



THE EFFECT OF HEALTHCARE PROVIDERS' SERVQUAL DIMENSIONS ON PATIENT LOYALTY AT ARJASA COMMUNITY HEALTH CENTER

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ABSTRACT

Introduction: Community health centers (*puskesmas*) play a vital role in delivering primary healthcare services, where the quality of medical personnel services is a key determinant of patient loyalty. Despite an improvement in the Community Satisfaction Index (IKM) at Arjasa Community Health Center from 78.5% in 2023 to 81.2% in 2024, patient loyalty has not yet reached an optimal level. This study applies the SERVQUAL framework to examine how service quality influences patient loyalty in a primary healthcare context.

Methods: This study employed an associative quantitative approach with a correlational survey design. Data were collected from 100 patients at Arjasa Community Health Center using a questionnaire consisting of 15 SERVQUAL items and 6 patient loyalty items. Data analysis was conducted in SPSS, including validity and reliability tests and simple linear regression.

Results: The findings indicate that medical personnel's SERVQUAL has a significant and positive effect on patient loyalty. The regression analysis yielded a correlation coefficient (R) of 0.637 and a coefficient of determination (R^2) of 0.405, indicating that 40.5% of the variation in patient loyalty is explained by service quality. The F -test confirmed that the regression model is statistically significant ($F = 66.842$; $p < 0.001$). The t -test results showed that SERVQUAL exerts a significant partial effect on patient loyalty ($t = 8.176$; $p < 0.001$), with responsiveness and empathy emerging as the most influential dimensions in shaping patient loyalty at the community health center.

Conclusion and suggestion: This study concludes that service quality among medical personnel, measured using the SERVQUAL model, significantly predicts patient loyalty in primary healthcare settings. Responsiveness and empathy play dominant roles in strengthening long-term patient relationships. Accordingly, Arjasa Community Health Center should prioritize the development of interpersonal competencies through communication training, reinforcement of empathetic service attitudes, and improved service time management. Future studies should include variables and samples to enhance generalizability.

INTRODUCTION

Community health centers (puskesmas) play an essential role in providing primary healthcare services to the community. In efforts to improve service quality, one important aspect that must be considered is the quality of medical personnel services (Della Puspita & Aryanny, 2024). Based on the Community Satisfaction Index (IKM) evaluation at Arjasa Community Health Center, patient satisfaction levels showed measurable variation over the last two years, with an IKM score of 78.5% in 2023, categorized as “good,” and an increase to 81.2% in 2024, categorized as “very good.” (IKM, 2024). Despite this improvement, the data also indicate that patient satisfaction has not yet reached an optimal level and still requires systematic quality enhancement, particularly in service delivery by medical personnel (Cui et al., 2025). High-quality medical services not only affect patient satisfaction but can also influence patient loyalty. Good service quality is a key indicator that influences both patient satisfaction and loyalty (A. Ali & Salameh, 2024). Patient loyalty refers to the willingness of patients to return for services in the future and to recommend the services to others (Addo et al., 2020).

A growing body of empirical research demonstrates that the quality of healthcare services exerts a significant influence on patient loyalty. Patients who perceive that they receive high-quality and respectful care tend to report higher levels of satisfaction and are consequently more inclined to remain loyal to healthcare providers (Almomani et al., 2020). In particular, empathy and effective communication demonstrated by medical personnel have been consistently identified as critical determinants in fostering trust and emotional bonds between patients and service providers, which play a central role in shaping long-term patient relationships (Janowski et al., 2021; Mohd-Any et al., 2022; Holmes Fee et al., 2023). Furthermore, patients’ perceptions of medical personnel professionalism, responsiveness, and reliability have been shown to enhance institutional trust, which subsequently strengthens patient loyalty toward healthcare organizations (Addo et al., 2020; AlOmari & A. Hamid, 2022; Sundram et al., 2022). Recent studies in primary healthcare settings also suggest that sustained service quality, particularly in interpersonal interactions, is a key predictor of patients’ willingness to reuse services and recommend healthcare facilities to others (Aladwan et al., 2021; Pratama & Hartini, 2020; Shie et al., 2022; Adams et al., 2025).

The quality of medical personnel services can be systematically evaluated using the SERVQUAL model, which has been widely adopted as a robust framework for assessing service quality in healthcare settings (Mabini Jr et al., 2024). This model measures service quality by comparing patients’ perceptions of the services they receive with their prior expectations of those services, thereby capturing the extent to which healthcare providers are able to meet or exceed patient expectations. SERVQUAL is commonly referred to as a gap analysis model because it emphasizes the discrepancy between expected and perceived service performance, which is particularly relevant in service-intensive sectors such as healthcare (Setyaningsih & Widagdo, 2023; Karume et al., 2025). The model comprises five core dimensions tangibles, reliability, responsiveness, assurance, and empathy that collectively represent both the technical and interpersonal aspects of service delivery. In the context of primary healthcare, these dimensions provide a comprehensive basis for evaluating the quality of medical personnel services, as they reflect not only physical facilities and procedural accuracy but also responsiveness, professionalism, and emotional engagement with patients (Huo et al., 2023; Secci & Syed, 2023; L. Li et al., 2025). Previous studies have demonstrated that these dimensions are effective indicators for assessing the ability of medical personnel to meet patient expectations and to foster positive service experiences that may ultimately lead to stronger patient loyalty (Edgman-Levitan & Schoenbaum, 2021; Shie et al., 2022; Brandão & Ribeiro, 2023).

Arjasa Community Health Center is one of the primary healthcare facilities in Jember Regency that provides services to six villages with a relatively dense population. The high demand for healthcare services in the area positions Arjasa Community Health Center as the frontline provider of medical services that must be effective, efficient, and equitable. In this context, the quality of medical personnel services becomes a crucial aspect that directly affects patient loyalty as an indicator of service success. This research is essential because it can provide an objective and measurable description of patients’ perceptions of the quality of medical personnel services at Arjasa Community Health Center based on the five SERVQUAL dimensions (Addo et al., 2020; Akbar et al., 2020). Such information will serve as a strong foundation for the puskesmas management and the Jember District Health Office in formulating strategic policies, including the development of medical personnel competencies, improvement of service communication systems, and the strengthening of more humanistic and patient-oriented service approaches. Without

systematic and measurable data, efforts to improve service quality risk becoming subjective and less targeted (Cheng et al., 2019; Chen et al., 2024; Adams et al., 2025).

LITERATURE REVIEW

Studies on patient loyalty in healthcare facilities indicate that service quality is a determining variable that consistently appears in various research. Rahmatia emphasize that service quality influences patient loyalty in community health centers, although the quality measurement used remains general and has not systematically detailed the SERVQUAL dimensions. These findings provide an initial illustration of the importance of service quality, yet do not offer a comprehensive mapping of which aspects most strongly shape patients' perceptions of medical personnel (Rahmatia et al., 2025).

Furthermore, the study by Putri and Wibowo adopted SERVQUAL to assess service quality in primary healthcare facilities; however, the scope of assessment still encompassed all service units such as registration counters, pharmacies, and administrative units, making the contribution of medical personnel difficult to distinguish clearly (Putri et al., 2025). Meanwhile, Syaiful & Astuti applied SERVQUAL within the context of regional hospitals, but differences in organizational structures, facilities, and service complexity prevent the results from being directly adapted to the context of community health centers (Syaiful & Astuti, 2022). Thus, these studies have not explicitly positioned medical personnel as a key variable in measuring healthcare service quality.

In addition, studies focusing on specific patient contexts, such as BPJS participants, were presented by Faeni (Faeni, 2023). They highlighted service aspects related to insurance membership, such as ease of claims and queue management, thereby orienting the research more toward the financing system than toward the quality of interaction with medical personnel. On the other hand, the study by Susanti and Lestari showed that the professionalism of medical personnel affects patient perceptions; however, the approach did not use the SERVQUAL framework, leaving unexplained which service aspects most dominantly influence loyalty (J. Ali et al., 2024). This indicates that both the technical and interpersonal aspects of medical personnel have not yet been examined using standardized service quality instruments.

Several other studies highlight aspects of healthcare worker interaction such as empathy, friendliness, and clarity of communication which have been shown to increase patient satisfaction and loyalty. For instance, highlight these interpersonal dimensions but do not incorporate them comprehensively into the SERVQUAL framework (J. Ali et al., 2024). Examined satisfaction as a mediator in the relationship between service quality and loyalty, but the measurement of service quality remained general and did not differentiate the five SERVQUAL dimensions (Sundram et al., 2022). Thus, these studies reveal methodological limitations in operationalizing service quality dimensions in detail (Adongo et al., 2025).

Furthermore, studies conducted by Akbar as well as Kurniawan and Rahman show that medical personnel services have a significant influence on patient loyalty in both primary healthcare facilities and rural community health centers (Akbar et al., 2020; Kurniawan & Rahman, 2025). However, these studies did not use the full SERVQUAL instrument, so the influence of each service dimension tangibles, reliability, responsiveness, assurance, and empathy cannot be accurately assessed. The study by Alfiannor and Hendarini highlights only two dimensions, namely responsiveness and empathy, thus failing to present a holistic picture of medical personnel service quality (Alfiannor et al., 2025; Hendarini et al., 2025). Therefore, there remains a need for research that can assess the quality of medical personnel services through the five SERVQUAL dimensions in an integrated.

Based on previous studies, there exists an academic gap regarding the assessment of medical personnel service quality in community health centers using the complete SERVQUAL model. No research has specifically positioned medical personnel as the primary focus of service quality measurement or examined the influence of all five SERVQUAL dimensions on patient loyalty within the rural community health center context. Therefore, offers novelty by integrating all five SERVQUAL dimensions comprehensively, focusing the analysis on medical personnel services, and presenting empirical evidence regarding the determinants of patient loyalty in primary healthcare facilities.

RESEARCH METHODS

This study employed an associative quantitative approach designed to examine the relationship and influence between two main variables, namely the SERVQUAL-based quality of medical personnel services as the independent variable and patient loyalty as the dependent variable (Balaka, 2022; Adil et al., 2023; Azhari et al., 2023). This approach was chosen because it is capable of producing objective and measurable empirical findings, in accordance with the characteristics of research that focuses on analyzing relationships between variables (Muslimin et al., 2023; Darmawan et al., 2024). In the context of health research, associative quantitative designs are widely used to predict patient behavior based on the quality of services provided by medical personnel (Sihotang, 2023).

The research design used was a correlational design with a survey approach (Saksitha & Jailani, 2024). This design aims to assess the degree of relationship and influence between SERVQUAL service quality and patient loyalty based on data collected through questionnaire instruments (Hazeem AlBalushi, 2021). The survey approach enables researchers to obtain a comprehensive empirical picture of patients' perceptions of medical personnel services within a relatively efficient timeframe (Creswell & Creswell, 2023). Thus, the correlational design provides a scientific basis for testing the influence model between variables in the context of healthcare services at community health centers.

The study population comprised all patients who sought treatment at Arjasa Community Health Center within the last three months, as they had direct experience receiving medical services. The use of a population based on actual experience is considered relevant for obtaining valid assessments of service quality and patient loyalty (Subhaktiyasa, 2024; Susanto et al., 2024). This population characteristic allows for accurate measurement of perceptions, especially concerning the SERVQUAL dimensions that emphasize direct experience with the service.

The sampling technique used was purposive sampling, namely the selection of samples based on specific criteria deliberately determined according to the research objectives. This technique is commonly used in healthcare service research that requires respondents with specific experiential backgrounds so that variable measurements become more accurate (Memon et al., 2020). The sample criteria included: patients aged above 17 years, having received medical services at least once at Arjasa Community Health Center, and willing to participate as respondents. Based on these criteria, 100 respondents were obtained as the study sample.

The research was conducted at Arjasa Community Health Center, located in Arjasa District, Jember Regency, East Java. This location was selected purposively because it is a primary healthcare facility with a high patient volume and services involving various medical personnel such as general practitioners, dentists, midwives, nurses, pharmacists, and laboratory analysts. Choosing a research location that aligns with the studied variables is an important principle in quantitative research design to ensure that the measurement context corresponds appropriately with the object of study. Therefore, Arjasa Community Health Center is considered representative as a research site for examining the influence of medical personnel service quality on patient loyalty.

RESULT AND ANALYSIS

This study was conducted to determine the effect of medical personnel's SERVQUAL on patient loyalty at Arjasa Community Health Center. Data were obtained through the distribution of questionnaires to 100 respondents. The SERVQUAL variable was measured using 15 question items, while patient loyalty was measured using 6 question items. After the data were collected, analyses were performed using the SPSS program to test validity, reliability, and the relationship between variables through simple linear regression analysis.

1. Research Instrument Testing

a. Validity Test

The validity test was conducted using the Corrected Item-Total Correlation. The SPSS data processing results are presented in Table 1.1.

Table 1.1 Instrument Validity Test Results

Variable	Item	r-count	r-table	Description
SERVQUAL (X)	X1–X15	0.434 – 0.789	0.196	Valid
Loyalty (Y)	Y1–Y6	0.482 – 0.804	0.196	Valid

Source: Primary data processed using SPSS v31 (2025)

Table 1.1 shows that all question items in the questionnaire have r-count > r-table (0.196), indicating that all questionnaire items are valid. According to Ghozali (2018), questionnaire items are declared valid if the Corrected Item-Total Correlation value is greater than the r-table value at a significance level of 0.05.

b. Reliability Test

The reliability test was conducted using the Cronbach’s Alpha method. The reliability test results are shown in Table 1.2.

Table 1.2 Instrument Reliability Test Results

Variable	Cronbach’s Alpha	Reliability Threshold	Description
SERVQUAL (X)	0.965	0.70	Reliable
Loyalty (Y)	0.965	0.70	Reliable

Source: Primary data processed using SPSS v31 (2025)

Table 1.2 shows that the Cronbach’s Alpha values for both variables exceed 0.70, indicating that the research instruments are reliable. Based on Nunnally & Bernstein (1978), an instrument is considered reliable if the Cronbach’s Alpha value exceeds 0.70.

2. Simple Linear Regression Analysis

a. Model Summary and Coefficient of Determination (R²)

Table 2.1 Regression Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.637	0.405	0.399	0.43844

Source: Primary data processed using SPSS v31 (2025)

The correlation coefficient (R) of 0.637 indicates a moderately strong and positive relationship between medical personnel’s SERVQUAL and patient loyalty. Meanwhile, the coefficient of determination (R²) of 0.405 means that 40.5% of the variation in patient loyalty can be explained by the medical personnel’s SERVQUAL variable, while the remaining 59.5% is explained by other factors outside the research model. These results show that medical personnel’s SERVQUAL contributes significantly to shaping patient loyalty. In other words, the higher the service quality of medical personnel, the higher the patient loyalty at Arjasa Community Health Center. This finding is consistent with the study of Amin & Novianti (2023), which showed that service quality and brand trust through patient satisfaction significantly influence outpatient loyalty at RSUD Salewangan. Likewise, Rahmat & Kusumayati (2024), in their systematic review, found that the quality of medical personnel services is the most consistent predictor of patient loyalty across various types of hospitals.

b. F-test (ANOVA)

The F-test was conducted to determine whether the regression model used is feasible and whether the independent variable simultaneously affects the dependent variable.

Table 2.2 ANOVA Test Results

Source	Sum of Square	df	Mean Square	F	Sig.
Regression	12.849	1	12.849	66.842	<0.001
Residual	18.838	98	0.192		
Total	31.688	99			

Source: Primary data processed using SPSS v31 (2025)

Table 2.2 shows that the F-value is 66.842 with a significance of <0.001 (F-count > F-table and Sig < 0.05), indicating that the regression model is feasible and that medical personnel’s SERVQUAL has a significant simultaneous effect on patient loyalty. This result reinforces the findings of Astuti & Fajar (2022) and Putri & Wibowo (2023), which show that all SERVQUAL dimensions collectively influence patient loyalty through increased satisfaction and trust in healthcare services. Additionally, the study by Evandinnartha et al. (2023) also notes that good service quality greatly contributes to satisfaction and ultimately shapes patient loyalty, consistent with the results of this research.

c. t-test (Partial Significance Test)

Table 2.3 t-test Results

Model	B	Std. Error	Beta	t	Sig.
(Constant)	0.743	0.408	–	1.822	0.072
X_Mean	0.811	0.099	0.637	8.176	<0.001

Source: Primary data processed using SPSS v31 (2025)

Based on the t-test results, medical personnel’s SERVQUAL has a positive and significant influence on patient loyalty (t = 8.176; Sig < 0.001). This finding indicates that better service dimensions directly increase patients’ tendency to remain loyal to the services of Arjasa Community Health Center. This finding is consistent with the study of Dewi & Wulandari (2020) and Putri & Wahyuni (2022), which emphasize that the responsiveness and empathy aspects of medical personnel have a dominant influence on patient loyalty in primary healthcare facilities. The study by Purwiningsih, Prabowo, & Sukoco (2023) also supports this finding, showing that empathy is the most influential dimension in improving patient loyalty at Puskesmas in Jember Regency.

d. Simple Linear Regression Equation

Simple linear regression analysis is used to determine the effect of medical personnel’s SERVQUAL (X) on patient loyalty (Y). The general form of the regression equation is:

$$Y = a + bX$$

Description:

Y = Patient loyalty (dependent variable)

X = Medical personnel’s SERVQUAL (independent variable)

a = Constant (Y value when X = 0)

b = Regression coefficient (the magnitude of X’s influence on Y)

Based on SPSS data processing results, the constant (a) is 0.743 and the regression coefficient (b) is 0.811, so the regression equation can be written as:

$$Y = 0.743 + 0.811X$$

Interpretation:

- a. The constant value of 0.743 indicates that when medical personnel’s SERVQUAL equals zero, patient loyalty has a value of 0.743.
- b. The regression coefficient of 0.811 indicates that each one-unit increase in medical personnel’s SERVQUAL will increase patient loyalty by 0.811.

- c. The positive sign (+) on the regression coefficient indicates that the relationship between medical personnel's SERVQUAL and patient loyalty is positive, meaning that the better the service quality of medical personnel, the higher the patient loyalty.

DISCUSSION

The results of this study indicate that improvements in the quality of medical personnel services, as measured by the SERVQUAL model, are consistently followed by increased patient loyalty at Arjasa Community Health Center. This finding confirms the research hypothesis that the quality of medical personnel services is directly proportional to patient loyalty. Correlational and regression analyses demonstrate that this relationship is positive and statistically significant, thereby supporting the causal model employed in this study (Alabbas et al., 2024). Empirically, these results underscore that service quality is not merely a supporting factor but a primary determinant in shaping patients' commitment to repeatedly utilize primary healthcare services (M. Li et al., 2024).

The findings of this study are consistent with previous research emphasizing the importance of SERVQUAL dimensions in fostering patient loyalty. Studies report that responsiveness, assurance, and empathy significantly influence patient loyalty in primary healthcare facilities (Bentum-Micah et al., 2020; Pertiwi, 2021; Oster et al., 2024; Mabini Jr et al., 2024; Rahmatia et al., 2025). The consistency of these findings suggests that responsive services, a strong sense of assurance, and high levels of empathy are key elements in establishing sustainable relationships between patients and healthcare providers. (Mei et al., 2020; Kijima et al., 2021; Mardaleta et al., 2022; Yunningsih, 2022; Nasser Albarqi, 2024). Specifically, empathetic communication from doctors has been identified as a strong predictor of patient satisfaction and subsequent loyalty (Lampus & Wuisan, 2024). This aligns with research demonstrating that comprehensive holistic services contribute to very good patient loyalty in public health centers.

From a theoretical perspective, the results reinforce the SERVQUAL theory developed by Parasuraman, Zeithaml, and Berry, which posits that service quality consists of five core dimensions tangibles, reliability, responsiveness, assurance, and empathy that collectively shape customer perceptions and loyalty (Parasuraman et al., 1988; Fu et al., 2022; Wider et al., 2024). The dominant role of responsiveness and empathy observed in this study indicates that interactive and emotional dimensions exert a stronger influence than physical aspects of service delivery, particularly in healthcare settings characterized by direct and continuous interaction between medical personnel and patients (Setiono & Hidayat, 2022; Yusefi et al., 2022; Prabakaran & Thishopana, 2024).

Furthermore, these findings align with Griffin's perspective that customer loyalty is built through consistent service experiences, reliability, and satisfying interactions (Brandão & Ribeiro, 2023; Goodrich & Lazenby, 2023; Razzaq et al., 2024). In the context of primary healthcare, repeated satisfaction and positive service encounters form the foundation for long-term relationships between patients and healthcare facilities (Lerch et al., 2024). The studies of further support this conclusion by demonstrating that patient loyalty is influenced not only by the technical competence of medical personnel but also by the quality of long-term relational engagement between patients and service providers (Alabbas et al., 2024; Ubery & Ernawaty, 2024; Yanuarista et al., 2025).

When viewed within the context of Arjasa Community Health Center, the strong influence of responsiveness and empathy can be understood as a reflection of the characteristics of primary healthcare services, which rely heavily on social proximity between medical personnel and patients. Prompt responses to complaints, clarity of communication, willingness to listen, and emotional concern demonstrated by medical personnel have been shown to generate positive patient experiences (Söderberg et al., 2024; Xavier et al., 2024). Conceptually, this finding is consistent with the argument that patients in primary healthcare facilities tend to evaluate service quality based on direct interpersonal interactions rather than solely on diagnostic outcomes or technical medical procedures (Alshahrani, 2023; Oster et al., 2024; Prasetyo et al., 2024; Adams et al., 2025). This emphasis on relational aspects aligns with findings that reliability, responsiveness, assurance, and empathy are crucial determinants of patient satisfaction and subsequent loyalty, especially when considering the holistic impact of service quality on patient outcomes (Rahmatia et al., 2025; Ramana, 2025). This emphasizes that the humanistic elements of care, such as empathetic engagement and prompt attention, are paramount in fostering patient allegiance within community health settings (Kijima et al., 2021). This necessitates that healthcare providers prioritize not only clinical efficacy but also the development of robust communication, interpersonal reliability, and responsiveness among staff to enhance service quality and patient satisfaction.

Overall, this study affirms that the quality of medical personnel services is a significant predictor of patient loyalty, with responsiveness and empathy emerging as the most influential dimensions. The consistency between empirical findings, SERVQUAL theory, and prior studies indicates that SERVQUAL remains a relevant and effective analytical framework for assessing service quality in primary healthcare settings (Prakash, 2024). Therefore, Arjasa Community Health Center should prioritize strengthening the interpersonal competence and professionalism of

medical personnel through effective communication training, reinforcement of empathetic attitudes, and improved service time management to foster sustainable patient loyalty.

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