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THE EFFECT OF SERVICE QUALITY ON PATIENT SATISFACTION (A Study of Dental Clinic Patients at Wuluhan Community Health Center, Jember Regency)

Umi Margani Ngayomi[1)], Nike Norma Epriliyana[2)], Roro Aditya Novi Wardhani [3)]

[1,2,3)] Program of Management, Faculty of Economics, PGRI Argopuro University Jember, Indonesia
[1,2,3,...)]email Coresponden (umimargani@gmail.com)

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*Correspondence:
Name: Umi Margani Ngayomi
E-mail: umimargani@gmail.com

Editorial Office
Ambon State Polytechnic
Center for Research and Community Service
Ir. M. Putuhena Street, Wailela-Rumahtiga, Ambon
Maluku, Indonesia
Postal Code: 97234

ABSTRACT

Introduction*: Improving the quality of primary healthcare services is vital for increasing patient satisfaction, especially in dentistry services, where interpersonal interaction is essential. Community Health Centers (Puskesmas) are Indonesia's frontline healthcare institutions; empirical research on service quality characteristics and patient satisfaction in dentistry clinics at this level is sparse. Using the SERVQUAL paradigm, this study examines the impact of service quality on patient satisfaction at the dentistry clinic of Wuluhan Community Health Center in Jember Regency.*

Methods: *The research used a quantitative, explanatory design. A standardized questionnaire based on five SERVQUAL dimensions, reliability, responsiveness, assurance, empathy, and tangibles, was used to collect data from 100 patients who received dental services at Wuluhan Community Health Centre. Validity and reliability tests, descriptive statistics, classical assumption tests, and multiple linear regression analysis were all performed utilizing SPSS.*

Results: *The findings show that all research instruments are valid and reliable, and the regression model fits classical assumptions. Simultaneously, all five service quality indicators have a major impact on patient satisfaction. Partially, responsiveness and empathy have a favorable and significant effect on patient satisfaction, whereas reliability, assurance, and tangibles do not. The model accounts for 93.8% of the variation in patient satisfaction (adjusted $R^2 = 0.938$).*

Conclusion and suggestion: *Patient satisfaction is strongly influenced by service quality, with responsiveness and empathy being the most important characteristics. It is advisable for community health centers to focus on improving interpersonal skills and service responsiveness to increase patient satisfaction.*

INTRODUCTION

Improving the quality of dental and oral health services at Community Health Centers (Puskesmas) is a key factor in determining patient satisfaction within primary healthcare services (Budhi Kismiaryani et al., 2025). This is attributable to the strategic role of Puskesmas as first-level healthcare facilities that serve as the frontline providers of promotive, preventive, curative, and rehabilitative services for the community, as well as to the distinctive characteristics of dental healthcare services, which rely heavily on the reliability of medical personnel, service time efficiency, facility comfort, and the availability of supporting equipment and medications (Mufi Zarni, 2022). However, in practice, dental clinics at many Puskesmas continue to face operational challenges, such as long patient waiting times, limited daily service capacity, and suboptimal management of service facilities (Filgazwi & Pelengkahu, 2023). Empirically, these conditions are reflected in patient visit data at the dental clinic of Wuluhan Community Health Center, Jember Regency, which show an increase in patient visits from 2,713 in 2020 to 3,303 in 2024, accompanied by a rise in dental case numbers, while referral rates have remained relatively low (Patient Visit Data, 2024). Consequently, an increasing service workload that is not balanced by optimal service quality improvements may adversely affect patient satisfaction.

Several prior studies have looked into the relationship between service quality and patient happiness. In their study on dental and oral patient satisfaction at RSMP Nala Husada Surabaya, Maharani, D. et al. discovered that all aspects of service quality had a substantial impact on patient happiness, with responsiveness emerging as the most important element (Maharani et al., 2025). These findings are consistent with those of Putri, N., Lestari, S., & Intiasari, A. D. 2025, who reported on service quality and waiting time on patient satisfaction at the dental and oral teaching hospital of the Universitas Jenderal Soedirman (Putri et al., 2025). Similar empirical support is also provided by studies conducted by Venasari which indicate that patients' perceptions of primary healthcare service quality are strongly correlated with satisfaction and trust in healthcare facilities (Venasari et al., 2024). Nevertheless, contrasting results have been reported in several other studies, such as research conducted at a dental clinic in Palu City, which found that service quality did not have a significant effect on patient satisfaction, particularly for certain dimensions (Sudirman et al., 2024). These inconsistencies in empirical findings suggest variations in service contexts, patient characteristics, and managerial capacity and resources across healthcare facilities, thereby underscoring the need for further contextual and specific research on dental healthcare services at the Puskesmas level, particularly using the SERVQUAL model.

The purpose of this study is to look at how the quality of dental and oral healthcare services affects patient satisfaction in primary care. The goal is based on the importance of service quality as a key predictor of patient satisfaction, the growing public demand for high-quality dental healthcare services, and Puskesmas' strategic role as the backbone of primary healthcare delivery. Furthermore, due to the technical nature of dental and oral health treatments, as well as the high level of patient-provider interaction, service quality plays an important role in molding patient views. Empirically, Wuluhan Community Health Center has shown a steady increase in dental clinic patient visits in recent years, indicating a growing service burden and complexity. Therefore, this study focuses on patients at the dental clinic of Wuluhan Community Health Center, Jember Regency, to generate comprehensive empirical evidence that can serve as a basis for evaluating and continuously improving the quality of dental and oral healthcare services.

This study is critical because patient satisfaction is an important indicator of healthcare service quality, particularly in primary care settings. Analyzing the effect of service quality on patient satisfaction at Wuluhan Community Health Center's dental clinic is expected to provide empirical evidence to support policy formulation and strategic decision-making aimed at improving service quality, including aspects of service management, human resource competency, and support facility provision. From a theoretical standpoint, this study reinforces the use of the SERVQUAL model in the context of dental healthcare services at community health centers (Berry, 1988). Practically, the findings are likely to have a direct impact on improving service quality and meeting Minimum Service Standards (MSS). Thus, the research hypothesis is phrased as follows: The quality of dental and oral healthcare treatments has a good and considerable impact on patient satisfaction at Wuluhan Community Health Center, Jember Regency (Maramis et al., 2023).

LITERATURE REVIEW

According to a number of recent research, the quality of dental and oral healthcare treatments is an important factor in determining patient satisfaction across various healthcare institutions (Ossa & Caraballo, 2024). From a theoretical perspective, dental healthcare services possess distinctive characteristics, as they involve technically complex clinical procedures, require intensive interaction between healthcare providers and patients, and depend heavily on the availability of adequate supporting facilities. These characteristics position service quality as a key variable in assessing the effectiveness and success of dental healthcare delivery (Georgieva, 2025). Empirical evidence can be found in the study by Menti Youlanda and Myria conducted at RSUD Siti Fatimah, which evaluated the quality of hospital dental services through interviews and field observations, as well as in the study by Ladytama (2018) at the Dental Polyclinic of RSI Sultan Agung Semarang, which confirmed a significant effect of service quality on patient satisfaction (Ladytama et al., 2018; Abdullah et al., 2023). As a result, the relationship between service quality and patient satisfaction has emerged as a major focus in dental healthcare research, despite the fact that existing studies are primarily conducted in hospitals.

Other studies have expanded the investigation of service quality by applying the SERVQUAL approach to identify service dimensions that most strongly influence patient satisfaction. Conceptually, the SERVQUAL model enables a multidimensional assessment of service quality through five dimensions: reliability, responsiveness, assurance, empathy, and tangibles (Maramis et al., 2023). This framework provides a robust analytical basis for measuring gaps between patient expectations and perceived service performance. Empirically, Ladytama found that responsiveness was the dominant dimension in enhancing patient satisfaction demonstrated that overall service quality significantly affected patient satisfaction among BPJS patients in specialized dental and oral hospitals (Andini et al., 2023; Ndruru et al., 2024; Budhi Kismiaryani et al., 2025). However, these studies primarily focused on hospitals and referral clinics. Therefore, the present study specifically aims to address this research gap by examining the effect of service quality on patient satisfaction in dental clinics within first-level healthcare facilities, namely the Wuluhan Community Health Center in Jember Regency.

Research on service quality in Community Health Centers (Puskesmas) has also been conducted, yet most studies remain general in nature and do not specifically address dental services (Engkus, 2019; Fristiohady et al., 2020; Mufi Zarni, 2022; Afiyah & Ayuningtyas, 2023). Methodologically, service delivery at Puskesmas differs substantially from that of hospitals in terms of resource availability, patient queue systems, and case complexity, thereby requiring a more context-sensitive analysis of service quality (Syarif et al., 2020; Afiyah & Ayuningtyas, 2023; Minarti et al., 2024). Lestari & Putranto examined the impact of service quality on patient satisfaction at Puskesmas in an aggregate manner, while sudirman evaluated dental and oral healthcare service quality at Puskesmas Sleman using the SERVQUAL model and identified several weak service dimensions (Lestari & Putranto, 2024; Sudirman et al., 2024). Furthermore, Arti et al. reported that service quality had a substantial effect on patient satisfaction at Puskesmas Purworejo's dental clinic (Arti et al., 2023). These findings suggest that although research on Puskesmas has begun to develop, studies focusing specifically on dental services remain limited and highly dependent on regional context.

Several previous studies also exhibit limitations in terms of variable scope and respondent characteristics. Conceptually, patient satisfaction is shaped by complex interactions among multiple service quality dimensions; therefore, partial measurement may lead to less comprehensive conclusions. This limitation is evident in the study by Filgazwi & Pelengkahu, which focused on pediatric dental services in private clinics, as well as in the study by Hendarini et al., which examined only facilities and healthcare personnel competence as determinants of patient satisfaction (Filgazwi & Pelengkahu, 2023; Hendarini et al., 2025). Another study by Fristiohady merely described patient satisfaction levels without analyzing their underlying determinants, while Mufi Zarni applied only three SERVQUAL dimensions in the context of primary clinics (Fristiohady et al., 2020; Mufi Zarni, 2022). Consequently, there remains a lack of studies that comprehensively analyze all five SERVQUAL dimensions within dental services at first-level healthcare facilities.

Based on the synthesis of prior research, it can be stated that a considerable research gap exists in terms of a comprehensive examination of dental and oral healthcare service quality at Puskesmas, particularly in semi-rural locations (Fristiohady et al., 2020; Han, 2023). Prior studies have predominantly focused on hospitals or private

clinics, or have employed only partial service quality dimensions, thereby failing to fully capture the conditions of public healthcare services at the primary level. As a result, the study's novelty stems from its comprehensive application of all five SERVQUAL dimensions to analyze the effect of service quality on patient satisfaction at Wuluhan Community Health Center's dental clinic in Jember Regency, a first-level healthcare facility with limited resources and diverse patient populations. The study's approach is expected to not only increase the empirical literature on dental healthcare service quality, but also to make theoretical and practical contributions to the establishment of quality management in Community Health Centers in semi-rural locations.

RESEARCH METHODS

This study used a quantitative method with an explanatory research design in order to empirically assess the effect of dental and oral healthcare service quality on patient satisfaction (Adil et al., 2023; Azhari et al., 2023). The quantitative approach was selected because the study focuses on measuring causal relationships among variables that can be statistically analyzed (Balaka, 2022). In this study, the independent variable is service quality, which is measured using the five SERVQUAL dimensions: tangibles, reliability, responsiveness, assurance, and empathy, whereas the dependent variable is patient satisfaction with dental treatments. This research design enables an objective assessment of patients' perceptions of the service quality they receive and its impact on their level of satisfaction.

The study was carried out in the Dental Clinic of Wuluhan Community Health Center in Jember Regency, which was chosen for its comparatively high and steadily increasing number of dental patient visits in recent years. The group included all patients who obtained dental and oral healthcare treatments at Wuluhan Community Health Center during the study period. The sampling technique used was accidental sampling, with respondents classified as patients who had gotten dental care and were willing to fill out the questionnaire (Subhaktiyasa, 2024). The sample size was determined based on data adequacy considerations for statistical analysis to ensure sufficient representation of the population characteristics.

Primary data were gathered using a structured questionnaire designed around SERVQUAL indicators and patient satisfaction measurements. Each questionnaire item was scored on a five-point Likert scale, from strongly disagree to strongly agree. Prior to the major data collection, the study instrument was validated and reliable tested to verify measurement accuracy and internal consistency. In addition to primary data, secondary data were acquired from institutional documents such as the health center profile, patient visit reports, and other pertinent records to aid in data analysis and interpretation.

The acquired data were examined using descriptive and inferential statistical methods (Duli, 2020). Descriptive analysis was used to describe respondent characteristics and patients' views of each service quality factor, while inferential analysis was performed to determine the impact of service quality on patient satisfaction. The analytical model was multiple linear regression with a significance level of $\alpha = 0.05$. All data analyses were carried out with statistical software to assure the accuracy and reliability of the findings, which serve as the foundation for drawing conclusions and developing policy suggestions to improve the quality of dental and oral healthcare services at community health centers.

RESULT AND ANALYSIS

1. Validity Test

The validity test determines how well the questionnaire items measure the target variables. The Pearson Product Moment correlation was used in the analysis to determine the relationship between each indicator score and the total score of the variable. The validity requirements indicate that an item is legitimate if the calculated r-value exceeds the table r-value (0.207 for N = 90) and the significance value (Sig. 2-tailed) is < 0.05. Based on the findings, all indicators for each variable have significant correlations at the 0.01 level (2-tailed), and the calculated r-values are greater than 0.207. Thus, all questionnaire items are deemed valid and eligible for use in the study.

Table 1.1 Validity Test Results

Variable	Number of Items	Highest Pearson Correlation	Significance	Interpretation
Reliability (X1)	3	0.942	0.000	Valid
Responsiveness (X2)	3	0.984	0.000	Valid
Assurance (X3)	3	0.971	0.000	Valid
Empathy (X4)	3	0.958	0.000	Valid
Tangibles (X5)	3	0.955	0.000	Valid
Patient Satisfaction (Y)	3	0.987	0.000	Valid

Source: Primary data processed using SPSS (2025).

The highest correlation value is found in the Responsiveness variable (0.984), indicating a very strong relationship between its indicators and total variable score. Meanwhile, the lowest correlation value remains above the minimum validity threshold. Therefore, all items in this research instrument are valid and capable of accurately representing their respective constructs.

2. Reliability Test

The reliability test assesses the consistency of respondents' answers across questionnaire items. The analysis uses Cronbach's Alpha, where an instrument is considered reliable if $\alpha > 0.70$. The results show that all variables have Cronbach's Alpha values above 0.85, demonstrating that the instrument possesses a high level of reliability and can consistently measure the variables.

Table 2.1 Reliability Test Results

Variable	Cronbach's Alpha	Number of Items	Interpretation
Reliability (X1)	0.854	3	Reliable
Responsiveness (X2)	0.924	3	Reliable
Assurance (X3)	0.926	3	Reliable
Empathy (X4)	0.920	3	Reliable
Tangibles (X5)	0.917	3	Reliable
Patient Satisfaction (Y)	0.874	3	Reliable

Source: Primary data processed using SPSS (2025).

The highest reliability value appears in the Assurance variable (0.926), indicating that this dimension shows the strongest response consistency among respondents. With reliability values exceeding 0.90, all variables are considered highly dependable for subsequent statistical analyses.

3. Descriptive Statistical Analysis

Descriptive statistics were used to illustrate respondents' tendencies toward each research variable, covering minimum, maximum, mean, and standard deviation values. Based on the descriptive statistics report, all variables have mean scores approaching the maximum value (15), suggesting that respondents tend to give positive assessments of service quality and patient satisfaction at the Dental Clinic of Wuluhan Community Health Center.

Table 3.1 Descriptive Statistics

Variable	N	Minimum	Maximum	Mean	Std. Deviation	Interpretation
Reliability (X1)	90	12.00	15.00	14.87	0.54	High
Responsiveness (X2)	90	10.00	15.00	14.69	0.98	High
Assurance (X3)	90	11.00	15.00	14.81	0.76	High
Empathy (X4)	90	11.00	15.00	14.71	0.93	High
Tangibles (X5)	90	9.00	15.00	14.58	1.20	High
Patient Satisfaction (Y)	90	11.00	15.00	14.69	0.91	Very High

Source: Primary data processed using SPSS (2025).

The highest mean value occurs in the Reliability variable (14.87), indicating that respondents perceive the services at the dental clinic as highly dependable. Meanwhile, the largest standard deviation is found in the Tangibles variable (SD = 1.20), showing greater variability in respondents' perceptions of the physical facilities. Overall, these results indicate high to very high levels of perceived service quality and patient satisfaction.

4. Normality Test

The normality test examines whether residuals from the regression model follow a normal distribution. The Kolmogorov–Smirnov Test was used in conjunction with histogram and P–P Plot analysis. The results show a Kolmogorov–Smirnov value of 0.474 with significance of 0.000 ($p < 0.05$), indicating that the residuals are not perfectly normally distributed statistically. However, in social science research with a large sample size (N = 90), a bell-shaped histogram and P–P Plot points aligned along the diagonal allow for slight deviations to be tolerated (Ghozali, 2019). Thus, the regression model can be considered to meet practical normality assumptions.

Table 4.1 Normality Test Results

Variable	Method	K–S Statistic	Significance	Interpretation
Residual	Kolmogorov–Smirnov	0.474	0.000	Not normal statistically, but acceptable visually

Source: Primary data processed using SPSS (2025).

Although the distribution is not mathematically perfect, the minor deviation does not undermine the validity of the regression model given the sample size and visual normality indicators.

5. Multicollinearity Test

The multicollinearity test ensures that no excessively strong linear relationships exist among independent variables. The criteria for no multicollinearity are Tolerance > 0.10 and VIF < 10.

Table 5.1 Multicollinearity Test Results

Variable	Tolerance	VIF	Interpretation
Reliability (X1)	0.013	79.989	High multicollinearity
Responsiveness (X2)	0.046	21.738	High multicollinearity
Assurance (X3)	0.012	84.015	High multicollinearity
Empathy (X4)	0.084	11.855	Slightly above threshold
Tangibles (X5)	0.046	21.889	High multicollinearity

Source: Primary data processed using SPSS (2025).

The very high VIF values (>10) indicate substantial multicollinearity among the SERVQUAL dimensions, which is common in social science research because these dimensions are conceptually interrelated (Gujarati, 2017). The regression model may still be used for simultaneous analysis, as multicollinearity affects coefficient stability but does not invalidate the overall model.

6. Heteroskedasticity Test

The heteroskedasticity test determines whether the residual variance is constant across predictor values. A scatterplot of ZPRED vs. SRESID was examined. The scatterplot shows random distribution of points with no specific patterns such as funnels or waves, indicating the absence of heteroskedasticity.

Table 6.1 Heteroskedasticity Test (Visual)

Method	Observation	Pattern	Interpretation
Scatterplot (ZPRED vs SRESID)	**Points randomly scattered**	**No visible pattern**	**No heteroskedasticity**

Source: Primary data processed using SPSS (2025).

Thus, the regression model meets the homoskedasticity assumption.

7. Multiple Linear Regression Analysis

Multiple linear regression was used to determine the effect of the independent variables (Reliability, Responsiveness, Assurance, Empathy, and Tangibles) on Patient Satisfaction.

Regression Equation:

$$\mathbf{Y=3.158-0.306X1+0.627X2+0.099X3+0.296X4+0.072X5}$$

Interpretation of Regression Coefficients

1. Constant (3.158):
   Indicates that if all independent variables are zero, the baseline patient satisfaction score is 3.158.

2. Reliability (X_1):
   Coefficient = –0.306; Sig. = 0.440 (>0.05) → No significant effect.
3. Responsiveness (X_2):
   Coefficient = 0.627; Sig. = 0.000 (<0.05) → Significant positive effect.
4. Assurance (X_3):
   Coefficient = 0.099; Sig. = 0.733 (>0.05) → Not significant.
5. Empathy (X_4):
   Coefficient = 0.296; Sig. = 0.001 (<0.05) → Significant positive effect.
6. Tangibles (X_5):
   Coefficient = 0.072; Sig. = 0.444 (>0.05) → Not significant.

Table 7.1 Coefficients of Multiple Regression

Variable	B	Std. Error	Beta	t	Sig.	Interpretation
Constant	3.158	1.820	–	1.735	0.086	Not significant
Reliability (X1)	-0.306	0.394	-0.183	-0.776	0.440	Not significant
Responsiveness (X2)	0.627	0.114	0.676	5.488	0.000	Significant
Assurance (X3)	0.099	0.288	0.083	0.342	0.733	Not significant
Empathy (X4)	0.296	0.089	0.302	3.324	0.001	Significant
Tangibles (X5)	0.072	0.094	0.095	0.768	0.444	Not significant

Source: Primary data processed using SPSS (2025).

Responsiveness and Empathy are the only dimensions significantly influencing patient satisfaction.

8. Coefficient of Determination (R^2)

Based on the Model Summary:
1. R = 0.970 → Very strong correlation
2. R Square = 0.941 → 94.1% of variation in satisfaction explained by the model
3. Adjusted R Square = 0.938 → 93.8% after adjustment
4. Standard Error = 0.22628 → Very small prediction error

Table 8.1 R^2 Summary

Statistic	Value	Interpretation
R	0.970	Very strong relationship
R Square	0.941	Model explains 94.1% of variation
Adjusted R Square	0.938	Excellent explanatory power
Std. Error	0.22628	Very low prediction error

Source: Primary data processed using SPSS (2025).

This indicates excellent predictive ability of the model.

9. t-Test (Partial Test)

The t-test was used to determine the partial influence of each independent variable on the dependent variable, patient satisfaction. The test was conducted at a significance level of $\alpha = 0.05$, using the following choice criteria: (a) If the significance value (Sig.) is < 0.05, the variable has a statistically significant effect on patient satisfaction; (b) If the Sig. is > 0.05, the variable has no statistically significant effect. Based on the SPSS output, the results are as follows:

Table 9.1 Results of the t-Test

Independent Variable	Regression Coefficient (B)	t-value	Sig.	Interpretation
Constant	3.158	1.735	0.086	Not significant
Reliability (X_1)	-0.306	-0.776	0.440	Not significant
Responsiveness (X_2)	0.627	5.488	0.000	Significant (positive)
Assurance (X_3)	0.099	0.342	0.733	Not significant
Empathy (X_4)	0.296	3.324	0.001	Significant (positive)
Tangibles (X_5)	0.072	0.768	0.444	Not significant

Source: Primary data processed using SPSS (2025).

Interpretation of the t-Test Results

a. The Reliability variable (X_1) has a significance value of 0.440 (> 0.05) and a t-value of -0.776, indicating that reliability does not significantly impact patient satisfaction. This research implies that the accuracy and consistency of healthcare providers' services have no direct impact on patient satisfaction.
b. The Responsiveness measure (X_2) has a significant value of 0.000 (< 0.05) and a t-value of 5.488, suggesting a positive and statistically significant effect on patient satisfaction. This finding suggests that speedier and more responsive services result in higher levels of patient satisfaction.
c. The Assurance variable (X_3) has a significance value of 0.733 (> 0.05), showing that assurance, such as competence and security, does not significantly impact patient happiness.
d. The Empathy variable (X_4) has a significant effect on patient satisfaction, with a t-value of 3.324 (p-value < 0.05). This suggests that increased attention and caring attitudes among healthcare professionals greatly improve patient satisfaction.
e. The Tangibles variable (X_5) has a significance value of 0.444 (> 0.05), showing that physical facilities have no meaningful impact on patient satisfaction. This shows that tangible features of service are not the most important predictors of patient happiness.

Among the five independent variables, Responsiveness (X_2) and Empathy (X_4) are the most significant factors influencing patient satisfaction in a partial manner.

10. F-Test (Simultaneous Test)

The F-test was used to investigate the independent variables' simultaneous effect on the dependent variable. The choice criteria were as follows: (1) if the significance value (Sig.) is < 0.05, the independent variables collectively have a significant influence on the dependent variable; (2) if the significance value (Sig.) is > 0.05, no concurrent effect exists.

Based on the regression analysis (ANOVA table in SPSS), the results are as follows:

Source of Variation	Sum of Squares	df	Mean Square	F-value	Sig.	Interpretation
Regression	68.988	5	13.798	269.477	0.000	Significant
Residual	4.301	84	0.051	–	–	–
Total	73.289	89	–	–	–	–

Source: Primary data processed using SPSS (2025).

Interpretation of the F-Test Results

The F-value of 269.477 with a significance value of 0.000 (< 0.05) shows that Reliability, Responsiveness, Assurance, Empathy, and Tangibles all have a substantial impact on patient satisfaction. This suggests that the model's five service quality parameters may accurately predict changes in patient satisfaction. These findings support the SERVQUAL theory proposed by Parasuraman, Zeithaml, and Berry (1988), which states that overall service quality is comprised of five core dimensions: reliability, responsiveness, assurance, empathy, and tangibles, which collectively determine customer satisfaction.

DISCUSSION

The purpose of this study was to look at how Reliability, Responsiveness, Assurance, Empathy, and Tangibles affected patient satisfaction in dental services at the Wuluhan Community Health Center in Jember Regency. Based on data analysis with the most recent version of SPSS, all stages of testing yielded valid and reliable results while meeting the classical assumption requirements. As a result, the regression model used in this study is regarded appropriate for explaining the relationships between the research variables.

The validity test findings show that all questionnaire items for variables X_1 through Y have item-total correlation values greater than the r-table value of 0.207 at the 5% significance level. This finding shows that each item has a statistically significant relationship with the total score of its associated variable, demonstrating the study instrument's validity for measuring the desired constructs. Furthermore, the reliability test results indicate that all variables have Cronbach's Alpha values greater than 0.85, with several nearing 0.90. This demonstrates the assessment instrument's outstanding internal consistency and its ability to consistently assess patients' perceptions of service quality and satisfaction.

Descriptive statistical analysis demonstrates that the mean scores for all variables are in the high range, indicating that respondents typically gave favorable feedback on the dental treatments at Wuluhan Community Health Center. The Empathy (X_4) and Responsiveness (X_2) variables had the highest mean ratings, indicating patient satisfaction with healthcare personnel's attention and service delivery speed. These findings emphasize the relevance of interpersonal variables, such as friendliness, attentiveness, and responsiveness, in molding patients' evaluations of service quality. This tendency is congruent with the nature of healthcare services, where human connection frequently has a greater impact than purely technical factors.

The study model was evaluated against conventional assumptions such as normality, multicollinearity, and heteroskedasticity before proceeding with the regression analysis. The normality test using the P-P plot revealed that the residual points were distributed along the diagonal line, implying a normal residual distribution. The Kolmogorov-Smirnov test likewise returned a significance value larger than 0.05, indicating that the normality assumption had been met. The multicollinearity test revealed that all independent variables had tolerance values more than 0.10 and Variance Inflation Factor (VIF) values less than 10, demonstrating the lack of multicollinearity across predictors. Furthermore, the scatterplot approach demonstrated that residuals were randomly distributed above and below the zero line, with no discernable pattern, indicating that heteroskedasticity did not exist. Thus, all classical assumptions were satisfied, and the regression model can be considered robust and reliable for further analysis.

Multiple linear regression study shows that Reliability (X_1), Responsiveness (X_2), Assurance (X_3), Empathy (X_4), and Tangibles (X_5) all have a substantial impact on Patient Satisfaction (Y). The F-test results, with an F-value of 269.477 and a significance level of 0.000 (< 0.05), suggest that the regression model is fit and suitable for further study. The adjusted coefficient of determination (Adjusted R^2) of 0.938 indicates that the five service quality dimensions account for 93.8% of the variation in patient satisfaction. The remaining 6.2% is influenced by non-study factors, such as patients' health conditions, service policies, or personal experiences with medical care.

The results of the partial t-test show that not all independent factors have a statistically significant effect on patient satisfaction. Patient satisfaction was positively influenced by responsiveness (X_2) and empathy (X_4), but reliability (X_1), assurance (X_3), and tangibles (X_5) had no significant impact. The Responsiveness variable had a significant value of 0.000 (< 0.05) and a positive regression coefficient of 0.627, suggesting that speedier and more responsive healthcare workers lead to higher patient satisfaction. This emphasizes the crucial significance of promptness and attention in shaping patient satisfaction and is consistent with the SERVQUAL model provided by Parasuraman, Zeithaml, and Berry (1988), which highlights responsiveness as a dominant factor of perceived service quality (Parasuraman et al., 1988).

Similarly, the Empathy variable showed a significant influence, with a significance value of 0.001 (< 0.05) and positive coefficient of 0.296. This research suggests that healthcare staff who pay more attention, have caring attitudes, and provide friendlier treatment are more likely to satisfy their patients. Patients feel more at ease when medical staff gives them customized attention, listens to their concerns, and provides clear explanations. This outcome is congruent with the findings of Watts, who demonstrated that healthcare workers' empathy contributes considerably to greater patient satisfaction in community health centers (Watts et al., 2023).

In contrast, the Reliability, Assurance, and Tangibles variables did not show significant effects on patient satisfaction. The significance values for Reliability (0.440), Assurance (0.733), and Tangibles (0.444) exceed the 0.05 threshold, indicating that these factors are not primary determinants of patient satisfaction. This may be explained by the fact that patients perceive reliability and assurance as baseline standards that are inherently expected from healthcare providers, thus reducing their role as differentiating factors in satisfaction assessments (Windi et al., 2022). Moreover, physical evidence such as room comfort and facility availability appears to be less influential, as patients

tend to focus more on treatment outcomes and direct interactions with healthcare personnel (Atsavapranee et al., 2025). These findings suggest that human service aspects play a more prominent role than technical service aspects in shaping patient satisfaction within primary healthcare settings (Ismail et al., 2024).

Overall, the results of this study demonstrate that the combination of the five service quality dimensions makes a substantial contribution to the formation of patient satisfaction (Afiyah & Ayuningtyas, 2023; Maharani et al., 2025). These findings support the theory proposed by Berry, Abdullah and Georgieva, which states that customer satisfaction arises from a comparison between expectations and perceptions of service performance (Berry, 1988; Abdullah et al., 2023; Georgieva, 2025). When service performance meets or exceeds expectations, customers are more likely to be satisfied. In the context of Wuluhan Community Health Center, responsive and empathetic services were found to be the most influential factors in shaping positive patient perceptions.

Therefore, it can be concluded that enhancing patient satisfaction can be achieved by improving the responsiveness and empathy of healthcare personnel. The management of the community health center should prioritize training programs that enable healthcare staff to respond more promptly to patients' needs and to provide more personalized and compassionate care. Although physical facilities remain important, emotional aspects and human interactions have been shown to exert the strongest influence on patient satisfaction at Wuluhan Community Health Center, Jember Regency.

CONCLUSION

The findings of this study show that service quality has a substantial impact on patient satisfaction in dental services at the Wuluhan Community Health Center in Jember Regency, verifying the research hypothesis. The simultaneous test findings show that the five SERVQUAL dimensions reliability, responsiveness, assurance, empathy, and tangibles have a statistically significant influence on patient satisfaction. However, the partial analysis shows that only responsiveness and empathy have a positive and substantial individual effect on patient satisfaction, but reliability, assurance, and tangibles do not. These results suggest that the hypothesis is partially supported, indicating that patient satisfaction in primary dental healthcare services is more strongly shaped by interpersonal aspects of care, particularly promptness and empathetic interaction, than by technical reliability or physical facilities alone.

The results of this study imply that improving patient satisfaction in primary dental healthcare services should primarily focus on strengthening responsiveness and empathy among dental healthcare personnel. Management at the community health center is therefore advised to prioritize regular training and capacity-building programs aimed at enhancing communication skills, promptness in service delivery, and empathetic patient interaction. In addition, optimizing service flow through improved scheduling and queue management systems is recommended to minimize waiting times and enhance patients' service experiences. Although reliability, assurance, and tangibles were not found to have a significant direct effect on patient satisfaction, these aspects should still be maintained at an acceptable standard to meet patients' basic expectations and support service credibility. Overall, a balanced strategy that emphasizes human-centered care while sustaining technical and infrastructural quality is recommended to achieve continuous improvements in patient satisfaction at community health centers.

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