

## **REVIEW: THE RELATIONSHIP OF DRUGS INFORMATION SERVICES TO CHRONIC PATIENT LOYALTY**

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### **ABSTRACT**

Patient loyalty is one of the most important factors in drug therapy to achieve successful disease treatment. We conducted a literature review to examine the relationship between drug information services and chronic patient loyalty in pharmacies. The method used was a systematic examination of related studies and articles, using a qualitative approach. The first screening included 50 articles and excluded 9 articles, the second screening excluded 30 articles, and the final articles used in this review were 11 articles. The results showed that drug information services had a positive effect on patient loyalty through the mediation of patient satisfaction. The factors that influence drug information services include the type of drug information, competence of the pharmacist, interpersonal communication, and service time. The factors that influence patient loyalty include trust, commitment, customer value, and switching costs.

**Keywords:** Drug information service, patient loyalty, patient satisfaction, service quality, pharmaceutical service quality, customer satisfaction.

### **INTRODUCTION**

A drug information service is a form of pharmaceutical service that aims to provide accurate, complete, and easy-to-understand information about drugs to patients or consumers. Drug information services can be provided by pharmaceutical personnel in pharmacies. Drug information services can include information such as drug name, indication, dosage, method of use, side effects, interactions, contraindications, and drug storage (Hidayati and Muslikh, 2021).

Drug information services have various benefits for patients, including increasing their knowledge, understanding, and skills in using drugs that are rational and safe (Lesmana, 2016). In addition, drug information services can also improve compliance so that it can improve the quality of life of patients or consumers (Sutrisnawati et al., 2023).

Drug information services can also prevent or reduce the risk of medication errors, side effects, interactions, or allergic reactions that can endanger the health of patients or consumers (Hidayati and Muslikh, 2021). Drug information services are also an important aspect of health services; therefore, along with the increasing quality of

drug information services, the quality of services also increases. Service quality plays an important role in shaping customer loyalty because customers will be happy to return to shopping if they receive good service (Dam and Dam, 2021).

Patient loyalty is the attitude and behavior of patients to continue to use or recommend the same or better health services from other available health services (Syafarudin, 2021). Patient loyalty is an indicator of the success and performance of health services because it can increase their revenue, market share, reputation, and competitiveness of health services (Arfifahani, 2018). Patient loyalty can also reduce marketing, promotion, and new patient acquisition costs (Purbosari *et al.*, 2023).

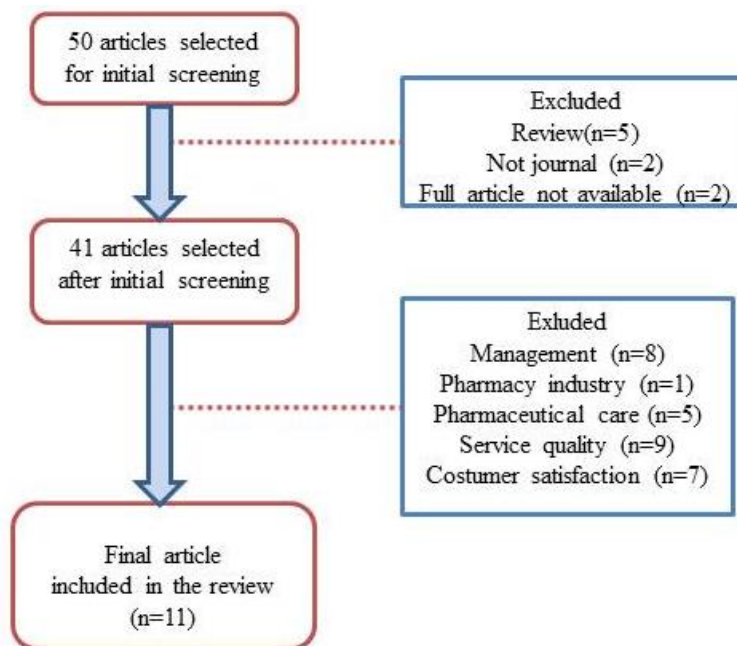
The relationship between drug information services and patient loyalty is an interesting topic to study because it provides an overview of how drug information services can influence patient behavior and preferences for health services. This relationship can also provide input for parties involved in health services, such as pharmaceutical personnel, management, and government, to improve the quality and quality of drug information services that can satisfy and maintain patient loyalty (Gül, Helvacioğlu, and Saraçlı, 2023).

This literature review aimed to examine the relationship between drug information services (service quality/pharmaceutical service quality/customer satisfaction) and patient loyalty. The research questions to be answered in this literature review were as follows: What is the relationship between drug information services and patient loyalty? What factors influence drug information services and patient loyalty? What are the implications and recommendations of this literature review for those involved in health care?

## **RESEARCH METHOD**

Data collection was conducted by searching for appropriate studies and articles using search engines such as Google Scholar, PubMed, and Scopus. The keywords used in the search were: "drug information service", "service quality", "pharmaceutical service quality", "customer satisfaction", "loyalty". There were inclusion criteria for the article selection.

- Studies or articles that discuss the relationship between drug information services (service quality/pharmaceutical service quality/customer satisfaction) and patient loyalty.
- Studies or articles published in Indonesian or English
- Studies or articles published within the 2015-2023 timeframe.



**Figure 1. Screening Article Process**

## RESULTS AND DISCUSSION

This literature review identified two main variables to be analyzed: drug information services (X) and patient loyalty (Y). In addition, this literature review also identified several secondary variables related to the main variables: patient satisfaction (Z), type of drug information (A), competence of pharmaceutical personnel (B), interpersonal communication (C), service time (D), trust (E), commitment (F), customer value (G), and switching cost (H).

Based on the results of this literature review, it was found that drug information services had a positive effect on patient loyalty, mediated by patient satisfaction. This means that the better the drug information service provided, the higher the patient satisfaction felt and the higher the patient loyalty (Sutrisnawati *et al.*, 2023). This literature review also found that drug information services are influenced by several factors, namely, the type of drug information, competence of pharmaceutical personnel, interpersonal communication, and service time. Therefore, the better these factors are, the better the drug information service provided. This literature review also found that patient loyalty is influenced by several factors, namely, trust, commitment, customer value, and switching costs. This means that the higher these factors, the higher the patient loyalty. This literature review also found some key findings relating to the relationship between drug information services and patient loyalty:

### 1. Drug information services give benefits for patients

Drug information services are an important aspect of pharmaceutical services, as they can provide significant benefits to patients, including improving knowledge, understanding, and skills in the rational and safe use of drugs; improving patient compliance, independence, and quality of life; and preventing or reducing the risk of medication errors, side effects, interactions, or allergic reactions that can harm the health of patients or consumers. Drug information from healthcare professionals helps patients prevent medication errors and enhance the safety of drug use (Almuqbil, 2022).

Drug information plays an important role in medical services, especially for drugs to help patients in their medication. Knowledge about the dose, route of administration,

adverse effects, and contraindications of the drugs is the whole aspect that should be known for the patients and their families (Almuqbil *et al.*, 2022).

## 2. Drug information services improve the performances of health services

Drug information services are also an important aspect of health services because they can have a significant impact on the parties involved in health services, including increasing the success and performance of health services; increasing revenue, market share, reputation, and competitiveness of health services; reducing marketing, promotion, and new patient acquisition costs; improving the quality of health services because it can increase patient satisfaction, trust, and loyalty; and improving cooperation and coordination between pharmaceutical personnel and other health personnel because it can improve mutually beneficial communication, information, and education (Asabea Addo *et al.*, 2020).

Pharmacy is not only profit-oriented, but the comprehensive information of drugs due to the patients' trust in the health care center and will elevate the quality of pharmaceutical services. Currently, patients not only need the drug but also a place to discuss all the drugs that are consumed, the side effect contraindication, and all the information needs (Asabea Addo *et al.*, 2020; Mahfudhoh and Muslimin, 2020).

## 3. Drug information services and patient loyalty

The relationship between drug information services and patient loyalty can be influenced by various factors, both in terms of drug information services and patient loyalty. The factors affecting drug information services include the type of drug information, competence of pharmaceutical personnel, interpersonal communication, and service time. The factors affecting patient loyalty include patient satisfaction, trust, commitment, customer value, and switching costs. These factors can determine the level of dependence, loyalty, repetition, recommendation, preference, excellence, and differentiation of patients towards drug information services (Sa'adah, Hariyanto, and Rohman, 2015).

The quality of services is not only about the drug and medication, the completeness of the drug, but more importantly, the delivery of drug information to the patient. Comprehensive information will cause patients to be comfortable and satisfied. The patient will return to the healing center when they need information about the drug and medication. If this activity is repeated for a long time, patient loyalty is formed. Patient satisfaction strongly affects loyalty (Sa'adah, Hariyanto, and Rohman, 2015; Gül, Helvacioğlu, and Saraçlı, 2023).

## 4. Drug information services and patient satisfaction

The relationship between drug information services and patient loyalty can be described by a model showing that drug information services have a positive effect on patient loyalty through the mediation of patient satisfaction. The model also shows that drug information services and patient loyalty are influenced by several other factors related to the quality and cost of drug information services, patient characteristics and conditions, and other health care options and alternatives available (Gül, Helvacioğlu, and Saraçlı, 2023; Mahfudhoh and Muslimin, 2020; Ulhaq and Ningtiyas, 2022).

Patient satisfaction is a factor that affects patient loyalty. When a patient insists on medication or the use of a drug, they will return to the health service. This activities done repeatedly and resulting in patients loyalty (Gül, Helvacioğlu, and Saraçlı, 2023).

**Table I. The impact of quality service into consumer loyalty**

No	Author	Aim of the study	Results
1	(Hidayati and Muslikh, 2021)	To determine the effect of service quality on satisfaction and its impact on the loyalty behavior of YARSI University students.	Service quality has a positive and significant effect on satisfaction and loyalty behavior.
2	(Lesmana, 2016)	To examine the effect of industrial estate satisfaction and services on industrial estate user loyalty.	The loyalty of industrial estate users is not only determined by the quality of services provided by industrial estate companies but also influenced by external factors, including government support for the growth and development of industrial estates through the issuance of legal rules that protect entrepreneurs and companies in a fair and transparent manner.
3	(Arfifahani, 2018)	To analyze and explain the effect of Customer Value on Customer Satisfaction, the effect of Customer Value on Customer Loyalty, and the effect of Customer Satisfaction on Customer Loyalty.	Significant influence of the Customer Value variable on Customer Satisfaction and Customer Loyalty.
4	(Asabea Addo <i>et al.</i> , 2020)	To examine and analyze the effect of service quality from medical personnel on patient satisfaction and patient loyalty.	Quality of medical personnel services has a positive relationship with patient satisfaction through the mediating influence of patient satisfaction. In other words, the better the quality of service provided by medical personnel, the higher the level of patient satisfaction and loyalty.
5	(Sutrisnawati <i>et al.</i> , 2023)	To analyze the relationship between drug information provision and patient satisfaction, as well as confounding variables.	<ul style="list-style-type: none"> <li>- The type of drug information conveyed by pharmaceutical staff is not related to patient satisfaction at Indobat Padangsambian Pharmacy.</li> <li>- To make patients satisfied and loyal to the pharmacy, pharmacy staff should pay attention to the patient's occupational background and personal relationship with the patient when providing drug information.</li> </ul>
6	(Purbosari <i>et al.</i> ,	To assess the quality of pharmacy services	Service quality has a significant relationship between

	2023)	and patient retention at Dr. Mohamad Soewandhie Hospital and see the relationship between quality of health services and the loyalty of BPJS and non-BPJS patients.	pharmaceutical installation service quality and patient loyalty.
7	(Gül, Helvacıoğlu, and Saraçlı, 2023)	To evaluate service quality, outpatient satisfaction, and patient loyalty in community pharmacies in Turkey.	Community pharmacies are seen as important healthcare providers in the health system, and therefore, improving their service quality can contribute significantly to patient satisfaction and loyalty.
8	(Sa'adah, Hariyanto, and Rohman, 2015)	To determine the effect of pharmaceutical service quality on patient satisfaction and loyalty in the outpatient pharmacy depot at Gambiran Hospital.	Pharmacy service quality has a positive and significant effect on patient satisfaction .
9	(Shrestha <i>et al.</i> , 2020)	To highlight the current scenario of drug information services in Nepal, challenges for DICs, how DICs can be strengthened, and future prospects for DICs.	Drug information services have an important role to play in improving patient outcomes, reducing adverse drug reactions (ADRs) and reducing medication errors.
10	(Pribadi <i>et al.</i> , 2021)	To explore the mechanisms by which pharmacy services, patient emotions, satisfaction, and trust influence patient loyalty.	Pharmacy services have significant effects on emotions, satisfaction, and trust have a full mediating role.
11	(Yum and Yoo, 2023)	To identify the relationship between service quality, customer satisfaction, and customer loyalty in mobile social media.	Usability, convenience, design, and privacy/security have a significant and positive effect on customer satisfaction that mediates the relationship between service quality and customer loyalty.

## CONCLUSION

Patient loyalty is influenced by several factors, namely, trust, commitment, customer value, and switching costs; thus, the higher these factors, the higher the patient loyalty. This literature review provides implications and recommendations for parties involved in health services, including: pharmaceutical workers must improve the quality of drug information services provided to patients or consumers by providing drug information that is accurate, complete, and easy to understand, improving competence and skills in providing drug information, improving effective and empathetic interpersonal communication, and improving the efficiency and effectiveness of service time.

Health service management must support and facilitate quality drug information services by providing adequate and modern facilities and equipment, sufficient and well-trained human resources, incentives and rewards for outstanding pharmaceutical personnel, and an objective and transparent monitoring and evaluation system.

The government must regulate and supervise quality drug information services by setting clear and firm standards and regulations, conducting fair and consistent supervision and law enforcement, socializing and educating the public about the importance of drug information services, and collaborating with other parties related to drug information services.

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## REFERENCES

- Almuqbil, Mansour et al. 2022. "The Role of Drug Information Centers to Improve Medication Safety in Saudi Arabia - a Study from Healthcare Professionals' Perspective: The Role of Drug Information Centers to Improve Medication Safety in Saudi Arabia." *Saudi Pharmaceutical Journal* 30(4): 377–81. <https://doi.org/10.1016/j.jsps.2022.01.024>.
- Arfifahani, David. 2018. "Pengaruh Nilai Pelanggan Terhadap Loyalitas Pelanggan Melalui Kepuasan Pelanggan (Studi Kasus Concordia Executive Lounge Terminal A Bandara International Adisutjipto Yogyakarta)." *Jurnal Ekobis Dewantara* 1(3): 42–47.
- Asabea Addo, Antoinette et al. 2020. "Sustainability of Health Institutions: The Impact of Service Quality and Patient Satisfaction on Loyalty." *European Journal of Business and Management Research* 5(4): 1–7.
- Dam, Sao Mai, and Tri Cuong Dam. 2021. "Relationships between Service Quality, Brand Image, Customer Satisfaction, and Customer Loyalty." *Journal of Asian Finance, Economics and Business* 8(3): 585–93.
- Gül, İsa, Ender Tunçer Helvacıoğlu, and Sinan Saraçlı. 2023. "Service Quality, Outpatient Satisfaction and Loyalty in Community Pharmacies in Turkey: A Structural Equation Modeling Approach." *Exploratory Research in Clinical and Social Pharmacy* 12(October).
- Hidayati, Rini, and Muslikh Muslikh. 2021. "Pengaruh Mutu Pelayanan Terhadap Kepuasan Dan Dampaknya Terhadap Perilaku Loyaitas (Studi Empirik Pada Pelayanan Non Akademik Di Universitas Yarsi)." *Jurnal Orientasi Bisnis dan Entrepreneurship*

- (*JOBS*) 1(1): 38–56.
- Lesmana, Hendra. 2016. “Pengaruh Kualitas Kepuasan Dan Pelayanan Terhadap Loyalitas Pengguna Kawasan Industri.” *Jurnal Aplikasi Manajemen* 14(4): 788–801.
- Mahfudhoh, Mahfudhoh, and Ikhwanul Muslimin. 2020. “Pengaruh Kualitas Pelayanan Terhadap Kepuasan Pasien Pada Rumah Sakit Umum Daerah Kota Cilegon.” *Jurnal Ilmiah Manajemen Kesatuan* 8(1): 39–46.
- Pribadi, Prasojo, Susi Ari Kristina, Suci Paramitasari Syahlani, and Satibi. 2021. “Building Patient Loyalty in Pharmacy Service: A Comprehensive Model.” *Indonesian Journal of Pharmacy* 32(2): 241–50.
- Purbosari, Ira, Intan Ayu Kusuma Pramushinta, Asri Wido Mukti, and Dian Viciennsia Sigalingging. 2023. “Quality of Pharmaceutical Services on Patient Loyalty of RSUD Soewandhie Surabaya.” *Indonesian Journal of Pharmaceutical Science and Technology* 1(1): 65–71.
- Sa’adah, Evi, Tatong Hariyanto, and Fatchur Rohman. 2015. “Pengaruh Mutu Pelayanan Farmasi Terhadap Kepuasan Dan Loyalitas Pasien Rawat Jalan Dengan Cara Bayar.” *Jurnal Aplikasi Manajemen* 13(1): 65–76. <https://jurnaljam.ub.ac.id/index.php/jam/article/view/742>.
- Shrestha, Sunil et al. 2020. “Overview, Challenges and Future Prospects of Drug Information Services in Nepal: A Reflective Commentary.” *Journal of Multidisciplinary Healthcare* 13: 287–95.
- Sutrisnawati, Ni Komang Ayu Bintang, Ni Putu Dewi Agustini, Ni Nyoman Yudianti Mendra, and Ni Putu Udayana Antari. 2023. “Pengaruh Pemberian Informasi Obat Terhadap Kepuasan Pasien Serta Faktor Pengganggu Yang Terlibat Di Dalamnya.” *Jurnal Manajemen dan Pelayanan Farmasi (Journal of Management and Pharmacy Practice)* 13(4): 295–306.
- Syafarudin, Afriapollo. 2021. “Ilomata International Journal of Tax & Accounting (IJTC) The Effect of Product Quality on Customer Satisfaction Implications on Customer Loyalty in the Era Covid-19.” *Ilomata International Journal of Tax & Accounting (IJTC)* 2(1): 71–83. <https://www.ilomata.org/index.php/ijtc>.
- Ulhaq, Muhammad Zia, and Fitria Ariya Ningtiyas. 2022. “Hubungan Antara Kualitas Pelayanan Dengan Kepuasan Pasien Di Klinik Pratama.” *Indonesian Journal of Hospital Administration* 5(1): 45–51. <http://ejournal.almaata.ac.id/index.php/IJHAA>.
- Yum, Kyeongmin, and Byungjoon Yoo. 2023. “The Impact of Service Quality on Customer Loyalty through Customer Satisfaction in Mobile Social Media.” *Sustainability (Switzerland)* 15(14).