

The analysis study of the impact of service quality to patient satisfaction in regional general hospital in Indonesia: A comprehensive systematic

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ABSTRACT

Indonesia's growing healthcare sector has intensified competition among hospitals, underscoring the importance of delivering high-quality care that aligns with patient expectations. Factors such as service quality, hospital infrastructure, employee communication, and administrative efficiency play crucial roles in enhancing patient satisfaction and shaping the future of healthcare delivery. This review aims to analyze the existing literature on the impact of service quality on patient satisfaction in regional general hospitals, especially in Indonesia. Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines were used as a reference to review resources from three databases, which were ScienceDirect, PubMed and SagePub. Of the 738 publications identified, only 8 met the inclusion criteria for this review. The remaining 730 publications were excluded for various reasons, including duplication across databases, publication before 2014, inappropriate study design, failure to retrieve reports, and lack of relevance to the review topic. Based on the results of this study, several health service factors such as facilities, trust, interpersonal quality, communication quality, financial factors, duration of doctor consultations, and accessibility affect patient satisfaction with hospital services. Improving patient satisfaction can foster positive experiences and strengthen patient-provider relationships, thereby increasing patient loyalty. Therefore, improving health services should involve measures, such as providing comfortable patient waiting rooms, training programs to improve hospital staff communication skills, and other quality-enhancing initiatives. It is recommended that more in-depth research is needed to determine the health service factors that most influence patient satisfaction levels.

Keywords:

patient satisfaction, service quality, hospital, Indonesia

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INTRODUCTION

Patient satisfaction is one of the most important indicators of hospital service quality. Patient satisfaction is determined by the extent to which health services meet or exceed patient expectations.¹ When services meet or exceed expectations, patients are satisfied; however, when they do not, dissatisfaction occurs. To ensure patient satisfaction, healthcare organizations must focus on providing high-quality services that are tailored to patient needs and preferences. Therefore, the paradigm of healthcare is shifting from doctor-centered care to patient-centered care while still upholding professional ethics. One of the goals of this change is to improve service quality so that patient satisfaction also increases.²

In recent years, health services, especially hospitals in Indonesia, have often received poor reviews from the public. Health services, especially in several public hospitals, are considered less than satisfactory by some people, this is related to unfriendly hospital staff, unclear staff communication, lack of efficiency, and inadequate hospital facilities. It is very important to ensure high-quality services are available in hospitals, because hospitals are public facilities that aim to improve public health. Public facilities must provide excellent service.³ Based on previous research, average data obtained from several hospitals in Indonesia showed that 67% of patients complained of dissatisfaction with receiving health services.⁴

Therefore, the government has taken steps to improve the quality of health services by implementing Health Law Number 17 of 2023 which focuses on improving the quality of health services. Various laws and regulations have been established to ensure quality health services

in Indonesia.⁵ In this study, regional general hospitals were chosen as the focus of the study because regional general hospitals are a representation of health services provided by the government for the community in the area and are an important part of the Indonesian health service system.

This study notes that several previous studies have focused on regional hospitals in Indonesia and explored the interaction between service quality and patient satisfaction in this context. Patients are more likely to be satisfied when they receive high-quality care in a well-maintained facility, communicate clearly and effectively with healthcare providers, experience prompt and attentive service from staff, and encounter efficient administrative processes. By focusing on improving these factors, healthcare providers can enhance patient satisfaction and overall quality of care.⁶⁻⁹ Service quality is crucial as it directly impacts patient satisfaction and the likelihood of patients seeking future care. This involves meeting patients' expectations through factors such as reliability, responsiveness, empathy, and technological use.¹⁰⁻¹² Well-maintained facilities are crucial for shaping patient perceptions of the healthcare environment, both within and outside the treatment room.¹³⁻¹⁵ Currently, there are still not many studies that focus on patient satisfaction and service quality in regional general hospitals in Indonesia. This study aims to examine the relationship between service quality and patient satisfaction in regional general hospitals in Indonesia. Specifically, it seeks to identify key service quality factors, including infrastructure, staff communication, administrative efficiency, and responsiveness, that influence patient satisfaction. The findings will provide insights for hospital management to enhance service delivery and improve patient experiences.

METHODS

Protocol

The Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) 2020 standards were strictly followed to guarantee a high standard of methodological rigor during the review procedure. By following PRISMA 2020, the research was designed to be transparent, reproducible, and scientifically sound, thereby enhancing its credibility. This approach involved the meticulous application of systematic procedures, including comprehensive literature searches, accurate data extraction, and the careful synthesis of findings. These steps were taken to minimize potential bias, ensure the reliability of the study's conclusions, and strengthen the overall validity of the review.

Criteria for Eligibility

This study examined the effect of service quality on patient fulfillment in common territorial healing centers in Indonesia by efficiently checking and synthesizing information from a wide range of perspectives. We aimed to identify emerging trends and provide insights that could inform the development of more effective patient care strategies tailored to this specific population. The primary objective was to extract key themes from the academic literature to enhance our understanding of how service quality

affects patient satisfaction within these hospitals.

Stringent inclusion and exclusion criteria were used throughout the study to ensure methodological rigor. Only peer-reviewed studies published in English between 2014 and 2024 and verified through the DOI for authenticity were considered. The study timeframe was chosen to capture recent trends in healthcare quality and patient satisfaction. Non-research documents, such as reviews, editorials, and duplicate entries from the same journal were excluded to maintain the integrity and focus of the dataset. This selective approach ensures that the findings are based on high-quality relevant sources.

By adopting this meticulous methodology, this study guaranteed that the data used for analysis were both reliable and applicable, providing a solid foundation for drawing actionable conclusions. The resulting insights deepen our understanding of the relationship between service quality and patient satisfaction in regional hospitals across Indonesia.

Search Strategy

We used "service quality OR patient satisfaction OR regional hospital OR Indonesia" as keywords. The search for studies to be included in the systematic review was performed using the SagePub, PubMed, and ScienceDirect databases. Detailed search strategies are presented in Table 1.

Table 1. Search Strategy

Database	Search Strategy	Hits
Pubmed	("service quality" OR "patient satisfaction" OR "regional hospital" AND "Indonesia")	260
Science Direct	("service quality" OR "patient satisfaction" OR "regional hospital" AND "Indonesia")	469
Sagepub	("service quality" AND "patient satisfaction" AND "regional hospital" AND "Indonesia")	9

Data retrieval

We conducted a preliminary review of each article by carefully assessing the titles and abstracts to determine their relevance before proceeding with a more comprehensive evaluation. Only studies that aligned with the research objectives and met the predefined inclusion criteria were selected for further analysis. This method enables the identification of consistent and meaningful patterns within the literature, ensuring a focused and cohesive synthesis of findings. This study included qualitative studies conducted in public and private hospitals focusing on both inpatients and outpatients. The assessment preparation considers a wide range of components, including titles, authors, publication dates, investigation areas, and methodologies. This comprehensive approach ensured that only the most pertinent and high-quality studies were included, thereby enhancing the reliability and rigor of the final analysis and conclusions of the study.

Quality Assessment and Data Synthesis

We conducted a meticulous initial screening by carefully reviewing the abstracts and titles of each article to identify the relevant studies. Following this preliminary evaluation, studies that met the relevant criteria were subjected to a more comprehensive and in-depth review. This detailed examination ensured that only the most pertinent and valuable studies were selected for the advanced analysis. By employing this rigorous selection process, the authors refined their focus, enabling a more targeted and nuanced assessment of existing research and its contextual significance. The study selection process is illustrated in Figure 1. Initially, 738 studies were identified, of which 87 were duplicates. The titles and abstracts of 651 studies were screened, resulting in 35 full-text reviews. After a thorough assessment, 27 studies were excluded, leaving 8 studies for inclusion in the review. The studies were excluded due to incomplete data such as irrelevant focus, poor methodology and lack of DOI.

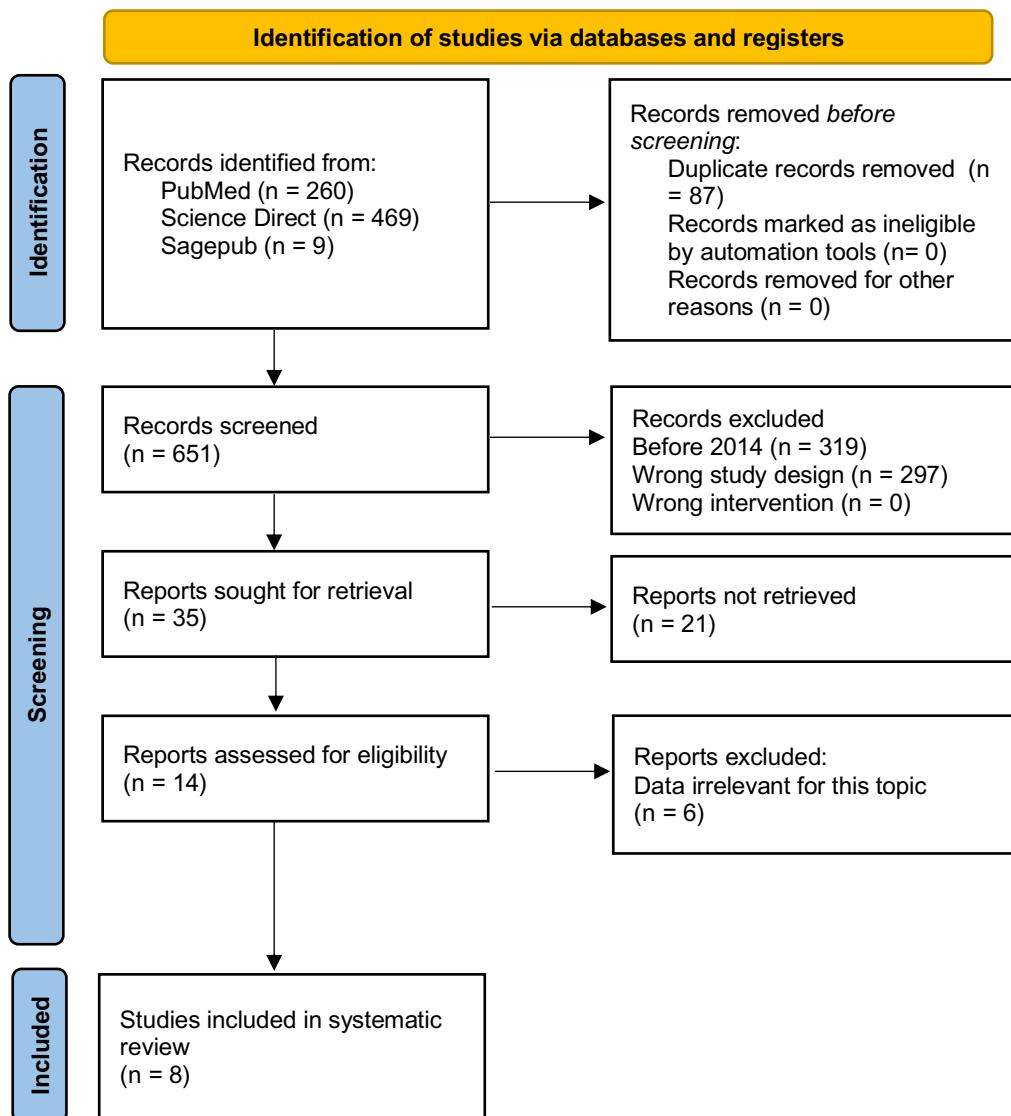


Figure 1. Article search flow chart.

Table 2 presents the results of the critical appraisal. All reviewed studies demonstrated a clear relationship between the dependent and independent variables, indicating strong internal validity. However, none of the studies included a control group, leading to potential bias related to selection and allocation, and weakening the validity of causal inference. Despite this limitation, the studies minimized the risk of bias related to confounding factors by including participants from similar comparison groups. There was no selection bias in the review as all studies had comparable interventions, allowing for the accurate

attribution of outcomes. While pre-intervention measurements were lacking, consistent and reliable measurements of outcomes across all studies reduced the bias related to assessment and detection. Additionally, all studies underwent rigorous statistical analyses to ensure the validity of their conclusions. All included studies were relatively homogeneous, focusing on general hospitals in Indonesia. In addition, all included studies had the same cross-sectional design. There are differences in the populations of the included studies in this review as well as differences in the outcomes that will be

examined, thus complementing and strengthening the findings of the studies.

Table 2. Critical appraisal of Study

Parameters	(Susanti et al.,2021)	(Mahmud,A. 2019)	(Muhamad., 2023)	(Ayu et al., 2024)	(Dwijayanti et al.,2024)	(Haprinda, M. 2024)	(Pagewang et al.,2024)	(Pratama et al., 2024)
1. Bias related to temporal precedence Is it clear in the study what is the “cause” and what is the “effect” (ie, there is no confusion about which variable comes first)?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2. Bias related to selection and allocation Was there a control group?	No	No	No	No	No	No	No	No
3. Bias related to confounding factors Were participants included in any comparisons similar?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
4. Bias related to administration of intervention/exposure Were the participants included in any comparisons receiving similar treatment/care, other than the exposure or intervention of interest?	Yes.	Yes.	Yes.	Yes.	Yes.	Yes.	Yes.	Yes.
5. Bias related to assessment, detection, and measurement of the outcome Were there multiple measurements of the outcome, both pre and post the intervention/exposure?	No	No	No	No	No	No	No	No
Were the outcomes of participants included in any comparisons measured in the same way?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Were outcomes measured in a reliable way?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
6. Bias related to participant retention Was follow-up complete and, if not, were differences between groups in terms of their follow-up adequately described and analyzed?	No	No	No	No	No	No	No	No
7. Statistical conclusion validity Was appropriate statistical analysis used?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

RESULTS

The investigation commenced with a systematic search of reputable databases including ScienceDirect, PubMed, and SagePub. Through a rigorous three-stage screening process, we identified and selected the eight papers that were most relevant to the objectives of our systematic review. The selected studies underwent a comprehensive analysis, and key themes were chosen for further in-depth exploration. The systematic search identified eight relevant studies that were analyzed to determine the key themes, as

summarized in Table 3. Overall, these studies consistently conclude that the quality of health services in hospitals significantly affects patient satisfaction in the healthcare industry. The key factors influencing patient satisfaction include responsibility, reliability, physical environment, empathy, and staff appropriateness. Based on a review of eight studies, several factors influenced patient satisfaction with hospital services, including facilities; trust; interpersonal qualities such as friendliness and honesty; communication quality among medical staff; financial factors; doctor consultation duration; and accessibility.

Table 3. The literature included in this study

Author	Origin	Method	Sample	Result
Susanti et al. ¹⁶ (2021)	Indonesia	Cross Sectional	70 participants	The study involved 70 people using a large sample of receipts from Lammeshow and purposive sampling. Data was collected using questionnaires and analyzed using univariate and bivariate methods. Results showed that quality of service, including tangibles, reliability, responsiveness, and assurance, significantly influences patient satisfaction during the Covid-19 pandemic.
Mahmud,A. ¹⁷ (2022)	Indonesia	Cross Sectional	370 participants	The study confirms that responsiveness, assurance, physical evidence, empathy, and reliability significantly positively impact patient satisfaction at Lamaddukelleng Hospital, Wajo Regency. The dominant influence of service quality on satisfaction is the availability of facilities and expertise, indicating that these factors contribute to customer satisfaction.
Muhamad, C. ¹⁸ (2023)	Indonesia	Cross Sectional	100 participants	Patient satisfaction is crucial in health services, as it fosters a sense of comfort and safety, leading to increased loyalty. This study has shown that high-quality health services increase patient loyalty and seek treatment in outpatient installations at Aulia Blitar General Hospital. Good quality health services are what patients expect, along with facilities and easy access. More healthcare is of high quality, the loyalty of patients treating themselves again, and the services available at the establishment of Aulia Blitar General Hospital.

Author	Origin	Method	Sample	Result
Ayu et al. ¹⁹ (2024)	Indonesia	Cross Sectional	95 participants	Service quality significantly influences patient satisfaction in the health industry. From the results of the research conducted, the conclusions of this study are as follows: Reactions, empathy, concrete quality of Aek Kanopan Regional General Hospital's concrete service Marketing, on the other hand, is a mix of dimensions, ie the type of service, the location of service, advertising, healthcare professionals, and physically Canopan Regional General Hospitals, but reliability and warranty dimensions are ineffective At the same time or together, quality of service with dimensions of responsiveness, empathy, and specific impact of patient satisfaction in a class I, II, II II inpatient facility at Aek Kanopan Regional General Hospital At the same time or together, marketing is mixed with dimensions: the type of service, location of service, advertising, healthcare professionals, and physical canopan regions, but has no effect on the reliability and assurance dimensions.
Dwijayanti et al. ²⁰ (2024)	Indonesia	Cross Sectional	30 participants	Patient satisfaction in the Radiology Department at Buleleng Regional Hospital is influenced by service quality factors such as tangible aspects, reliability, responsiveness, assurance, and empathy. Assurance is the most dominant factor affecting patient satisfaction, with a significant impact less than 0.05.
Haprinda, M. ²¹ (2024)	Indonesia	Cross Sectional	105 participants	Service quality and patient satisfaction are closely linked, with an average level of satisfaction of 4.38 and 3.92 respectively. However, the service quality gap, caused by unfavorable factors like tangible, dependability, responsiveness, assurance, and empathy, indicates a need for further performance improvements to meet customer expectations and ensure a high level of satisfaction.
Pagewang et al. ²² (2024)	Indonesia	Cross Sectional	92 participants	The study found a significant impact of quality services and facilities on inpatient satisfaction at Malinau District Hospital, with the quality of services explaining 55.0% of the variance, while the remaining 45.0% is attributed to other unidentified variables.
Pratama et al. ²³ (2024)	Indonesia	Cross Sectional	135 participants	The study reveals that service quality has no effect on patient satisfaction, while health facilities have an effect. The findings suggest that management needs to improve financing, vehicle parking capacity, and reservation systems to enhance patient satisfaction.

DISCUSSION

Enhancing hospital facilities significantly impacted patient satisfaction. A well-maintained hospital environment, including clean corridors, safe ground, tidy wards, sufficient parking, well-lit rooms, and quality furniture, enhances the overall patient experience. These enhancements create a sense of safety and comfort for both patients and visitors, leading to increased satisfaction with health services.²⁴⁻²⁶ These findings suggest that enhancing hospital infrastructure, both within and outside the patient care areas, leads to increased satisfaction levels. This aligns with previous research indicating that patient satisfaction is influenced not only by improved clinical care, but also by better facility management.^{7,27,28} Cutting-edge equipment, well-maintained waiting areas, and extra conveniences, such as ample parking and easy access, all contribute to an improved patient experience.²⁹ A previous study found that hospital infrastructure increases patient satisfaction by 19,01%. In this study, the influence of facilities on satisfaction was measured using a partial determination coefficient analysis test at Kasih Bunda General Hospital, Cimahi City.³⁰

Friendly and empathetic care provided by hospital staff creates a supportive environment that boosts patient satisfaction.^{31,32} Along with the professionalism and competence of the medical staff, effective communication and attentiveness to patient needs are crucial factors for ensuring patient satisfaction.^{29,33} Patients are more satisfied with their healthcare when they feel valued and prioritized. A previous study found that hospital staff with effective communication skills could greatly enhance patient satisfaction.³⁴ Effective communication, including accurate explanations of drugs and detailed information, is crucial for patients to understand their conditions.

Doctors' communication about patients' conditions also impacted their satisfaction levels. Therefore, hospitals should provide communication training to their staff to improve patient satisfaction through clear and comprehensive information delivery.³⁵ The combination of high-quality medical care and well-maintained facilities enhances patient experience and fosters a strong bond between patients and healthcare providers.^{13,36} Healthcare providers may be able to provide regular communication training to all staff, especially medical staff and information officers, so that they can maintain the quality of staff communication.

In addition, the findings of this study indicate that administrative and payment transparency issues also affect patient satisfaction. Lack of transparency in the healthcare system may worsen this perception. Some patients perceive that they are overpaying for services, possibly due to a lack of understanding of healthcare costs, unclear billing processes, or a mismatch between cost and quality of care. Therefore, it is very important for every health service to provide transparency and informative explanations regarding administration.^{5,34} The healthcare provider may be able to provide information upfront about costs such as estimated costs during treatment, costs of medical procedures and the extent to which insurance can cover the care the patient receives. This study also stated that there are several other factors that influence the quality of services that contribute to patient satisfaction, such as the quality of medical care, waiting times, or the availability of modern healthcare technology. Utilizing technology such as digital reservation systems can increase patient satisfaction. In addition, shorter waiting times can increase patient satisfaction because patients do not have to wait long for services. Medical services from professional medical staff and the accuracy of treatment and diagnosis reduce

the severity of disease symptoms in patients so that satisfaction levels increase.^{22,23}

In contrast to the results of other studies, based on the results of the study by Pratama et al, it was found that the influence of health services on patient satisfaction levels was not significant. This can occur due to several factors such as the health services examined in their study were dental health services, which are greatly influenced by non-service factors, such as treatment outcomes related to aesthetics or costs. Then individual patient preferences can vary, so the perception of the quality of one patient may not be the same as another patient. Poor communication between patients and medical personnel or differences in expectations can also reduce the impact of service quality. Finally, external factors such as the hospital environment or administrative problems can also affect patient satisfaction. Therefore, service quality is only one factor that affects patient satisfaction, but it does not determine the whole thing.²³

Maintaining quality service and patient satisfaction is crucial, as they directly impact a hospital's reputation. Patient satisfaction influences the overall service quality and, subsequently, the hospital's image and accreditation. This can influence long-term patient loyalty in the long run.³⁷ This is supported by previous research showing that a positive hospital image can enhance patient loyalty, leading patients to feel more at ease seeking care for themselves or their families at the hospital in the future.³⁸

In this study, there are still limitations such as the number of samples used in the articles reviewed is still relatively small, so it cannot describe all hospitals throughout Indonesia. In addition, in all the articles reviewed, there was no control group so the potential for bias is related to selection and allocation. Then,

the articles reviewed are cross-sectional so the potential for bias is related to the assessment, detection, and measurement of outcomes because measurements were not taken before and after the intervention.

RECOMMENDATIONS

Based on the findings of this study, improving patient satisfaction requires attention to various health care factors. The quality of infrastructure and facilities has a significant impact on patient satisfaction, which encourages hospital management to improve parking capacity, waiting rooms, and cleanliness of inpatient rooms. Additional infrastructure such as making clearer signs for the hospital area, ensuring adequate parking capacity, and providing information on the number of queues can be done. Completing a survey of criticism and suggestions for each patient after receiving service can be added as evaluation material. In addition, regular communication training programs can be held for hospital staff to ensure empathetic and clear communication. Non-service factors, such as outcomes and costs of care, also affect the quality of care, indicating that hospitals should align care costs with quality of care by forming a special transparency team to improve the billing process. Better health care can improve the patient experience, strengthen the patient-provider relationship, and foster patient loyalty.

AUTHOR CONTRIBUTIONS

IP: conceptualization, conduction of the study, writing - original draft, writing - review & editing. EMR: conduction of the study, writing - original draft, writing - review & editing

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