

Service Quality and Patient Satisfaction in Pharmacy Settings: A Systematic Review Using SERVQUAL Dimensions

Ronaldi Budyantara¹, Bayu Anggileo Pramesona^{*2}, Betta Kurniawan³, Dian Isti Anggraini⁴,
Johns Fatriyadi Suwandi⁵

^{1,2,3,4,5} Master of Public Health, Faculty of Medicine, Universitas Lampung, Bandar Lampung, Indonesia

ABSTRACT: Background: Service quality is a fundamental determinant of patient satisfaction in pharmacy services. SERVQUAL, consisting of Tangibles, Reliability, Responsiveness, Assurance, and Empathy, is widely applied; however, the magnitude and consistency of its association with satisfaction vary by context. Objective: To synthesize available evidence on the relationship between SERVQUAL dimensions and patient satisfaction in hospital and community pharmacy settings amid growing digital healthcare adoption. Methods: This systematic review followed PRISMA 2020 guidelines. A total of 8,225 records were screened from Google Scholar and PubMed. Twelve quantitative studies conducted between 2017–2025 met inclusion criteria. The JBI Cross-Sectional Critical Appraisal Checklist was applied to assess methodological rigor. Results: All studies showed positive satisfaction outcomes, but predictive power varied across settings. In community pharmacies, medicine supply, environment, and communication were dominant satisfaction predictors. Meanwhile, reliability, assurance, and empathy were most influential in hospital pharmacies. Several studies reported non-significant effects for responsiveness and tangibles, indicating expectation–performance discrepancies and contextual constraints. Digital service readiness appears to influence patient experience but is rarely assessed using SERVQUAL. Conclusion: SERVQUAL remains a robust predictor of pharmacy service satisfaction; however, its impact is context-dependent. Strategic integration of SERVQUAL into digital transformation processes such as electronic prescriptions, automated dispensing, and digital queue systems will be essential to maintain quality and patient-centered outcomes.

KEYWORDS: Service quality, SERVQUAL, patient satisfaction, pharmacy services, systematic review, digital health transformation

INTRODUCTION

Pharmacy practice plays a pivotal role in ensuring safe and effective medication use, patient counseling, and treatment adherence (Felemban et al., 2024). In the face of global healthcare challenges such as an aging population, the rising burden of chronic diseases, and polypharmacy, the demand for high-quality pharmacy services has never been greater (Ilardo and Speciale, 2020). Concurrently, the role of the pharmacist is evolving from a mere drug dispenser to a provider of clinical services, including medication therapy management and chronic disease care, which in turn elevates patient expectations (Pristiya Maulaningrum et al., 2025). Good service quality strengthens trust, loyalty, and positive health outcomes. The SERVQUAL instrument, grounded in the Expectancy-Disconfirmation Theory, has been extensively used to evaluate perceived service quality in healthcare through five core dimensions: tangibles, reliability, responsiveness, assurance, and empathy (Oliver, 1980; Parasuraman et al., 1988). This theory posits that satisfaction is determined by the gap between prior expectations and perceived performance, making SERVQUAL a particularly relevant framework for high-contact, high-risk services like pharmacy, where dimensions such as assurance (competence) and empathy (understanding) are critical for building the trust necessary for medication adherence (Mulyani et al., 2021). Numerous studies report correlations between SERVQUAL performance and patient satisfaction. However, existing evidence remains fragmented, with individual studies often limited to single settings or countries, and lacking a consolidated synthesis that compares the differential influence of SERVQUAL dimensions across community versus hospital pharmacy contexts. Furthermore, the rapid digital transformation of healthcare including electronic medical records (EMR), e-prescriptions, automated dispensing, and telepharmacy is fundamentally redefining service delivery and patient-provider interactions. This digital shift presents a critical research gap: it remains unclear how traditional service quality dimensions adapt to or are transformed by technology-mediated services, and whether new dimensions emerge (Singer and Duarte Fernandez, 2015).



Therefore, this systematic review aims to: 1) synthesize available evidence on the relationship between SERVQUAL dimensions and patient satisfaction in both hospital and community pharmacy settings, and 2) explore the implications of the ongoing digital transformation on this relationship, thereby providing insights for sustaining patient-centered care in an evolving technological landscape.

METHODS

This systematic review was conducted following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) 2020 guidelines to ensure transparent and comprehensive reporting. A systematic search was performed across two electronic databases, Google Scholar and PubMed, for articles published between 2017 and 2025. The search strategy utilized a combination of the following keywords: “service quality”, “SERVQUAL”, “pharmacy”, and “patient satisfaction”. The search was limited to full-text, quantitative articles published in English or Indonesian.

Studies were included if they: (1) explicitly employed a SERVQUAL-based instrument or framework to evaluate service quality, (2) were conducted in hospital or community pharmacy settings, (3) utilized a quantitative research design (e.g., correlation, regression, structural equation modeling/SEM, importance-performance analysis/IPA), and (4) reported patient satisfaction as a primary or secondary outcome. Exclusion criteria consisted of review articles, theses/dissertations, studies not conducted in pharmacy settings, and studies with incomplete or unclear satisfaction data.

The study selection process is summarized in the PRISMA flow diagram (Figure 1). A total of 8,225 records were initially identified through database searching. After removing duplicates and screening titles and abstracts, 30 full-text articles were assessed for eligibility. Following a detailed review against the inclusion and exclusion criteria, 12 studies were finally included in the qualitative synthesis.

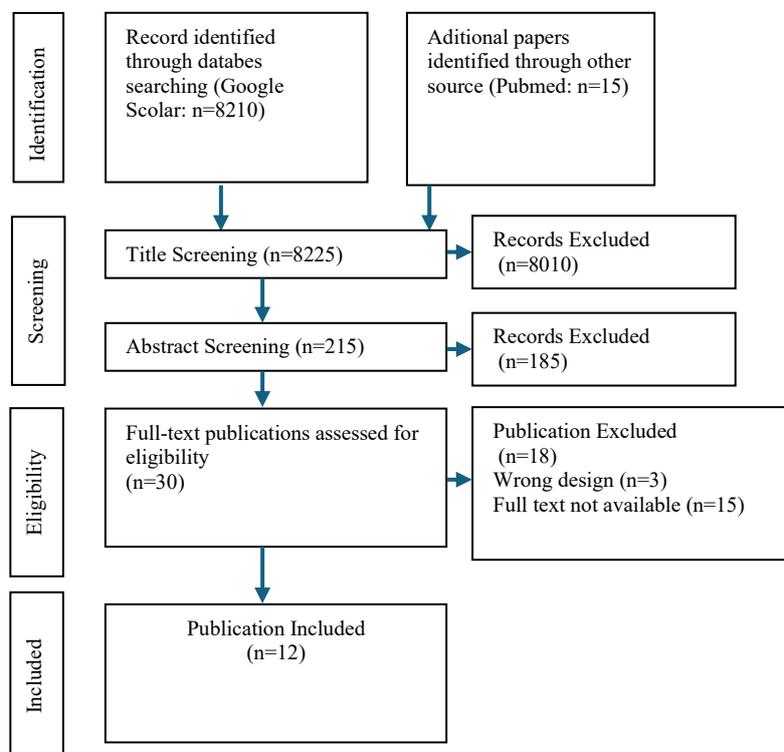


Figure 1. PRISMA flow diagram

Data from the included studies were systematically extracted using a standardized form. The extracted information included: author(s) and publication year, country of study, pharmacy setting (hospital/community), sample size, specific SERVQUAL dimensions analyzed, and key findings related to patient satisfaction. The methodological quality and risk of bias of each included study were critically appraised by two independent reviewers using the Joanna Briggs Institute (JBI) Checklist for Analytical Cross-



Sectional Studies. Any discrepancies in scoring were resolved through discussion or consultation with a third reviewer. The results of the critical appraisal are presented in Table 1.

Table 1. JBI critical appraisal

No	Journal Article	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
1	Analisis Kepuasan Pasien Rawat Jalan Terhadap Pelayanan di Instalasi Farmasi Rumah Sakit Bhayangkara Manado	Yes	Yes	Yes	Yes	No	No	Yes	Yes
2	Analisis Perbaikan Layanan Kefarmasian Berdasarkan Ipa Model di Apotik X Ijen Malang	Yes	Yes	Yes	Yes	No	No	Yes	Yes
3	Analisis Tingkat Kepuasan Pasien Rawat Jalan Terhadap Kualitas Pelayanan Instalasi Farmasi di Rsud Pare Menggunakan Metode Servqual	Yes	Yes	Yes	Yes	No	No	Yes	Yes
4	Analisis Tingkat Kepuasan Pasien Terhadap Pelayanan Kefarmasian Menggunakan Model Servqual di Puskesmas Kabupaten Garut	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
5	Analisis Tingkat Kepuasan Pasien Terhadap Pelayanan Kefarmasian di Instalasi Farmasi Rawat Jalan Puskesmas Nawangan Pacitan	Yes	Yes	Unclear	Yes	No	No	Yes	Yes
6	Consumers' View, Expectation and Satisfaction with Community Pharmacy Services	Yes	Yes	Unclear	Yes	No	No	Yes	Yes
7	Hubungan Persepsi Kualitas Pelayanan Kefarmasian dengan Kepuasan Pelanggan di Apotek Kayla Farma Malang	Yes	Yes	Yes	Yes	No	No	Yes	Yes
8	Determination Of Factors in Cultural Dimensions and Servqual Model Affecting The Corporate Image of Pharmacy Retail Stores	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
9	An Assessment of Outpatient Satisfaction with Hospital Pharmacy Quality and Influential Factors in The Context of The Covid-19 Pandemic	Yes	Yes	Unclear	Yes	No	No	Yes	Yes
10	Service Quality, Outpatient Satisfaction and Loyalty in Community Pharmacies in Turkey: A Structural Equation Modeling Approach	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
11	The Effect of Pharmaceutical Service Quality on Patient Satisfaction at Uptd Puskesmas Kamonji Palu Using the Servqual Method (Service Quality)	Yes	Yes	Unclear	Yes	No	No	Yes	Yes
12	Tingkat Kepuasan Pasien Terhadap Kualitas Pelayanan Di Instalasi Farmasi Rumah Sakit Islam Pku Muhammadiyah Palangkaraya	Yes	Yes	Unclear	Yes	No	No	Yes	Yes

RESULT

A total of twelve quantitative studies were included in this review, published between 2017 and 2025 across diverse geographical contexts including Indonesia, Turkey, Vietnam, Libya, and Thailand. The sample sizes ranged from 87 to 402 participants, covering both hospital and community pharmacy settings. All included studies reported positive overall patient satisfaction with pharmacy services. A summary of the characteristics and key findings of all twelve studies is presented in Table 2.

The synthesis revealed distinct patterns in how SERVQUAL dimensions influence satisfaction based on the setting. In community pharmacies, the most consistent and strong predictors of patient satisfaction were factors directly tied to convenience and immediate



need: medicine availability (a core aspect of reliability), effective communication with staff (linked to responsiveness and empathy), and a clean, organized physical environment (tangibles). Conversely, in hospital pharmacy settings where care is more complex and integrated dimensions centered on professional trust and competence were paramount. Here, reliability (accurate and error-free service), assurance (conveyed knowledge and safety), and empathy (personalized care and understanding) demonstrated the strongest influence on patient satisfaction.

Despite the overall positive outcomes, several studies noted that certain SERVQUAL dimensions were not statistically significant predictors. The dimensions of responsiveness (promptness and willingness to help) and tangibles (modern equipment, appealing facilities) were frequently non-significant. This pattern can be attributed to high baseline patient expectations for efficiency and infrastructure, coupled with contextual constraints such as limited workforce, drug stock instability, and structural or budgetary limitations that hinder physical upgrades or rapid service delivery.

Although digital transformation was not a primary focus of the included studies, its moderating role on service quality was occasionally implied. Digital tools such as e-prescribing systems and automated dispensing were noted to potentially enhance the perceived reliability of processes and improve responsiveness by reducing wait times. However, the direct measurement of digital aspects through the SERVQUAL framework was rare in the reviewed literature.

Table 2. Characteristics and key findings

Study ID	Author & Year	Country	Setting	Sample Size (n)	Satisfaction Outcome	Significant Dimensions / Key Findings
S1	Nguyen and Nguyen (2022)	Vietnam	Hospital Pharmacy	402	Positive	All SERVQUAL dimensions positive but not isolated statistically
S2	Mulyani (2017)	Indonesia	Hospital	90	Positive (≥70%)	Tangibles, Reliability, Responsiveness, Assurance, Empathy all rated satisfied
S3	Gül et al. (2023)	Turkey	Community Pharmacy	402	Positive	Medicine supply strongest predictor; communication & environment significant; responsiveness not significant
S4	Putra and Afni (2020)	Indonesia	Community Pharmacy (Puskesmas)	100	Positive (but weak statistical link)	No SERVQUAL dimension significant (p>0.05)
S5	Kaunang et al. (2020)	Indonesia	Hospital	95	Positive	Satisfaction high; study not reporting significance per dimension
S6	Mulyani et al. (2021)	Indonesia	Community Pharmacy	100	Positive	Positive perception; lack of statistical breakdown
S7	Setiawan et al. (2023)	Indonesia	Community Pharmacy	120	Positive	All SERVQUAL categories positive (Likert scale)
S8	Noviana (2017)	Indonesia	Hospital	87	Positive	All dimensions in “satisfied” level
S9	Alsageer et al. (2021)	Libya	Community Pharmacy	230	Mixed	Expectations > reality → improvement needed
S10	Klong et al. (2020)	Thailand	Community Pharmacy Retail	210	Positive	SERVQUAL influences corporate image → indirect satisfaction



S11	Verlyndika et al. (2023)	Indonesia	Community Pharmacy	125	Positive	Reliability & responsiveness most influential
S12	Dian Nurmawati et al. (2025)	Indonesia	Community Pharmacy	100	Mixed	Responsiveness & empathy as priority improvements

DISCUSSION

This review confirms SERVQUAL as a valid and robust predictor of patient satisfaction in pharmacy services, though effect sizes vary by setting. Evidence shows that reliability and assurance dominate the determinants of satisfaction in hospital pharmacies (Mulyani, 2017), whereas medicine supply and communication are strongest in community settings (Gül et al., 2023). Findings align with Expectancy-Disconfirmation Theory: higher expectations in the digital era shift performance thresholds, making some dimensions such as responsiveness statistically insignificant in certain contexts (Oliver, 1980; Putra and Afni, 2020). Community pharmacies should prioritize medicine supply chain stability and interpersonal communication, especially where patient expectations exceed perceived performance (Alssageer et al., 2021). Meanwhile, hospital pharmacies require stronger workflow reliability and professional assurance to support trust and therapeutic accuracy (Mulyani, 2017). Digital transformation simultaneously improves responsiveness and reliability but risks reducing perceived empathy, particularly when automation reduces face-to-face interaction. This creates a need to balance technology with human connection, especially for patients who rely on personalized counseling (Putra and Afni, 2020). Implications for practice include staff training in digital competency and communication to maximize the benefits of digital tools such as EMR and e-prescribing while preserving interpersonal care (Mulyani, 2017). Policy should embed SERVQUAL metrics into national digital pharmacy frameworks so technology adoption remains aligned with patient-centered quality indicators (Gül et al., 2023). Future research should explore e-SERVQUAL adaptations, longitudinal causal designs, and the role of technology trust and digital literacy as mediating factors in patient satisfaction across varying pharmacy settings (Putra and Afni, 2020).

CONCLUSION

This SERVQUAL dimensions consistently predict patient satisfaction in pharmacy services, albeit in a context-dependent manner. Integrating SERVQUAL into digital transformation strategies is essential to sustain patient-centered care amid technological advancement.

ACKNOWLEDGMENT

None

CONFLICT OF INTEREST

None

FUNDING

None

REFERENCES

1. Alssageer, M.A., Hassan, A.O., Rajab, M.O., 2021. Consumers' view, expectation and satisfaction with community pharmacy services. *J Pharm Pharm Sci* 1, 90–98. <https://doi.org/10.528/zenodo.5806191>
2. Dian Nurmawati, Arifani Siswidiyanti, Rahmawati, 2025. Analysis of Improvement in Pharmacy Services Based on The IPA Model At Pharmacy X Ijen Malang. *JURNAL FARMASIMED (JFM)* 7, 229–238. <https://doi.org/10.35451/jfm.v7i2.2580>
3. Felemban, E.J., Almasoudi, M.M., Alzaidi, N.A., Haij, H.E., Alsuqati, H.A.M., Alkhamash, A.S., Zahrallayali, M.A., Alhazmi, M.A., 2024. The Evolving Role of Pharmacy Professionals in Modern Healthcare Systems. *JOURNAL OF INTERNATIONAL CRISIS AND RISK COMMUNICATION RESEARCH* 7.



4. Gül, İ., Helvacıoğlu, E.T., Saraçlı, S., 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. <https://doi.org/10.1016/j.rcsop.2023.100361>
5. Ilardo, M.L., Speciale, A., 2020. The community pharmacist: Perceived barriers and patient-centered care communication. *Int J Environ Res Public Health*. <https://doi.org/10.3390/ijerph17020536>
6. Kaunang, V.N.P., Citraningtyas, G., Lolo, W.A., 2020. Analisis Kepuasan Pasien Rawat Jalan Terhadap Pelayanan di Instalasi Farmasi Rumah Sakit Bhayangkara Manado. *PHARMACON* 9.
7. Klong, W., Thavorn, J., Watcharadamrongkun, S., Ngamkroekjoti, C., 2020. Determination of Factors in Cultural Dimensions and SERVQUAL Model Affecting the Corporate Image of Pharmacy Retail Stores. *Journal of Asian Finance, Economics and Business* 7, 875–884. <https://doi.org/10.13106/jafeb.2020.vol7.no10.875>
8. Mulyani, E., 2017. Tingkat Kepuasan Pasien Terhadap Kualitas Pelayanan di Instalasi Farmasi Rumah Sakit Islam PKU Muhammadiyah Palangkaraya. *Jurnal Surya Medika* 2.
9. Mulyani, Fudholi, A., Satibi, 2021. Analisis Tingkat Kepuasan Pasien Terhadap Pelayanan Kefarmasian Menggunakan Model Servqual di Puskesmas Kabupaten Garut. | *Majalah Farmasetik* 17, 284–295. <https://doi.org/10.22146/farmasetik.v1i1.54017>
10. Nguyen, B.Q., Nguyen, C.T.T., 2022. An Assessment of Outpatient Satisfaction with Hospital Pharmacy Quality and Influential Factors in the Context of the COVID-19 Pandemic. *Healthcare (Switzerland)* 10. <https://doi.org/10.3390/healthcare10101945>
11. Noviana, P., 2017. Analisis Tingkat Kepuasan Pasien Rawat Jalan Terhadap Kualitas Pelayanan Instalasi Farmasi di RSUD Pare Menggunakan Metode Servqual. *Jurnal Wiyata* 4.
12. Oliver, R.L., 1980. A Cognitive Model of the Antecedents and Consequences of Satisfaction Decisions. *Journal of Marketing Research* 17, 460–469.
13. Parasuraman, A., Zeithaml, V.A., Berry, L.L., 1988. Servqual: A Multiple-Item Scale For Measuring Consumer Perc, *Journal of Retailing*; Spring.
14. Pristiya Maulaningrum, Siti Mujanah, Achmad Yanu Alif Fianto, 2025. Transformasi Digital di Sektor Kesehatan Tinjauan Literatur tentang Penerapan Teknologi Informasi dalam Manajemen Pelayanan. *Jurnal Ilmu Manajemen, Ekonomi dan Kewirausahaan* 5, 494–503. <https://doi.org/10.55606/jimek.v5i1.6399>
15. Putra, M.S., Afni, N., 2020. The Effect of Pharmaceutical Service Quality on Patient Satisfaction at UPtd Puskesmas Kamonji Palu Using the Servqual Method (Service Quality). *International Journal of Health, Economics, and Social Sciences* 2.
16. Setiawan, D., Ningsih, D., Handayani, S.R., 2023. Analisis Tingkat Kepuasan Pasien Terhadap Pelayanan Kefarmasian Di Instalasi Farmasi Rawat Jalan Puskesmas Nawangan Pacitan. *Journal of Islamic Pharmacy* 7, 79–85. <https://doi.org/10.18860/jip.v7i2.17439>
17. Singer, A., Duarte Fernandez, R., 2015. The effect of electronic medical record system use on communication between pharmacists and prescribers. *BMC Fam Pract* 16. <https://doi.org/10.1186/s12875-015-0378-7>
18. Verlyndika, H.F.C., Ardianto, N., Mardianto, R., Maulidah, W.R., 2023. Hubungan Persepsi Kualitas Pelayanan Kefarmasian dengan Kepuasan Pelanggan di Apotek Kayla Farma Malang, *Jurnal Ilmiah Farmasi*.

Cite this Article: Budyantara, R., Pramesona, B.A., Kurniawan, B., Anggraini, D.I., Suwandi, J.F. (2025). Service Quality and Patient Satisfaction in Pharmacy Settings: A Systematic Review Using SERVQUAL Dimensions. International Journal of Current Science Research and Review, 8(12), pp. 6223-6228. DOI: <https://doi.org/10.47191/ijcsrr/V8-i12-33>