play a crucial role because they represent the final stage of the patient's healthcare journey before returning home. Consequently, patients frequently evaluate the overall quality of hospital services based on their experiences in the pharmacy unit. [35] Pharmaceutical services have evolved substantially over the last two decades. Previously, hospital pharmacies primarily focused on medication dispensing activities. However, contemporary pharmaceutical care emphasizes patient-oriented services aimed at ensuring safe, effective, and rational medication use while simultaneously improving patient outcomes and satisfaction. This transformation has shifted pharmacists' responsibilities beyond medication distribution toward comprehensive pharmaceutical care that contributes directly to healthcare quality and patient safety. [21]

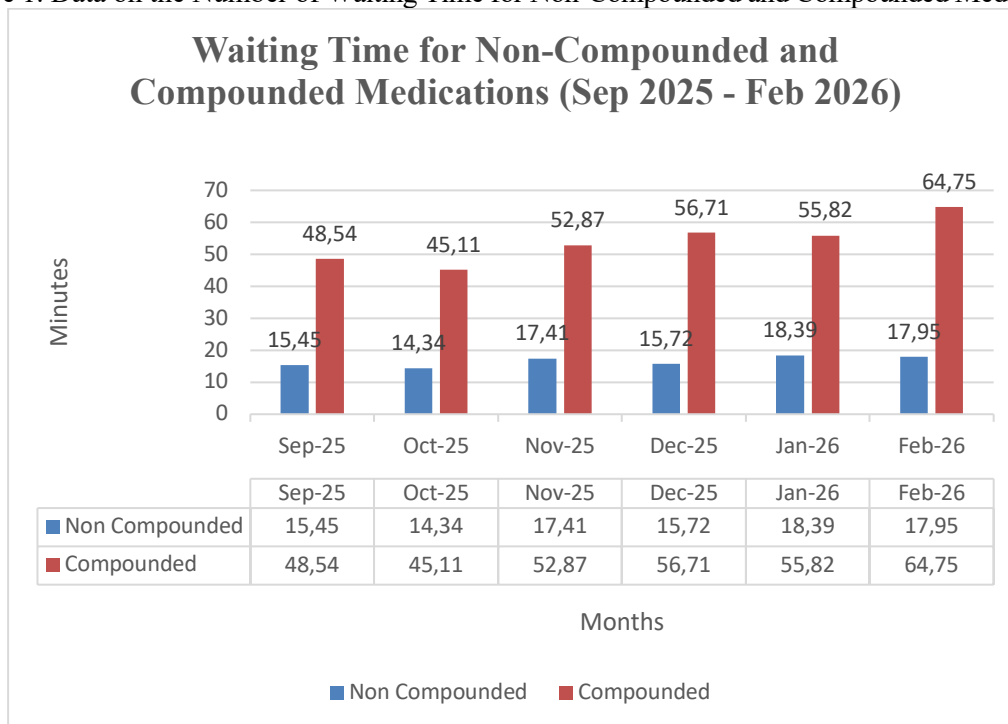
Drug availability represents one of the most fundamental indicators of pharmacy service performance. Patients expect prescribed medications to be available immediately after consultation with physicians. When medications are unavailable, patients often experience treatment delays, additional financial burdens, inconvenience, and reduced confidence in healthcare providers. From a healthcare management perspective, inadequate drug availability reflects weaknesses in pharmaceutical inventory management, procurement systems, and supply chain coordination. Consequently , maintaining optimal drug availability has become a strategic priority for hospital pharmacy management. Another critical determinant of pharmaceutical service quality is prescription waiting time. Waiting time refers to the period between prescription submission and medication dispensing. Excessive waiting time negatively influences patients' perceptions of service efficiency and responsiveness. In outpatient settings , where patients are generally expected to complete their hospital visits within a limited period, prolonged waiting times frequently become a source of dissatisfaction. According to Indonesian Ministry of Health standards, outpatient

Publish by Radja Publika



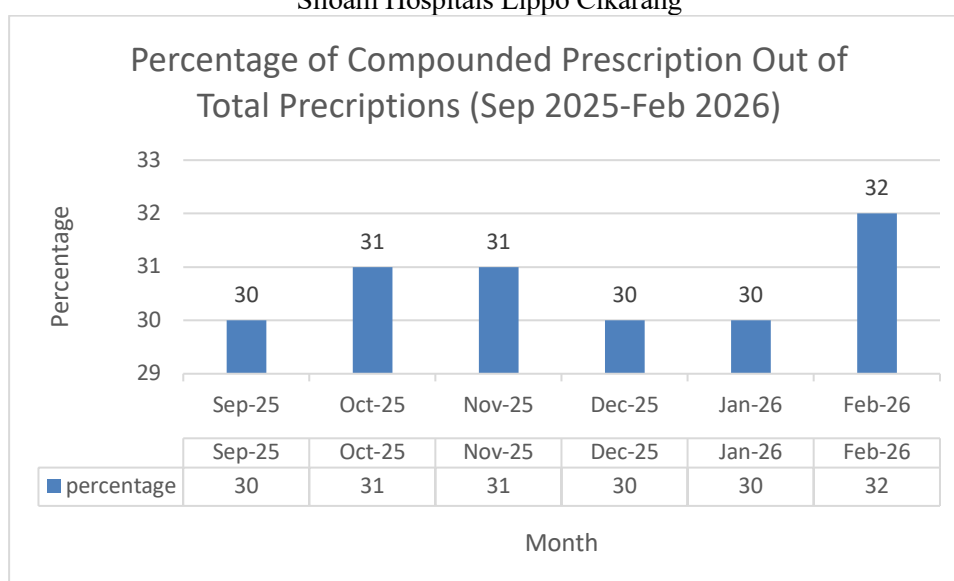
prescription services should ideally be completed within 30 minutes for non-compounded medications and 60 minutes for compounded prescriptions. These standards emphasize the importance of operational efficiency as a component of healthcare quality. [4] From the perspective of service quality theory, drug availability and prescription waiting time represent different dimensions of service excellence. Drug availability reflects reliability because it demonstrates the pharmacy's capability to consistently provide prescribed medications. Meanwhile, prescription waiting time reflects responsiveness, which describes the willingness and ability of healthcare professionals to deliver services promptly and efficiently. These dimensions are central components of the SERVQUAL model developed by Parsuraman and colleagues and have been extensively applied in healthcare quality research [7].

Figure 1. Data on the Number of Waiting Time for Non-Compounded and Compounded Medications

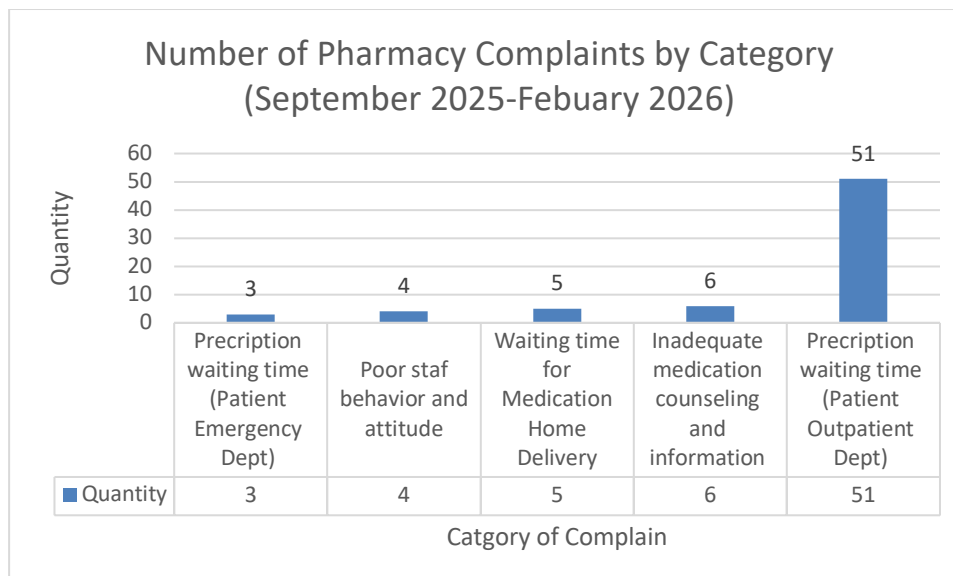


Source: Lead Time Report of Pharmacy

Figure 2. Data on the Percentage of Compounded Prescription Out of Total Prescriptions (Sep 2025-Feb 2026) at Siloam Hospitals Lippo Cikarang



Source: Pharmacy Report on Compounded Prescription



Patient satisfaction has long been recognized as a central outcome of healthcare quality. Satisfaction is generally defined as the extent to which patients expectations are fulfilled after receiving healthcare services. Patients compare perceived service performance with their prior expectations, and satisfaction emerges when perceived performance meets or exceeds those expectations . Within hospital pharmacy services, patient satisfaction is influenced by multiple factors including drug availability , communication with pharmacists, counseling quality, waiting time, staf professionalism, and service convenience [37]. Beyond representing an outcome of healthcare quality, patient satisfaction also serves as a mechanism through which service quality influences patients future behavioral intentions. Patient who experience satisfactory pharmaceutical services are mor likely to return to the same healthcare facility, adhere to medication recommendations, recommend the hospital to others, and develop long-term relationships with healthcare providers. Therefore, patient satisfaction is increasingly considered an important mediator between healthcare service quality and patient loyalty.[33].Patient loyalty has become a strategic objective for healthcare organizations because retaining existing patients is considerably more cost-effective than attracting new ones. Loyal patients are more likely to revisit the same hospital, continue purchasing medications from the hospital pharmacy, comply with pharmacists recommendations and provide positive word -of -mouth communication . Consequently, patient loyalty contributes not only to organizational sustainability but also to improved clinical outcomes through enhanced treatment adherence and continuity of care.

Previous studies have consistently demonstrated positive relationships between healthcare service quality, patient satisfaction, and patient loyalty. Research has shown that service quality dimensions significantly influence patient satisfaction, which subsequently enhances patient loyalty. Similarly, studies focusing on pharmaceutical services have reported that shorter waiting time, effective pharmacist communication, and comprehensive medication counseling improve patient satisfaction . Other investigations have identified drug availability as an important determinant of patients perceptions regarding pharmacy services quality and overall satisfaction. [33]. Despite these findings, several research gaps remain. First , many previous studies have examined service quality as a broad multidimensional construct without specifically emphasizing operational pharmacy indicators such as drug availability and prescription waiting time. Second, studies investigating pharmacy services frequently focus on patient satisfaction as the final outcome rather than examining patient loyalty as a strategic behavioral consequence. Third, empirical studies integrating drug availability , prescription waiting time, patient satisfaction , and patient loyalty into a comprehensive medication model remain relatively limited, particularly within Indonesian outpatient hospital pharmacy settings.

Furthermore, hospitals in developing countries continue to experience operational challenges associated with medicine shortages, increasing patient volume, limited human resources, and longer prescription processing times. These operational constraints may directly influence patients prescriptions of service quality and indirectly affect hospital competitiveness through reduced patient loyalty. Understanding these relationships is therefore

essential for developing evidence-based strategies to improve pharmaceutical service performance. The present study addresses these research gaps by proposing a comprehensive conceptual model that simultaneously examines the relationship among drug availability, prescription waiting time, patient satisfaction, and patient loyalty. Unlike previous studies that primarily emphasize general service quality dimensions, this research focuses specifically on operational pharmacy performance indicators that can be directly managed by hospital administrators. The novelty of this study lies in three aspects. First, it integrates pharmaceutical operational performance indicators with relationship marketing theory to explain how pharmacy service quality influences long-term patient behavior. Second, it investigates the mediating role of patient satisfaction in translating operational efficiency into patient loyalty. Third, it provides empirical evidence from an Indonesian hospital outpatient pharmacy context, thereby enriching healthcare management literature from developing countries where evidence remains relatively limited. The findings of this study are expected to contribute theoretically by extending the application of service quality and patient satisfaction theories within pharmaceutical service management. Practically, the study provides hospital managers with evidence-based recommendations regarding inventory management, prescription workflow optimization, and patient-centered pharmacy services improvement strategies. Ultimately, enhancing drug availability and reducing prescription waiting times may strengthen patient satisfaction, increase patient loyalty, improve organizational competitiveness and support sustainable healthcare quality improvement. Accordingly, this study aims to examine the effects of drug availability and prescription waiting time on patient satisfaction and patient loyalty, while simultaneously evaluating the mediating role of patient satisfaction within outpatient hospital pharmacy services. The proposed conceptual framework contributes to a better understanding of how operational pharmacy performance can influence long-term patient relationships and organizational sustainability.

Pharmaceutical Service Quality

Pharmaceutical services have evolved from a product-oriented model toward a patient-centered care approach that emphasizes medication safety, therapeutic effectiveness, and improved patient outcomes. Modern pharmacy practice extends beyond medication dispensing to include patient counseling, medication therapy management, pharmaceutical care, and continuous monitoring of treatment effectiveness. Consequently, pharmacy services have become an essential component of hospital quality management because they directly influence both clinical outcomes and patients' healthcare experiences.

The World Health Organization emphasizes that pharmaceutical services should ensure the rational use of medicines while promoting patient safety and quality of care. Likewise, the Indonesian Ministry of Health, through the Standards for Pharmaceutical Services in Hospitals, requires hospital pharmacies to provide timely, accurate, safe and patient-oriented pharmaceutical services. These standards highlight several key performance indicators, including drug availability, prescription waiting time, medication accuracy, and patient counseling. The successful implementation of these indicators contributes significantly to overall hospital service quality. Among these indicators, drug availability and prescription waiting time are operational variables that can be continuously monitored and improved by hospital management. These variables not only reflect operational efficiency but also shape patients' perceptions regarding the quality and reliability of healthcare services.

Drug Availability

Drug availability refers to the capability of a healthcare institution to provide prescription medications whenever patients require them. Effective pharmaceutical inventory management ensures uninterrupted medication supply and minimizes stock shortages that may delay treatment or force patients to purchase medicines elsewhere. From the perspective of healthcare management, adequate drug availability demonstrated the effectiveness of procurement planning, inventory control, distribution systems, supplier coordination, and financial management. Hospitals with efficient inventory systems are better positioned to provide continuous pharmaceutical services while maintaining patient trust.

Within the SERVQUAL framework, drug availability represents the reliability dimension because it reflects the organization's ability to deliver promised healthcare services consistently and accurately. Patients expect hospitals to dispense all prescribed medications immediately after medical consultation. Failure to meet this expectation may reduce patients' confidence in the healthcare institution and negatively affect subsequent healthcare decisions. Previous empirical studies consistently indicate that complete drug availability improves patients' perceptions of pharmaceutical service quality, increases satisfaction, and strengthens loyalty. Conversely, medicine shortages often create inconvenience, increase healthcare costs, interrupt treatment continuity, and reduce patients' confidence in healthcare providers. Therefore, maintaining adequate drug availability is not merely an

operational objective but also a strategic factor influencing organizational sustainability.

Prescription Waiting Time

Prescription waiting time is defined as the period between prescription submission and medication delivery to patients. It represents one of most visible indicators of pharmacy operational efficiency because patients directly experience the waiting process. Healthcare service quality literature identifies waiting time as an important determinant of perceived responsiveness. According to the SERVQUAL model, responsiveness reflects healthcare providers' willingness and ability to provide prompt and timely services. Patients generally associate shorter waiting times with greater professionalism, better organization, and higher service quality. Long waiting times generate dissatisfaction through several mechanisms. Patients may experience physical discomfort, anxiety, frustration, or uncertainty while waiting for medications. These negative experience are particularly important in outpatient settings, where patients often expect rapid completion of healthcare services before returning home or work.

Previous studies consistently report that prolonged prescription waiting time reduces patient satisfaction and negatively influences perceptions of hospital service quality. Hospitals that successfully reduce waiting times generally achieve higher patient satisfaction scores, improved patient experiences, and stronger patient retention. Consequently, optimizing prescription workflow, increasing staffing efficiency, implementing electronic prescribing systems, and improving pharmacy operational management are essential strategies for reducing waiting time and enhancing healthcare quality.

1.4 Patient Satisfaction

Patient satisfaction represents one of the most frequently used indicators for evaluating healthcare quality. It reflects patients' cognitive and emotional evaluations after comparing expected services with actual experiences received during healthcare encounters. According to expectation-disconfirmation theory, satisfaction occurs when perceived service performance meets or exceeds patient expectations. Conversely, dissatisfaction emerges when healthcare services fail to fulfill anticipated standards. Within pharmaceutical services, patient satisfaction is influenced by multiple service attributes, including medication availability, waiting time, pharmacist competence, communication quality, counseling effectiveness, empathy, physical facilities, and service convenience

The SERVQUAL model developed by Parasuraman et al. identifies five dimensions influencing service quality and satisfaction:

- Tangibles
- Reliability
- Responsiveness
- Assurance
- Empathy

Drug availability primarily reflects reliability, whereas prescription waiting time reflects responsiveness. Improvement in these dimensions is expected to reduce the gap between patients' expectations and actual experiences, thereby increasing satisfaction. Patient satisfaction also serves as an important psychological mechanism that explains how healthcare quality influences patients' behavioral intentions. Satisfied patients are generally more willing to revisit healthcare facilities, comply with treatment recommendations, and recommend services to family members and friends.

Patient Loyalty

Patient loyalty refers to patients' commitment to maintaining long-term relationships with healthcare providers despite the availability of alternative healthcare institutions. Unlike customer loyalty in commercial industries, patient loyalty incorporates both behavioral and attitudinal dimensions. Behavioral loyalty includes repeated hospital visits and continued utilization of pharmaceutical services, whereas attitudinal loyalty reflects patients' trust, emotional attachment, and willingness to recommend healthcare services.

From the perspective of relationship marketing, loyal patients provide substantial organizational benefits. Hospitals experience lower marketing costs, more stable revenue streams, increased treatment adherence, stronger patient trust, and enhanced institutional reputation. In outpatient pharmacy services, patient loyalty is reflected by patients' willingness to redeem prescriptions at hospital pharmacies, continue purchasing medications from the same institution, seek pharmacists' consultation, and recommend the hospital to others. Numerous studies have

EXPLORING THE MEDIATING ROLE OF PATIENT SATISFACTION IN THE RELATIONSHIP BETWEEN PHARMACY SERVICE PERFORMANCE AND PATIENT LOYALTY

Tris Yulianti **et al**

demonstrated that patient loyalty is strongly influenced by previous healthcare experiences, particularly patient satisfaction. Therefore, healthcare organizations increasingly regard patient satisfaction as a strategic resource for sustaining long-term patient relationships.

Hypothesis Development

2.1 Drug Availability and Patient Satisfaction

Drug availability represents one of the most fundamental expectations among patients receiving pharmaceutical services. Patients assume that prescribed medications will be available immediately after consultation with physicians. When medications are unavailable, patients experience treatment delays, inconvenience, and additional costs associated with obtaining medicines elsewhere.

According to SERVQUAL theory, reliable service delivery significantly enhances customer satisfaction. In hospital pharmacies, reliability is demonstrated through the consistent availability of prescribed medications. Previous studies have shown that hospitals maintaining high medication availability generally achieve higher patient satisfaction because patients perceive pharmaceutical services as dependable and trustworthy.

Accordingly, the following hypothesis is proposed:

H1: Drug availability positively influences patient satisfaction.

2.2 Prescription Waiting Time and Patient Satisfaction

Prescription waiting time directly influences patients' perceptions of healthcare efficiency. Patients generally expect pharmacy services to be completed quickly because medication dispensing represents the final stage of outpatient treatment.

The responsiveness dimension of SERVQUAL suggests that prompt service delivery significantly enhances perceived service quality. Conversely, prolonged waiting time creates frustration, discomfort, and negative healthcare experiences.

Empirical evidence consistently indicates that shorter prescription waiting times significantly improve patient satisfaction within outpatient pharmacy services.

Therefore:

H2: Prescription waiting time negatively influences patient satisfaction.

2.3 Drug Availability and Patient Loyalty

Relationship marketing theory suggests that customers remain loyal to organizations capable of consistently meeting their expectations.

Within hospital pharmacy services, complete medication availability reduces treatment interruptions, strengthens patients' confidence, and enhances perceived service reliability. These positive experiences encourage repeated utilization of hospital pharmacy services.

Previous studies demonstrate that drug availability contributes directly to patient loyalty because patients prefer healthcare providers capable of meeting their pharmaceutical needs consistently.

Therefore:

H3: Drug availability positively influences patient loyalty.

2.4 Prescription Waiting Time and Patient Loyalty

Waiting time represents an important determinant of patients' overall healthcare experiences. Repeated exposure to prolonged waiting periods may encourage patients to seek pharmaceutical services elsewhere.

According to service quality theory, negative service experiences reduce trust and weaken long-term customer relationships. Consequently, inefficient prescription services may reduce patients' intentions to revisit hospitals and redeem future prescriptions.

Previous studies consistently report that excessive waiting time negatively influences patient loyalty.

Accordingly:

H4: Prescription waiting time negatively influences patient loyalty.

2.5 Patient Satisfaction and Patient Loyalty

Patient satisfaction has long been recognized as one of the strongest predictors of customer loyalty across service industries, including healthcare.

Satisfied patients are more likely to continue utilizing healthcare services, recommend hospitals to others, comply with medical advice, and maintain long-term relationships with healthcare providers.

Relationship marketing theory suggests that satisfaction strengthens trust, commitment, and emotional attachment, ultimately increasing patient loyalty.

Therefore:

H5: Patient satisfaction positively influences patient loyalty.

2.6 The Mediating Role of Patient Satisfaction

Although operational pharmacy performance directly influences patient loyalty, the relationship is often explained through patients' emotional evaluations of healthcare experiences.

Drug availability and prescription waiting time first shape patients' perceptions of healthcare quality. These perceptions subsequently determine satisfaction, which ultimately influences behavioral loyalty.

This mediation mechanism is consistent with Expectation-Confirmation Theory and Relationship Marketing

Theory, both of which suggest that satisfaction functions as an intermediary between service performance and future behavioral intentions.

Therefore, two mediation hypotheses are proposed:

H6: Patient satisfaction mediates the relationship between drug availability and patient loyalty.

H7: Patient satisfaction mediates the relationship between prescription waiting time and patient loyalty.

Proposed Research Framework

The conceptual framework developed in this study consists of four constructs:

- **Independent Variables**
 - Drug Availability (X_1)
 - Prescription Waiting Time (X_2)
- **Mediating Variable**
 - Patient Satisfaction (Z)
- **Dependent Variable**
 - Patient Loyalty (Y)

The proposed structural model assumes that drug availability positively affects patient satisfaction and patient loyalty, whereas prescription waiting time negatively influences both variables. Patient satisfaction subsequently enhances patient loyalty while simultaneously mediating the relationships between pharmacy service performance and patient loyalty.

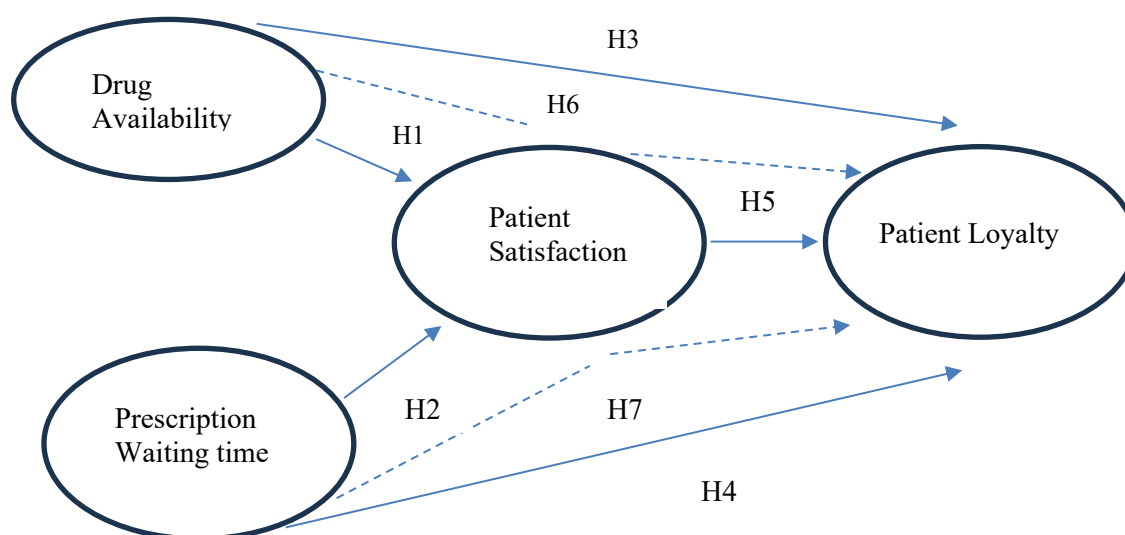


Figure 3. Conceptual Framework

EXPLORING THE MEDIATING ROLE OF PATIENT SATISFACTION IN THE RELATIONSHIP BETWEEN PHARMACY SERVICE nPERFORMANCE AND PATIENT LOYALTY

Tris Yulianti et al

Methodology

3.1 . Research Design

This study employed a quantitative explanatory research design to examine the relationships among drug availability, prescription waiting time, patient satisfaction, and patient loyalty within hospital outpatient pharmacy services. The explanatory approach was selected because the study aimed to investigate causal relationships among variables and to evaluate the mediating role of patient satisfaction in influencing patient loyalty. A cross-sectional survey design was implemented, in which data were collected from patients at a single point in time. This design is appropriate for testing theoretical models involving latent variables and mediation effects using Structural Equation Modeling (SEM).

3.2 Research Setting and Population

The study was conducted at the Outpatient Pharmacy Unit of a private hospital in Indonesia. The outpatient pharmacy was selected because it represents one of the hospital departments with direct and continuous interaction with patients, making it an appropriate setting for evaluating pharmaceutical service quality.

The target population consisted of all patients receiving prescription services at the outpatient pharmacy during the study period. Eligible respondents were patients who had completed the prescription dispensing process, were at least 18 years old, and voluntarily agreed to participate in the study.

3.3 Sampling Technique

A purposive sampling technique was employed to recruit respondents who met the predetermined inclusion criteria. Patients were selected based on the following requirements:

- received outpatient pharmacy services;
- completed the prescription dispensing process;
- were able to understand the questionnaire;
- agreed to participate voluntarily.

The sample size fulfilled the minimum requirement for Partial Least Squares Structural Equation Modeling (PLS-SEM), which recommends an adequate number of observations to estimate structural relationships among latent variables.

3.4 Research Variables

The conceptual model consisted of four latent constructs.

Independent Variables

- Drug Availability (X_1)
- Prescription Waiting Time (X_2)

Mediating Variable

- Patient Satisfaction (Z)

Dependent Variable

- Patient Loyalty (Y)

Drug availability was measured by patients' perceptions regarding the completeness and accessibility of prescribed medications.

Prescription waiting time was measured using patients' perceptions regarding the speed and efficiency of prescription services.

Patient satisfaction represented patients' overall evaluation after receiving pharmaceutical services.

Patient loyalty referred to patients' intentions to revisit the hospital, continue utilizing pharmacy services, and recommend the hospital to others.

3.5 Instrument Development

Primary data were collected using a structured questionnaire developed from validated measurement scales reported in previous healthcare service quality studies.

Each construct was measured using multiple indicators rated on a five-point Likert scale ranging from:

1 = Strongly Disagree

2 = Disagree

3 = Neutral

4 = Agree

5 = Strongly Agree

Publish by **Radja Publika**



Prior to data collection, the questionnaire was reviewed to ensure clarity, content validity, and suitability for outpatient pharmacy patients.

3.6 Data Analysis

The proposed research model was analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM). PLS-SEM was selected because it is suitable for prediction-oriented research involving multiple latent constructs, mediation analysis, and relatively complex structural models.

The analysis consisted of two stages.

First, the measurement model (outer model) was evaluated through:

- Indicator reliability
- Internal consistency reliability
- Convergent validity
- Discriminant validity

Second, the structural model (inner model) was assessed using:

- Path coefficients
- Coefficient of determination (R^2)
- Effect size (f^2)
- Predictive relevance (Q^2)
- Bootstrapping significance tests
- Mediation analysis

Statistical significance was determined using a significance level of 5%.

Results

4.1 Respondent Characteristics

A total of eligible respondents participated in this study. The respondents represented diverse demographic backgrounds with respect to age, gender, educational level, and occupation, reflecting the heterogeneous characteristics of outpatient pharmacy users.

The respondent profile indicated that outpatient pharmacy services were utilized by patients from various socioeconomic

backgrounds, thereby increasing the generalizability of the findings within similar hospital settings.

Table 1. Distribution of Respondent Characteristics at Pharmacy Siloam Hospitals Lippo Cikarang

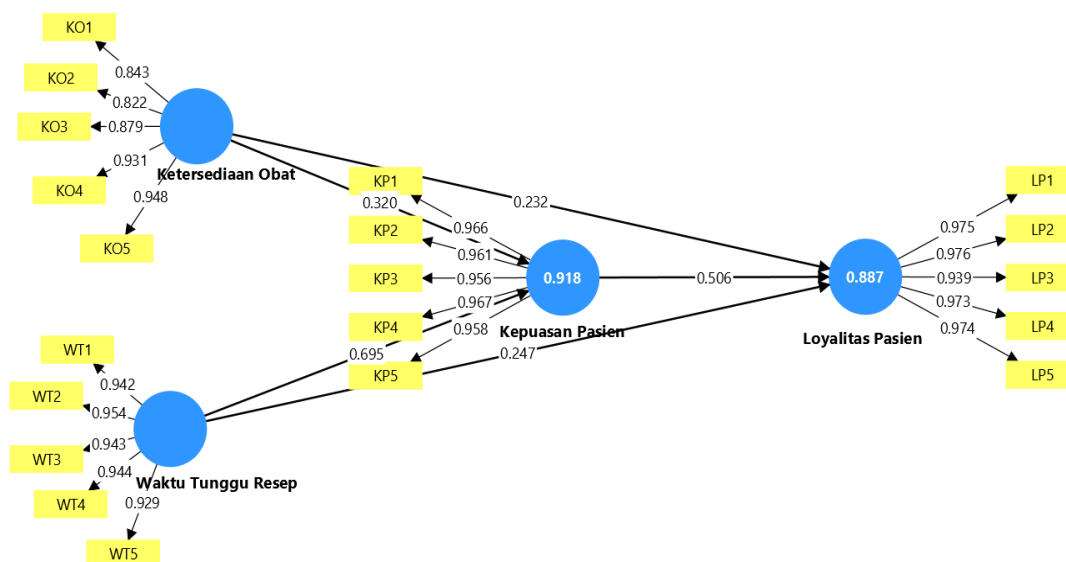
Characteristics	Frequency	Percentage
Gender		
Male	32	32%
Female	68	68%
Age of Patient		
<20 tahun	3	3%
20-30 tahun	38	32%
31-40 tahun	34	29%
>40 tahun	44	37%
Number of visits		
1 kali	35	29%
2-3 kali	38	32%
>3 kali	46	39%
Education background		
Junior high school	1	1%

EXPLORING THE MEDIATING ROLE OF PATIENT SATISFACTION IN THE RELATIONSHIP BETWEEN PHARMACY SERVICE nPERFORMANCE AND PATIENT LOYALTY

Tris Yulianti et al

Senior high school	23	20%
Diploma	19	16%
Bachelor	74	63%

Diagram 1. Outer Model Analysis



4.2 Measurement Model Evaluation

The measurement model demonstrated satisfactory psychometric properties.

Indicator reliability analysis showed that all measurement items exhibited standardized loading factors above the recommended threshold, indicating that each indicator adequately represented its respective construct. Internal consistency reliability was confirmed through Cronbach's Alpha and Composite Reliability values exceeding the recommended cutoff values. Convergent validity was established because all Average Variance Extracted (AVE) values exceeded the acceptable threshold, indicating that each construct explained more than half of the variance of its indicators. Discriminant validity assessment further demonstrated that each construct was empirically distinct from the others, confirming the adequacy of the measurement model.

Overall, the measurement model satisfied all recommended validity and reliability criteria for PLS-SEM analysis.

Table 2 Ave , Composite Reliability, and Cronbach Alpha

Variabel	AVE	Composite Reliability	Cronbach Alpha
Drug Availability	0,784	0,948	0,931
Prescription waiting time	0,888	0,975	0,968
Patient Satisfaction	0,925	0,984	0,98
Patient Loyalty	0,936	0,986	0,983

4.3 Structural Model Evaluation

The structural model was subsequently evaluated to examine the proposed hypotheses. The coefficient of determination (R^2) indicated that drug availability and prescription waiting time explained a substantial proportion of the variance in patient satisfaction. Similarly, the combined effects of drug availability, prescription waiting time,

and patient satisfaction explained a considerable proportion of the variance in patient loyalty. Predictive relevance (Q^2) values further demonstrated that the structural model possessed acceptable predictive capability.

Tabel 3. R Square

Variabel Dependen	R-Square	R-Square adjusted
Patient Satisfaction	0,918	0.916
Patient Loyalty	0,887	0.883

Tabel 4 F Square

Variabel Independen	F-Square
Drug Availability→Patient Satisfaction	0,546
Prescription waiting time→Patient Satisfaction	2.584
Patient Satisfaction →Patient Loyalty	0.185
Drug Availability →Patient Loyalty	0.135
Prescription waiting time →Patient Loyalty	0.066

4.4 Hypothesis Testing

The bootstrapping procedure was performed to evaluate the significance of structural relationships. The results indicated that drug availability significantly and positively influenced patient satisfaction. Patients who perceived medications to be consistently available reported higher satisfaction with pharmaceutical services. Conversely, prescription waiting time showed a significant negative relationship with patient satisfaction. Longer waiting times reduced patients' perceptions of service quality and overall satisfaction. Drug availability also exerted a positive and statistically significant effect on patient loyalty. Patients who consistently obtained prescribed medications from the hospital pharmacy demonstrated stronger intentions to revisit the hospital and recommend its services. Prescription waiting time negatively affected patient loyalty. Patients experiencing prolonged waiting periods expressed lower intentions to continue utilizing the hospital pharmacy in the future. Furthermore, patient satisfaction significantly enhanced patient loyalty. Satisfied patients exhibited greater trust in the hospital pharmacy, stronger repurchase intentions, and higher willingness to recommend the hospital to family members and friends.

Tabel 5 Hypothesis Test Results: Direct Path Coefficients

	Coefficient Path	T statistics (>1.64)	P value (<0.05)
Drug Availability →Patient Satisfaction	0,32	5.434	0.000
Prescription Waiting Time →Patient Satisfaction	0,695	10.670	0.000
Patient Satisfaction→Patient Loyalty	0.506	2.510	0.012
Drug Availalbility→Patient Loyalty	0.232	2.769	0.006
Prescription waiting time →Patient Loyalty	0.247	1.522	0.128

4.5 Mediation Analysis

The mediation analysis demonstrated that patient satisfaction significantly mediated the relationship between drug availability and patient loyalty. This finding suggests that adequate medication availability improves patient loyalty not only through its direct influence but also by increasing patient satisfaction. Similarly, patient satisfaction significantly mediated the relationship between prescription waiting time and patient loyalty. Shorter waiting times improved patients' healthcare experiences, resulting in higher satisfaction that subsequently strengthened patient loyalty. The mediation analysis further indicated that patient satisfaction functioned as a **partial mediator**, implying that both direct and indirect relationships remained statistically significant.

Tabel 6 Mediation Analysis Result

	Coefficient Path	T statistics (>1.64)	P value (<0.05)
Drug Availability →Patient Satisfaction→Patient Loyalty	0.162	2.400	0.016
Prescription Waiting Time→Patient Satisfaction →Patient Loyalty	0.351	2.346	0.019

4.6 Summary of Hypothesis Testing

Overall, the empirical findings supported all proposed hypotheses.

- **H1:** Drug availability positively influenced patient satisfaction.
- **H2:** Prescription waiting time negatively influenced patient satisfaction.
- **H3:** Drug availability positively influenced patient loyalty.
- **H4:** Prescription waiting time negatively influenced patient loyalty.
- **H5:** Patient satisfaction positively influenced patient loyalty.
- **H6:** Patient satisfaction mediated the relationship between drug availability and patient loyalty.
- **H7:** Patient satisfaction mediated the relationship between prescription waiting time and patient loyalty.

These findings confirm that operational indicators of pharmacy service quality influence patient loyalty both directly and indirectly through patient satisfaction. The results provide empirical evidence that improving medication availability while reducing prescription waiting time represents an effective strategy for enhancing patient-centered pharmaceutical services and strengthening long-term patient relationships.

REFERENCES

- [1] Griffin, J (2005) Customer Loyalty: How to Earn it , How to Keep It. Lexington Books.
- [2] Hair JF et al (2017) A Premier on Partial Least Squares Structural Equation Modeling (PLS-SEM) Sage.
- [3] Kementrian Kesehatan RI (2008) Standar Pelayanan Minimal Rumah Sakit.
- [4] Kementrian Kesehatan RI (2014) Permenkes no 58 Tahun 2014 tentang Standar Pelayanan Kefarmasian di Rumah Sakit.
- [4] Kementrian Kesehatan RI (2016) . Standar Pelayanan Kefarmasian di Rumah Sakit.
- [5] Kotler , P , & Keller K L (2016) Marketing Management (15th .ed) Pearson.
- [6] Oliver R(1997) Satisfaction : A Behavioral Perspective on the Consumer McGraw-Hill.
- [7] Parasuraman A , Zeithami VA & Berry L.L (1988): "SERVQUAL: A Multiple-Item Scale for Measuring Consumer Perceptions of Service Quality" Journal of Retailing.
- [8] Quick J.D et al (2012) Managing Drug Supply : Kumarian Press.

JURNAL

- [9] Abdu-Aguye S.N Labaran K S Danjuma N.M & Mohammed S (2022) An exploratory study of outpatient medication knowledge and satisfaction with medication counselling at selected hospital pharmacies in Northwestern Nigeria. PLoS ONE, 17(4 April),1-14 . <https://doi.org/10.1371/journal.pone.0266723>.

- [10]Al-Jumaili, A.A Ameen I.A & Alzubaidy D.A (2020) Influence of Pharmacy Characteristics and Customer Quality of Life on satisfaction of Community Pharmacy Customers, *INNOVATIONS in Pharmacy* , 11(1),13. <https://doi.org/10.24926/iip.v11i1.2434>
- [11]Alrubaiee, L * Alkaa'ida F (2011) "The Mediating Effect of Patient Satisfaction " *International Journal of Marketing Studies*, 3 (2) 103-127
- [12]Andaleeb , S.S (2001) " Service Quality Perceptions and Patient Satisfaction " *Social Science & Medicine*. 52(9) 1359-1970
- [13]Arlinda , (2024) Tingkat kepuasan pasien rawat jalan terhadap waktu tunggu pelayanan resep di instalasi farmasi RSIA Asih Balikpapan. <https://journal.universitasmulia.ac.id/index.php/safana/issue/view/65>
- [14]Aryanti, A.D Kumala S & Ramadaniati H.U (2024) Dampak Konseling Apoteker, Ketersediaan obat dan kualitas pelayanan kefarmasian terhadap kepuasan dan loyalitas pasien , *Jurnal Ners*,8(1),167-177.
- [14]Asabea Addo, A.Wang Dankyi A.B. Abban, O.J & bentum-Micah G (2020) Sustainability of Health Institutions: The impact of service quality and patient satisfaction on loyalty. *European Journal of Business Management Research*.5(4),1-7. <https://doi.org/10.24018/ejbmr.2020.5.4.345>
- [15]Assa AF (2025) Pengaruh Reliability , responsiveness, assurance , empathy dan tangible terhadap kepuasan pasien di RSUD Geneng. <https://doi.org/10.47467/elmal.v6i3.6643>
- [16]Assa AF et al (2025) The Impact of Service Quality on Loyalty through Satisfaction as a Mediating Variable <https://doi.org/10.61987/jemr.v4i1.908>
- [17]Purnama. ED, et al (2025) Pengaruh Waktu Tunggu Pelayanan dan Fasilitas Rumah Sakit terhadap Loyalitas Pasien yang Dimediasi Kepuasan Pasien rawat jalan di RS Pelita Anugerah Demak <https://doi.org/10.38035/jimt.v6i4.4730>
- [18]Hamomoan et al (2025) Analisis hubungan waktu tunggu Pelayanan resep dengan jumlah dan jenis resep, serta hubungan kualitas pelayanan dengan tingkat kepuasan pasien Instalasi Farmasi Rawat Jalan RS Mary Cileungsi Hijau <https://doi.org/10.52643/marsi.v9i4.7140>
- [19]Kalungia., A et al (2016) Patients Satisfaction with Outpatient Pharmacy Services at the University Teaching Hospital and Ndola Central Hospital in Zambia. *Journal of Preventive and Rehabilitative Medicine* , 1(1),13-18 <https://doi.org/10.21617/jprm.2016.0101.3>
- [20]Leemanza Y & Kristine E (2022) Pengaruh Pemberian target waktu tunggu dan umpan balik kepuasan pasien terhadap penurunan waktu tunggu pelayanan resep di instalasi farmasi rawat jalan RS Dr Oen Solo Baru.
- [21]Leemanza Y & Kristin E (2024) Effectiveness of Wait Time Targets and Patient Satisfaction Feedback in Decreasing Wait Times for Prescription Services in an Outpatient Pharmacy. *Canadian Journal of Hospital Pharmacy*,1(7),1-7. <https://doi.org/10.4212/cjhp.3438>
- [22]Muhammad F, Prasetyono (2025) Effect of Quality of Health Services and Facilities on Patient Satisfaction at Mulyoharjo Health Center, Pemalang Regency (2025) <https://journal.literasisains.id/index.php/SEHATMAS>
- [23]Nurmiwiyati ,N Oktivina DS,A Aritonang,M& KosasihK (2020) Pengaruh Ketersediaan Obat dan Kualitas Pelayanan Farmasi terhadap kepuasan dan loyalitas pasien rawat jalan (Studi pada Rumah Sakit Ibu dan Anak PKU Muhammadiyah Cipondoh , Tangerang) *Journal Surya Medika* 6(1),32-38 <https://doi.org/10.33084/jsm.v6i1.1474>
- [24]Prabowo P S & Pamudji G dan W (2016) Analysis of Factors Affecting The Availability of Drugs At The JKN Era in RSUD Dr. Soedono Madiun , *Journal Manajemen dan Pelayanan Farmasi* , 6(3), 213-218
- [25]Saputri et al (2025) "Pengaruh Ketersediaan Obat, Waktu tunggu Resep terhadap Loyalitas Pasien Rawat Jalan di RS Islam Al Muchtar Karawang . *Jurnal Manajemen dan Administrasi Rumah Sakit (MARS)* Vol 10 No 1.
- [26]Setiawan, B et al; (2024) Hubungan Ketersediaan Obat Terhadap Waktu Tunggu Pelayanan Farmasi Rawat Jalan di Rumah Sakit Bun Tangerang Tahun 2024 . *Manajemen, Jurnal Administrasi, Dan Rumah Sakit Marsi, Indonesia*,8(4), 459-468.
- [27]Simanjuntak , et al (2020) Manajemen sumber daya manusia dengan waktu tunggu pasien di pelayanan farmasi Rumah Sakit X *Jurnal Prima Medika Sains*, 2(2),32-36 <https://doi.org/10.34012/jpms.v2i2.973>
- [28]Sulistiowati, E, et al 2025 Analisis Pengaruh Waktu tunggu pelayanan dan pemberian informasi obat terhadap loyalitas pasien dimediasi kepuasan pasien rawat jalan di Rumah Sakit Tingkat III Brawijaya <https://doi.org/10.37504/map.v8i1.704>
- [29]Syifa N et al (2024) . Pemberian Informasi Obat dan Waktu Tunggu Pelayanan Dengan Tingkat Kepuasan Pasien di RSUD Ratu Zalecha Martapura Providing Information on Drug and Service Waiting Times with Patient

- Satisfaction Level At Ratu Zalecha Martapura Hospital,JIHA, 1(1),9-15 .
<https://jurnalstikesintanmartapura.com/index.php/jiha>
- [30]Winoto H.Tj, (2022) Pengaruh Kualitas Pelayanan dan Citra Merek Terhadap Loyalitas Dimediasi oleh Kepuasan Pasien
<https://doi.org/10.55129/gemaekonomi.v11i4.1984>
- [31]Winoto H.Tj, Wahyoedi S(2023) Pengaruh Kualitas Pelayanan dan Penanganan Keluhan Terhadap Loyalitas Pasien BPJS Dimediasi oleh Kepuasan Pasien pada Klinik Mutiara Gading Medika Bekasi
<https://doi.org/10.54783/jser.v5i2.281>
- [32]Winoto H.Tj , Kurniawan , Fushen (2022) Pengaruh Kualitas Layanan dan Penanganan Keluhan Terhadap Loyalitas Pasien BPJS Dimediasi oleh Kepuasan Pelanggan (Studi pada Pasien Pengguna BPJS Kesehatan di RSIA Bunda Sejahtera) <http://ejournal.urindo.ac.id/index.php/MARSI>
- [33]Winoto H.Tj , Fushen & Rampi C (2022) Pengaruh Kualitas Layanan dan Kepercayaan terhadap Loyalitas Pasien yang Dimediasi Kepuasan Pasien di Klinik Utama Ardita. Jurnal Manajemen Bisnis dan Inovasi (JMBI)
- [34]Wiranata, Jadee & Handoyo, Sarwo. (2025). Pengaruh kualitas layanan dan waktu tunggu terhadap loyalitas melalui kepuasan pasien bpjs kesehatan di rumah sakit tipe b di Jakarta Utara. Jurnal Manajemen Bisnis dan Kewirausahaan. 9. 237-251. 10.24912/jmbk.v9i2.33895.
- [35]Yulia (2025) Analisis waktu tunggu pelayanan resep rawat jalan di Rumah Sakit X Cibadak Kabupaten Sukabumi
<https://repository.bku.ac.id/id/eprint/3965>
- [36]Yuliandani Y et al (2022) Patient Satisfaction wih clinical pharmacy services and the affecting factors: a literature review. Pharmacia , 69(1),227-236. <https://doi.org/10.3897/pharmacia.69.e80261>
- [37]Valerie et al (1996) The Behavioral Consequences of Service Quality