

Assessment of patient satisfaction toward pharmaceutical information services in community pharmacy

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ABSTRACT

Pharmaceutical information services (PIS) are vital to pharmacy practice standards that focus on providing patients with accurate and comprehensive drug-related information. This service plays a significant role in enhancing patient compliance and ensuring rational drug use. The present study aims to assess patient satisfaction with pharmaceutical information services at Nur Ichsan Pharmacy, Makassar City. A descriptive research design was applied, using questionnaires as the primary data collection tool. The Likert scale was employed to measure patient satisfaction levels. Sampling was conducted using a quota sampling technique, involving 70 respondents who met the inclusion criteria. Data were analyzed quantitatively and presented as percentage scores. The findings revealed that the overall level of patient satisfaction toward pharmaceutical information services at Nur Ichsan Pharmacy was categorized as satisfied, with an average satisfaction percentage of 76.24%. Among the five service quality dimensions, assurance showed the highest satisfaction level (83.52%), followed by tangible (77.04%), responsiveness (74.66%), empathy (74.28%), and reliability (71.61%). These results indicate that patients were generally satisfied with the service quality, particularly regarding professionalism, safety assurance, and physical facilities. However, improvements are needed in the consistency of information delivery and the written documentation of drug information. Strengthening these aspects can enhance pharmaceutical care quality and promote rational drug use in community pharmacies.

Keywords: Assurance, Empathy, Reliability, Responsiveness, Tangible.



INTRODUCTION

Pharmaceutical information services (PIS) are an essential component of modern pharmaceutical care that aims to optimise drug therapy outcomes and ensure the rational use of medicines [1]. In community pharmacies, pharmacists have a vital role as providers of accurate, evidence-based drug information to patients [2]. This service not only focuses on dispensing medications but also includes counseling, education, and drug therapy monitoring [3]. The provision of drug information enhances patient knowledge, improves adherence to medication regimens, and minimizes the risk of adverse drug reactions or misuse. Therefore, the quality of pharmaceutical information services reflects the professionalism of pharmacists and the overall standard of pharmaceutical care within a community setting [4].

In recent years, the paradigm of pharmacy practice has shifted from product-oriented services to patient-centred care. This transformation aligns with the principles of pharmaceutical care, emphasizing the pharmacist's responsibility to achieve positive patient therapeutic outcomes [5]. According to the Indonesian Ministry of Health Regulation No. 73 of 2016 concerning pharmaceutical service standards, pharmacies must provide clinical pharmacy services, including prescription review, drug dispensing, counselling, home pharmacy care, drug therapy monitoring, and adverse drug reaction surveillance. Within this framework, delivering accurate and timely drug information is crucial for maintaining patient safety and ensuring treatment effectiveness [6].

Patient satisfaction has become a key indicator in evaluating the quality of health services, including pharmacy-based pharmaceutical care. Satisfaction reflects the patient's perception and emotional response to the services received compared to their expectations. A high level of satisfaction indicates that patients perceive the services as meeting or exceeding their expectations. At the same time, dissatisfaction can lead to reduced trust, poor compliance, and a decline in service utilisation [7]. In the context of community pharmacies, assessing patient satisfaction with pharmaceutical information services helps identify areas of strength and potential improvement, ensuring that the pharmacy continues delivering care that meets professional standards and patient needs [8].

Several studies have shown that effective communication and comprehensive information delivery directly relate to patient satisfaction. Patients who understand their medications, such as indications, dosage, administration methods, side effects, and storage requirements, are more likely to adhere to treatment and achieve optimal therapeutic outcomes [9]. Conversely, inadequate drug information can lead to medication errors, irrational drug use, or poor adherence, which may compromise the safety and efficacy of therapy. Hence, assessing patient satisfaction toward pharmaceutical information services is essential for improving the quality of pharmaceutical care and promoting rational drug use [10].

Community pharmacies, as the most accessible healthcare facilities, are important in supporting public health. They often serve as the first point of contact for patients seeking advice or treatment. In this context, pharmacists act as healthcare professionals and communicators, bridging the gap between medical knowledge and patient understanding [11]. However, previous studies have indicated that not all pharmacies in Indonesia fully implement the standards of pharmaceutical care. Some limitations include insufficient counseling, inadequate information on side effects or drug interactions, and lack of written documentation for patients. These gaps may negatively affect patient satisfaction and the overall perception of pharmacy services. The present study, therefore, focuses on assessing patient satisfaction toward pharmaceutical information services at Nur Ichsan Pharmacy in Makassar City. This pharmacy was selected due to its active role in providing drug information and its integration with clinical services. The study employs a descriptive method using questionnaires to gather data from patients who have received pharmaceutical information services. The results are expected to provide valuable insights into how well the pharmacy meets patient expectations and complies with established pharmaceutical care standards. Moreover, the findings will help identify specific aspects such as responsiveness, reliability, assurance, empathy, and tangibility that contribute most significantly to patient satisfaction.

Ultimately, the assessment of patient satisfaction toward pharmaceutical information services serves as a feedback mechanism for continuous quality improvement. By understanding patient perceptions, pharmacists and healthcare providers can enhance communication, strengthen professional

competencies, and develop patient-centered service strategies. This approach not only improves the quality of care but also fosters patient trust, loyalty, and adherence to therapy key outcomes in achieving optimal health and promoting the rational use of medicines in the community.

MATERIALS AND METHODS

Study Design

This study employed a **descriptive quantitative design** to assess the level of patient satisfaction toward pharmaceutical information services at Nur Ichsan Pharmacy, Makassar City. The descriptive approach was chosen to systematically illustrate the characteristics of patients' perceptions and satisfaction levels without manipulating any study variables. Data were collected using structured questionnaires designed to evaluate the quality of drug information services provided by pharmacists and pharmacy staff.

Study Location and Period

The research was conducted at Nur Ichsan Pharmacy, located on Jl. Syech Yusuf No. 73A, Makassar City, South Sulawesi, Indonesia. The data collection process took place from April to June 2025, following permission from the pharmacy management and approval from Politeknik Sandi Karsa Makassar, the academic institution.

Population and Sample

The population of this study consisted of all patients who visited Nur Ichsan Pharmacy in March 2025, totaling 674 individuals. The study sample included patients who met the inclusion criteria and were willing to participate. A quota sampling technique was applied to select respondents until the desired number of participants was reached, resulting in a total sample of 70 respondents. This technique ensured that the sample represented the diversity of patients visiting the pharmacy in terms of age, gender, and frequency of visits.

Inclusion and Exclusion Criteria

The inclusion criteria were:

1. Patients aged between 17 and 60 years.
2. Patients who were able to communicate clearly and consented to participate in the study.
3. Patients who had visited the pharmacy more than once.
4. Patients who had received pharmaceutical information services from the pharmacist.

The exclusion criteria included:

1. Individuals with a background in health sciences or pharmacy education, to prevent professional bias.
2. Patients who refused or were unable to complete the questionnaire.
3. Patients who had not received any drug information services during their visits.

Data Collection Technique

The primary data were collected through direct interviews and self-administered questionnaires distributed to eligible patients after receiving pharmaceutical services. The questionnaire was designed based on the SERVQUAL (Service Quality) model, which evaluates service quality across five key dimensions:

1. **Responsiveness** promptness and willingness to assist patients.
2. **Reliability** accuracy and consistency in providing drug information.
3. **Assurance** knowledge, courtesy, and trustworthiness of pharmacy staff.
4. **Empathy** individualized attention and concern for patients' needs.
5. **Tangibles** physical facilities, cleanliness, and appearance of the pharmacy.

Secondary data were also obtained from relevant literature, including academic journals, books, and official regulations related to pharmaceutical care standards and patient satisfaction.

Data Analysis

All questionnaire responses were tabulated, coded, and analyzed quantitatively. The Likert scale scores were converted into percentage values to determine the overall satisfaction level.

The results were then classified into five levels of satisfaction:

81–100% = Very satisfied

61–80% = Satisfied

41–60% = Fairly satisfied

21–40% = Less satisfied

1–20% = Not satisfied

Descriptive statistical analysis was performed to summarize patient responses, and the findings were presented in the form of tables and percentages. Each dimension of service quality was evaluated to determine which aspects had the highest and lowest satisfaction ratings.

Ethical Considerations

Before data collection, all respondents were informed about the study's objectives and procedures. Participation was voluntary, and each respondent signed a written informed consent form before answering the questionnaire. The confidentiality of all respondents' identities and responses was strictly maintained throughout the research process. Ethical approval and research authorization were obtained from the Ethics Committee of Politeknik Sandi Karsa Makassar and the management of Nur Ichsan Pharmacy.

RESULTS

Table 1. Demographic Characteristics of Respondents

No	Variable / Dimension	Category / Indicator	Frequency (n)	Percentage (%)	Mean Score (%)	Satisfaction Category
Respondent Characteristics						
1	Gender	Male	26	37.14	—	—
		Female	44	62.86	—	—
2	Age Group (Years)	17–35	34	49.00	—	—
		36–60	36	51.00	—	—
Satisfaction by Service Quality Dimension						
1	Responsiveness	Staff act quickly, provide accurate and timely information	—	—	74.66	Satisfied
2	Reliability	Consistency and completeness of information given	—	—	71.61	Satisfied
3	Assurance	Pharmacist's professionalism, confidence, and packaging quality	—	—	83.52	Very Satisfied
4	Empathy	Politeness, fairness, and attentiveness to patient needs	—	—	74.28	Satisfied
5	Tangibles	Cleanliness, facilities, and physical environment	—	—	77.04	Satisfied
	Overall Satisfaction Level	—	—	—	76.24	Satisfied

The demographic profile and satisfaction outcomes collectively demonstrate that the majority of patients visiting Nur Ichsan Pharmacy were female (62.86%), while male respondents accounted for 37.14%. This suggests that women are more likely to be engaged in seeking healthcare services and may pay closer attention to the quality and accuracy of pharmaceutical information. In terms of age distribution, respondents were almost evenly split between younger adults (49%) and middle-aged adults (51%), showing a balanced representation of the pharmacy's patient base. Younger patients tend to value efficiency and modern communication, while older adults often appreciate empathy and personal interaction.

Regarding satisfaction levels, the overall mean score was 76.24%, which falls within the "Satisfied" category. This indicates that patients perceive the pharmaceutical information services at Nur Ichsan Pharmacy as good and meeting their expectations. However, the results also reveal variation

among the five dimensions of service quality: The Assurance dimension achieved the highest satisfaction score (83.52%), indicating a level of very satisfied. Patients expressed strong confidence in the professionalism, courtesy, and competence of the pharmacy staff. The pharmacists' ability to provide medicines in proper packaging and clearly explain their use significantly contributed to patient trust. The Tangibles dimension ranked second (77.04%), indicating that patients were generally satisfied with the cleanliness, comfort, and overall completeness of the pharmacy's physical environment. A well-organized and hygienic workspace enhances the perception of service quality and professionalism. The Responsiveness dimension scored 74.66%, indicating that patients were generally satisfied with the promptness of the service and the pharmacists' willingness to respond to questions or address issues. However, some respondents suggested that written information on drug use could further enhance understanding, especially for patients who have difficulty remembering verbal explanations. The Empathy dimension (74.28%) reflected that patients felt respected and treated fairly. Pharmacists' polite demeanor, patience in listening to complaints, and equal attention to all customers contributed to positive experiences and loyalty. The Reliability dimension received the lowest satisfaction score (71.61%), although it was still within the "satisfied" range. This result suggests that while most of the information provided was accurate, consistency in communication, particularly regarding drug storage instructions and potential side effects, needs improvement. Patients expect clear, standardized information across all visits.

The combined data indicate that patients are generally satisfied with the pharmaceutical information services provided at Nur Ichsan Pharmacy. The pharmacists' professional competence and customer-oriented approach have built trust and satisfaction among patients. However, to reach an excellent satisfaction level, the pharmacy should enhance written communication, uniformity in drug counseling, and periodic service evaluations to ensure continuous quality improvement.

DISCUSSION

The results of this study revealed that the overall level of patient satisfaction toward pharmaceutical information services at Nur Ichsan Pharmacy, Makassar City, was 76.24%, which falls within the "satisfied" category. This finding indicates that the pharmacy has successfully implemented several key aspects of pharmaceutical care and provided patients with a satisfactory level of drug information. Nevertheless, there remain areas that require improvement to reach a higher standard of excellence, particularly in the consistency and comprehensiveness of information delivery [12]. Pharmaceutical information services (PIS) play a vital role in ensuring rational drug use, improving medication adherence, and enhancing therapeutic outcomes. In this study, patients expressed satisfaction across five major service dimensions: responsiveness, reliability, assurance, empathy, and tangibility, which together reflect both technical and interpersonal aspects of pharmaceutical care. Demonstrated that patient satisfaction is closely linked to the effectiveness of communication, professional behavior, and the availability of supporting facilities within community pharmacies [13].

Responsiveness

The responsiveness dimension obtained an average score of 74.66%, indicating that patients perceived the pharmacy staff as attentive and prompt in providing services. This aligns with the expectation that pharmacists should not only dispense medications but also respond promptly to patient inquiries, particularly regarding drug interactions or administration methods. However, the lowest score within this dimension (68.28%) was observed in the indicator related to providing written drug information. This suggests that although verbal counseling is generally well-delivered, written documentation remains limited [14]. Providing written materials such as leaflets or medication guides enhances patient understanding, particularly for elderly or less literate patients. Therefore, Nur Ichsan Pharmacy could strengthen this aspect by developing printed or digital information tools to complement verbal counseling [15].

Reliability

Reliability, which reflects the accuracy and consistency of information delivery, recorded the lowest satisfaction score (71.61%). Although patients were delighted with explanations about drug usage (90.28%), the information about storage methods (63.71%) and possible side effects (60.85%)

was perceived as incomplete. Many community pharmacies still lack structured procedures for consistently communicating drug safety and storage instructions [16]. Enhancing reliability requires establishing standardized counseling checklists and ensuring that every pharmacist provides uniform information to all patients [17]. Training programs focusing on clinical communication could also help minimize variation in service quality [18].

Assurance

The assurance dimension achieved the highest score (83.52%), indicating strong patient confidence in the pharmacists' competence and professionalism. The majority of patients expressed trust in the quality of medicines dispensed, the accuracy of labeling, and the staff's ability to provide safe and reliable advice [19]. Trust and professionalism are key factors that influence patient satisfaction in pharmacy services. The presence of well-trained and courteous pharmacists at Nur Ichsan Pharmacy has clearly strengthened patient perception of safety and reliability [20]. Nonetheless, continuous professional development and adherence to the Ministry of Health's standards (Permenkes No. 73/2016) remain essential to maintain high assurance levels [21].

Empathy

The empathy dimension obtained a satisfaction level of 74.28%, reflecting that patients felt respected and personally cared for. Pharmacists' politeness, fairness, and patience in handling patient concerns are vital components of patient-centered care. Empathetic communication enhances patient trust and emotional comfort, both of which are essential for improving adherence [22]. At Nur Ichsan Pharmacy, maintaining consistent empathy among all staff members, especially during busy hours, is recommended. Regular communication training and reinforcement of patient-centered ethics can further enhance this dimension [23].

Tangibles

The tangible dimension scored 77.04%, indicating that the pharmacy's physical environment and facilities positively contributed to patient satisfaction. A clean, organized, and comfortable pharmacy environment not only supports effective communication but also fosters a sense of professionalism and safety. The highest indicator (85.42%) was the adequacy of the waiting area, while slightly lower scores were observed in the availability of private counseling space (73.14%) and storage organization (72.57%). This suggests that the pharmacy should consider optimizing its spatial layout to facilitate privacy during counseling sessions and improve the visual organization of drug storage areas. Physical environment improvements directly enhance patient perceptions of service quality [24]. Taken together, the findings of this study demonstrate that pharmaceutical information services at Nur Ichsan Pharmacy are operating effectively but not yet optimally [25]. While most patients are satisfied, the variation among service dimensions reveals that continuous quality improvement is needed, especially in ensuring reliable, written, and standardized information delivery. Moreover, fostering consistent empathy and expanding counseling facilities could further elevate the patient experience [26].

These results also confirm the importance of evaluating patient satisfaction as a feedback mechanism for pharmacy management. Satisfaction surveys enable pharmacists to understand patient expectations and identify areas for improvement that may not be apparent through internal assessments alone. By integrating patient feedback into routine evaluations, pharmacies can strengthen their commitment to pharmaceutical care, which emphasizes the pharmacist's responsibility to ensure that drug therapy achieves the best possible health outcomes. This study highlights that Nur Ichsan Pharmacy has achieved a good level of patient satisfaction, reflecting professional pharmaceutical care practices aligned with national standards. However, achieving excellence requires sustained efforts in training, documentation, facility management, and patient education. Implementing these improvements will not only increase patient satisfaction but also reinforce the role of community pharmacies as trusted providers of safe, effective, and patient-centered healthcare services.

CONCLUSIONS

The results of this study indicate that the overall level of patient satisfaction with pharmaceutical information services at Nur Ichsan Pharmacy, Makassar City, was 76.24%, categorized as 'satisfied'. This finding demonstrates that the pharmacy has successfully implemented most aspects of quality pharmaceutical care, particularly in professionalism, patient interaction, and service environment. The

highest satisfaction level was recorded in the assurance dimension (83.52%), showing patients' trust in the pharmacists' knowledge and reliability. However, aspects related to reliability and written information provision still need improvement to ensure consistent and comprehensive communication about drug use, side effects, and storage.

Based on these results, it is recommended that Nur Ichsan Pharmacy enhance the quality of its pharmaceutical information services by providing written counseling materials, such as leaflets or medication guides, to supplement verbal explanations. Continuous professional development and periodic service evaluations should also be conducted to maintain high standards of service. Furthermore, improving facilities for private counseling and encouraging patient-centered communication can strengthen patient trust and loyalty. These efforts will help the pharmacy achieve a higher level of satisfaction and support the goal of promoting rational, safe, and effective drug use in the community.

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Authors' contributions

All authors contributed significantly to the development and completion of this research study.

Conflict of Interest

The authors declare that there is no conflict of interest regarding the publication of this research. No financial, professional, or personal relationships have influenced the outcomes or interpretations presented in this study.

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