

THE INFLUENCE OF SERVICE QUALITY AND WAITING TIME ON PATIENT SATISFACTION TREATED BY CLINICAL STUDENTS AT RSGMP JENDERAL SOEDIRMAN UNIVERSITY

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Abstract

This study aims to analyze the influence of service quality and waiting time on patient satisfaction in the context of dental treatment services provided by co-assistant students at the Dental and Oral Teaching Hospital of Universitas Jenderal Soedirman. The background of this research stems from the declining number of patient visits and satisfaction levels observed in recent years, which are suspected to be caused by long waiting times and inconsistent service quality from students. This study uses a quantitative approach with an associative design and applies multiple linear regression analysis to examine both partial and simultaneous relationships between the variables. Data were collected from patients using a structured questionnaire based on the SERVQUAL model, covering dimensions such as tangibles, empathy, reliability, responsiveness, and assurance, along with perceived waiting time and overall satisfaction. The research findings are expected to provide insights into which aspects of service quality significantly influence patient satisfaction and how waiting time moderates the relationship. This study contributes both theoretically and practically by offering a better understanding of service delivery in a teaching hospital environment, and by proposing strategies for improving patient-centered care without compromising educational objectives.

Keywords: Service quality, Waiting time, Patient satisfaction, Dental education, Teaching hospital

INTRODUCTION

Dental and oral health services are essential components of the healthcare system, aimed at improving population well-being through promotive, preventive, curative, and rehabilitative approaches (Anggia et al., 2020). Oral health is closely linked to an individual's overall quality of life, including aspects such as nutrition, self-confidence, and productivity (Wijayanti, 2023). However, utilization of dental services in Indonesia remains very low. The 2018 National Basic Health Research (Riskesdas) reported that although 57.6% of Indonesians experience dental problems, only 10.2% seek professional treatment. This highlights a significant gap in service access and effectiveness.

The World Health Organization (WHO, 2022) emphasizes that improving oral healthcare must be prioritized globally, particularly in developing countries, where dental issues often become chronic due to neglect. Dental services must therefore be integrated, equitable, and sustainable to address disparities across population groups.

One of the primary indicators of a successful health service is service quality. According to Parasuraman et al. (1988), service quality is best measured using the SERVQUAL model, which includes five dimensions: tangibles, reliability, responsiveness, assurance, and empathy. These dimensions are critical in shaping patients' perceptions of the competence and professionalism of healthcare providers (Tumelap et al., 2021). In the context of teaching hospitals, such as the Dental

and Oral Teaching Hospital of Universitas Jenderal Soedirman (RSGMP Unsoed), maintaining service quality is more challenging, as part of the services are provided by dental co-assistant students (koas) who are still undergoing clinical training (Prijadi & Mastutie, 2019).

Previous studies have shown that the competence, communication skills, and empathy of co-assistant students may not always meet patient expectations, leading to dissatisfaction despite adherence to standard procedures (Aulia et al., 2017; Syahriani & Mufdillah, 2022). Wahyuni and Fitriani (2022) also found that negative perceptions of dental service quality have a significant correlation with low patient satisfaction. This situation calls for close monitoring of services delivered by students to ensure that clinical education does not compromise patient rights and service standards (Sembiring et al., 2024).

Another critical component in healthcare delivery is waiting time, defined as the time interval between patient arrival and the initiation of treatment. Long waiting times—often due to the necessity of supervisory validation in teaching hospitals—can negatively affect patients' perceptions of service efficiency and professionalism (Yuniarti & Wulandari, 2024). According to the expectation-disconfirmation theory, when waiting times exceed patients' expectations, dissatisfaction is likely to occur, regardless of clinical accuracy (Wahyuni & Fitriani, 2020). Azizah (2017) found that patients who waited longer than 30 minutes expressed significantly lower satisfaction, particularly if they were not informed about the delays.

The impact of long waiting times extends beyond individual satisfaction. Prolonged delays can reduce patient retention and deter return visits, which in turn affects the effectiveness of the clinical education process (Kemenkes, 2022). Thus, waiting time must be measured and managed as a key performance metric that reflects both service efficiency and patient-centeredness.

Patient satisfaction, as defined by Kotler and Keller (2016), is a subjective evaluation of healthcare experiences encompassing clinical outcomes, service interactions, and administrative processes. It is also a vital indicator of whether a healthcare institution is successfully delivering patient-centered care. Wulandari et al. (2024) warned that a persistent failure to maintain patient satisfaction could lead to decreased loyalty, increased complaints, and reputational damage.

According to the expectation-disconfirmation theory, satisfaction arises when the actual experience matches or exceeds expectations. Among the most common sources of disconfirmation in healthcare are perceived service quality and waiting time (Wahyuni & Fitriani, 2020). Service quality affects emotional and cognitive assessments, while waiting time reflects efficiency and respect for patients' time.

Several empirical studies support the influence of service quality and waiting time on patient satisfaction. Autake and Lailiyah (2024) reported that patients who waited more than 30 minutes were 40% less satisfied than those treated promptly. Wahyuni and Fitriani (2020) further demonstrated that perceived poor service—especially in terms of empathy and responsiveness—led directly to decreased patient satisfaction.

RSGMP Unsoed, as a teaching hospital, faces the dual burden of maintaining clinical service standards while providing educational opportunities. Between 2017 and 2019, patient visits declined by 40.85%, and satisfaction dropped from 93.3% to 87% (Anggraini et al., 2022). These declines were linked to long waiting times, inconsistent service by students, and limited use of health information systems.

Although teaching hospitals are well established throughout Indonesia, studies specifically addressing service delivery by co-assistant students in dental teaching hospitals are still scarce. Much of the existing literature tends to focus on general hospitals or professionally delivered services, leaving a gap in understanding how educational settings influence patient satisfaction. At RSGMP Unsoed, co-assistant students directly perform treatments under supervision, often resulting in extended procedures and varying communication quality. This learning environment may lead to discrepancies between patient expectations and actual experiences, highlighting the need for a closer examination of patient satisfaction within the context of academic service delivery.

Recent evaluations at RSGMP Unsoed have shown a notable decrease in both patient satisfaction and service utilization. Between 2017 and 2019, outpatient visits dropped by 40.85%,

while patient satisfaction declined from 93.3% to 87%. These issues were linked to factors such as long waiting times, inconsistent service quality among students, and the underutilization of hospital information systems (Anggraini et al., 2022). Despite adherence to clinical protocols, patients often perceive student-led treatments as slower and less efficient, particularly when delays occur due to supervisory procedures or repeated validation steps.

In response to these challenges, this research aims to provide a comprehensive evaluation of patient satisfaction within a teaching hospital framework. Rather than treating satisfaction as an isolated outcome, the study investigates how dimensions of service quality and perceived waiting time interact to influence patient perceptions. The findings are expected to contribute theoretically by filling the empirical gap on student-based clinical services, and practically by offering recommendations for supervisory models and workflow adjustments. These insights are intended to support academic hospitals in balancing educational objectives with high-quality patient care.

Given these issues, this study aims to analyze the influence of service quality and waiting time on patient satisfaction among those treated by dental co-assistant students at RSGMP Unsoed. The research focuses on identifying which dimensions of service quality most strongly affect satisfaction, and how perceived waiting time interacts with these factors.

Theoretically, this study contributes to healthcare management literature by exploring patient satisfaction in an educational clinical context. Practically, it provides actionable insights for teaching hospitals to improve supervisory models, reduce operational inefficiencies, and enhance communication between students and patients.

The novelty of this study lies in its simultaneous analysis of service quality and waiting time in a teaching hospital setting, particularly one involving students as primary service providers. Previous studies often isolate these factors or focus on general hospitals. By integrating both perspectives, this research offers a more comprehensive understanding of how educational environments can maintain service excellence while fostering learning.

LITERATURE REVIEW

Service Quality

Service quality is a multidimensional concept that plays a fundamental role in determining patient satisfaction and institutional performance in healthcare, particularly in teaching hospitals. It refers to the gap between customer expectations before receiving service and their perceptions after the service is delivered (Parasuraman et al., 1988). In healthcare, high-quality services not only foster trust and loyalty but also promote repeat visits and positive word-of-mouth recommendations. According to Kotler and Keller (2016), quality comprises all the features of a service that contribute to satisfying consumer needs.

In educational hospitals like RSGMP, service delivery is performed not only by professionals but also by dental co-assistant students, whose clinical skills are still developing. This dual role brings challenges to service quality, as student performance may vary due to limited experience. The SERVQUAL model—developed by Parasuraman et al. (1988)—offers five dimensions to evaluate service quality: tangibles, reliability, responsiveness, assurance, and empathy. These dimensions cover physical infrastructure, staff competence, emotional interaction, and the overall service process.

Each SERVQUAL dimension holds specific relevance in the context of student-delivered services. Tangibles, such as facility cleanliness and student appearance, act as visual cues of professionalism and institutional credibility. Reliability reflects the institution's consistency in delivering promised services, such as proper diagnosis and treatment—even when students are the primary providers. Meanwhile, responsiveness reflects the speed and willingness of students to help, which is often affected by supervision delays and clinical discussion sessions.

Assurance and empathy are especially critical in teaching hospitals. Assurance refers to student confidence, politeness, and their ability to make patients feel secure during treatment. This is essential in reducing patients' uncertainty about being treated by learners. Empathy, on the other hand, represents personalized care, attention, and communication. When students listen attentively, explain procedures clearly, and act with compassion, patient satisfaction increases significantly. These aspects are often the most closely observed by patients in student-run care settings.

Waiting Time

Waiting time is a key indicator of hospital service quality and operational efficiency, particularly in outpatient settings. It refers to the length of time a patient must wait before receiving treatment, from the moment they arrive until clinical procedures begin. In teaching hospitals such as RSGMP Unsoed, waiting time tends to be longer due to supervision procedures, approval of treatment plans, and academic verification processes that students must follow.

The Indonesian Ministry of Health (Permenkes No. 129/Menkes/SK/II/2008) sets a service standard that outpatient waiting time should not exceed 60 minutes. However, studies such as that by Wahyuni and Fitriani (2020) found that patients often experience delays exceeding this limit, which negatively affects their perception of hospital performance. In the context of a teaching hospital, these delays are often due to student hesitancy, procedural repetition, or delays in supervisor response, which may be perceived by patients as inefficiency.

Waiting time is not only a logistical concern but also a psychological factor. According to the expectation-disconfirmation theory (Oliver, 1980), if the actual waiting time exceeds patient expectations, dissatisfaction occurs—even if the medical procedure itself is adequate. Azizah (2017) emphasized that patients waiting over 30 minutes with no explanation were significantly more dissatisfied. Therefore, communication during the waiting process plays a crucial role in reducing negative patient perceptions.

Long waiting times can also affect student learning indirectly, as fewer patients are willing to return for treatment. This limits the volume and variety of clinical cases available to students. Moreover, poor patient experiences may damage the reputation of the teaching hospital and reduce community trust. Hence, managing and minimizing waiting time is essential not only to improve patient satisfaction but also to support the broader academic and institutional goals of dental education.

Patient Satisfaction

Patient satisfaction is a key indicator used to evaluate the quality of healthcare services, including those provided in teaching hospitals. It refers to the level at which patient expectations are met or exceeded by the service experience. According to Kotler and Keller (2016), satisfaction is the outcome of a comparison between what was expected and what was actually received, encompassing clinical, interpersonal, and administrative aspects. In the healthcare context, satisfaction reflects the success of service providers in delivering care that meets patient needs.

In dental teaching hospitals, satisfaction is influenced not only by the technical quality of care but also by the professionalism and communication skills of student providers. Jatmiko (2014) emphasized that factors such as medical ethics, responsiveness, communication, and emotional interaction all contribute to overall satisfaction. Patients treated by co-assistant students may evaluate their experience based on how well students explain procedures, respond to concerns, and show empathy. Even if the clinical outcome is good, poor communication may reduce satisfaction.

The expectation-disconfirmation theory (Oliver, 1980) provides a foundation for understanding satisfaction outcomes. When patient expectations are fulfilled or exceeded, positive disconfirmation occurs, leading to satisfaction. On the other hand, negative disconfirmation occurs when expectations are unmet, resulting in dissatisfaction. In dental services, patients often have

expectations regarding waiting time, cleanliness, staff courtesy, and treatment outcomes—all of which influence how they assess the quality of care received.

Patient satisfaction also has practical implications for the institution. According to Wulandari et al. (2024), a consistent failure to maintain patient satisfaction can lead to declining trust, increased complaints, and reduced patient loyalty. In teaching hospitals, this could result in fewer patient visits, limiting student clinical exposure and affecting educational quality. Therefore, identifying and addressing the key factors that influence satisfaction—such as service quality and waiting time—is essential for sustaining both clinical and educational goals.

RESEARCH METHODS

This study employed a quantitative approach with a causal associative research design, aimed at examining cause-and-effect relationships among the research variables. This approach is appropriate for testing the influence of independent variables (service quality and waiting time) on the dependent variable (patient satisfaction).

Population and Sample

The population in this study consisted of all patients who received dental treatment from co-assistant students at the Dental and Oral Teaching Hospital (RSGMP) of Universitas Jenderal Soedirman during the data collection period. The sampling technique used was non-probability sampling, specifically purposive sampling. This method was selected to ensure that the sample met specific criteria, including patients who had received treatment from co-assistant students, were at least 17 years old, able to complete the questionnaire independently, and willing to participate.

Data Collection and Instrumen Development

Data were collected using a structured questionnaire distributed to selected respondents. The questionnaire was developed based on indicators from each variable, including the five SERVQUAL dimensions (tangibles, empathy, reliability, responsiveness, and assurance), waiting time, and patient satisfaction. Responses were measured using a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Before full distribution, the questionnaire was tested for validity using Pearson correlation and for reliability using Cronbach's Alpha to ensure it met statistical standards.

Data Analysis Techniques

Data analysis was conducted using multiple linear regression with the aid of SPSS version 25. This analysis was preceded by classical assumption testing, including normality, multicollinearity, and heteroscedasticity tests. Hypothesis testing was carried out using both partial tests (t-tests) and simultaneous tests (F-tests) to determine the significance of each variable's influence. The coefficient of determination (R^2), standardized regression coefficients (β), and significance levels (p-values) were used to interpret the results and the strength of the relationships among variables.

CONCLUSION

Service quality and waiting time are two critical factors that influence patient satisfaction in healthcare, especially within the unique context of teaching hospitals. The dual role of these institutions—as both service providers and educational platforms—presents challenges in maintaining consistent service quality, particularly when treatment is delivered by co-assistant students. Patients may experience variability in competence, communication, and waiting time, which can affect their overall satisfaction and perception of the institution. The SERVQUAL model offers a structured framework to measure service quality across five dimensions, while expectation-disconfirmation theory explains how perceived service performance—especially regarding waiting time—shapes satisfaction.

Prior research has shown that each SERVQUAL dimension (tangibles, empathy, reliability, responsiveness, and assurance) can independently influence patient satisfaction, and that long or

uncommunicated waiting times are a frequent source of dissatisfaction. The literature also highlights the importance of patient-centered communication and institutional support in overcoming the limitations of student-based services. However, empirical studies that simultaneously investigate the impact of service quality and waiting time in dental teaching hospitals remain limited, especially in Indonesia.

To address this gap, this study employed a quantitative associative design using a structured questionnaire distributed to patients treated by co-assistant students at RSGMP Unsoed. The research instrument was developed based on SERVQUAL dimensions and perceived waiting time, with all items measured using a five-point Likert scale. Data analysis was conducted using multiple linear regression with SPSS 25, preceded by classical assumption testing to ensure model validity. Hypotheses were tested both partially and simultaneously to identify which factors most significantly influence patient satisfaction.

This study is expected to offer theoretical contributions to the healthcare service literature by focusing on a dental teaching hospital setting. It also provides practical recommendations for hospital managers and educators to improve clinical supervision, reduce operational delays, and enhance communication between students and patients. By examining service quality and waiting time together, the research aims to help institutions like RSGMP Unsoed balance their educational mission with the delivery of high-quality, patient-centered care.

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