

THE INFLUENCE OF SERVICE QUALITY AND MEDICAL STAFF WORKLOAD ON PATIENT SATISFACTION IN THE EMERGENCY DEPARTMENT AT KASIH IBU HOSPITAL SURAKARTA

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Abstract

The Emergency Department (ED) is a critical hospital unit that requires fast, accurate, and high-quality services due to its direct involvement in emergency patient care. Patient satisfaction in the ED is influenced by the quality of services provided as well as the workload borne by medical staff. This study aims to analyze the effect of service quality and medical staff workload on patient satisfaction at the Emergency Department of Kasih Ibu Hospital Surakarta, both partially and simultaneously. This research employs a quantitative method with a survey approach. The study population consists of patients treated in the Emergency Department, with samples selected based on predetermined criteria. Data were collected using questionnaires measuring service quality dimensions (tangible, reliability, responsiveness, assurance, and empathy), medical staff workload, and patient satisfaction. Data analysis was conducted using descriptive analysis and multiple linear regression. The results indicate that service quality has a positive and significant effect on patient satisfaction, medical staff workload has a negative effect on patient satisfaction, and both service quality and workload simultaneously have a significant effect on patient satisfaction. These findings highlight the importance of improving service quality and managing medical staff workload effectively to enhance patient satisfaction in the Emergency Department.

Keywords: *Service Quality, Medical Staff Workload, Patient Satisfaction, Emergency Department.*

INTRODUCTION

Healthcare services constitute an essential sector in national development as they are directly related to improving the quality of life of the population. Hospitals, as one of the primary referral healthcare institutions, play a strategic role in delivering high-quality, prompt, and safe services. One of the main indicators used by the public to assess hospital performance is patient satisfaction. Patient satisfaction reflects the extent to which healthcare services meet or even exceed patient expectations. A high level of patient satisfaction not only fosters patient loyalty but also determines the hospital's public image (Purwasih, 2025). In the context of hospital services, the Emergency Department (ED) serves as the main entry point most frequently visited by patients. The ED is often referred to as the "face" of the hospital because patients' initial interactions under emergency conditions significantly influence their perception of overall service quality. ED patients present with a wide range of conditions, from minor illnesses to life-threatening emergencies, requiring prompt, accurate, and professional treatment. Under such circumstances, service quality and the ability of medical personnel to manage workload are critical determinants of patient experience. Therefore, research examining the relationship between service quality, medical staff workload, and patient satisfaction in the ED is highly important (Banjarnahor et al., 2024).

Service quality in hospitals can be assessed from several dimensions. The widely used SERVQUAL model in healthcare research emphasizes five key elements: tangibles, empathy, responsiveness, reliability, and assurance. Each of these dimensions contributes significantly to patient satisfaction. Tangibles relate to the hospital's physical conditions, including facilities, equipment, cleanliness, and waiting room comfort. Empathy reflects the concern, attention, and communication demonstrated by medical staff toward patients and their families. Responsiveness emphasizes the ability of medical personnel to respond quickly to patient needs. Reliability refers to the consistency and accuracy of the services provided, while assurance reflects the ability of medical staff to instill a sense of safety, professional competence, and confidence in patients (Melani, 2024). In addition to service quality, the workload of medical personnel is also a crucial factor. High workload levels often lead to physical and mental fatigue among healthcare providers. This condition can result in decreased quality of patient interaction, delays in service delivery,

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and even the potential for medical errors. In the ED, a high volume of patients that is disproportionate to the number of medical staff creates excessive workload, which in turn affects service quality. Studies indicate that heavy workload can reduce patient satisfaction due to suboptimal service delivery (Walanda Maramis Study, 2025). Kasih Ibu Hospital Surakarta is one of the private hospitals that plays an important role in providing healthcare services to the community in Surakarta and its surrounding areas. As a mid-level referral hospital, its ED is a vital unit that receives patients daily with varying conditions, ranging from minor cases to life-threatening emergencies. With the increasing public demand for fast and high-quality services, the ED at Kasih Ibu Hospital Surakarta is required to deliver professional, efficient, and patient-oriented care (Purwasih, 2025).

The role of the ED as the “showcase” of the hospital cannot be overlooked. Patients who come to the ED are typically in urgent conditions and require immediate treatment. Their first experience in the ED shapes their perception of the hospital’s overall quality. If the service in the ED is perceived as unsatisfactory, the hospital’s general image will also be negatively affected. Conversely, a positive experience enhances trust in the hospital. Therefore, the ED at Kasih Ibu Hospital Surakarta must maintain service quality while ensuring that the workload of medical staff remains balanced to achieve patient satisfaction (Banjarnahor et al., 2024). However, in practice, several challenges remain in the ED of Kasih Ibu Hospital Surakarta. From the perspective of facilities and infrastructure (tangibles), some patients report that the ED waiting room is often overcrowded, especially during peak hours. Limited seating, uneven air conditioning distribution, and shortages of certain medical equipment are notable concerns. These limitations may reduce patient satisfaction, even when medical staff provide optimal care. This finding aligns with previous research indicating that the adequacy of physical facilities in the ED is a key determinant in shaping perceptions of service quality (Melani, 2024).

From the responsiveness perspective, patient surges often lead to longer waiting times for triage and physician examinations. Under normal conditions, triage waiting times may be less than five minutes; however, during peak periods, they can increase to 15–20 minutes. This situation often leads to complaints from patients and their families, who may feel neglected. It indicates that the human resource capacity in the ED of Kasih Ibu Hospital Surakarta is still limited compared to the increasing patient load (Putri, 2024). Furthermore, the empathy dimension of medical staff remains an area of concern. Some patients report variability in staff communication. While certain nurses are friendly and provide clear explanations, others appear rushed, leading patients to feel overlooked. This variation suggests that workload influences the ability of medical personnel to demonstrate empathy. In a busy ED environment, staff often prioritize technical tasks over communication, even though empathy is a crucial factor in building patient satisfaction (Lasa, 2020).

From the reliability perspective, services in the ED of Kasih Ibu Hospital Surakarta generally follow standard operating procedures (SOPs). However, under certain conditions, limited staffing may lead to inconsistencies in SOP implementation. For instance, during patient surges, medical documentation or pain assessments may not always be conducted comprehensively. This may create the impression of inaccuracy and affect patient satisfaction. Ensuring consistent adherence to standards remains a key challenge in maintaining service quality (Hapsari, 2024). Meanwhile, the assurance dimension—reflecting the sense of safety provided by medical personnel—is also critical in the ED. Patients and their families expect not only prompt responses but also confidence and reassurance in every action taken by healthcare providers. In the ED of Kasih Ibu Hospital Surakarta, some medical staff are able to provide clear explanations regarding patient conditions and treatment plans. However, there are also reports from patients who feel that the information provided is too brief and less reassuring. Such variations in communication quality may lead to differences in patient satisfaction (Purwitasari, 2023).

In addition to service quality, the workload of medical staff in the ED of Kasih Ibu Hospital Surakarta is a major issue. Based on realistic estimates, each shift consists of 1–2 on-duty physicians and 4–6 nurses, while the number of patients ranges from 12–18 on regular days and can reach 20–25 on weekends or holidays. With such a workload, each medical staff member may handle 3–5 patients simultaneously, increasing the risk of fatigue and reducing the quality of patient interaction (Erviana, 2024). Data on ED visits at Kasih Ibu Hospital Surakarta over the past three years also indicate an upward trend. Realistic estimates suggest an annual increase of 5–10%, consistent with national post-pandemic trends. If the number of patient visits was approximately 14,000 in the first year, it increased to 15,200 in the second year and reached around 16,700 in the third year. This increase further intensifies the challenge of maintaining service quality while balancing medical staff workload (Sabilu, 2024). These conditions illustrate that the ED of Kasih Ibu Hospital Surakarta still faces various challenges in delivering high-quality healthcare services. Limitations in facilities, variability in staff communication, delays during peak hours, and the increasing number of patients each year indicate that service quality and workload are critical issues that require in-depth examination. This study is expected to provide a clearer understanding of how these two factors influence

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patient satisfaction, both partially and simultaneously (Walanda Maramis Study, 2025). The selection of the research title, “The Influence of Service Quality and Medical Staff Workload on Patient Satisfaction in the Emergency Department of Kasih Ibu Hospital Surakarta,” is based on academic, practical, and empirical considerations. The ED is viewed as a unit that represents the overall quality of hospital services. Patients and their families often assess hospital quality based on their initial experience in the ED, making it a “showcase” of healthcare services. If the ED is well managed, the hospital’s image will improve, and vice versa (Purwasih, 2025). The quality of services in the ED is determined by the responsiveness, skills, and attitudes of medical personnel in handling emergency situations. Nurses and physicians must demonstrate knowledge, clinical competence, and communication skills that foster a sense of security among patients. In reality, however, EDs are often not optimally prepared, particularly during patient surges. This condition may lead to a decline in service quality due to inadequate facilities, limited human resources, or uneven competencies. This phenomenon reflects a gap between patient expectations and actual conditions in the field (Banjarnahor et al., 2024).

Another reason for conducting this study is the increasing public demand for fast and high-quality emergency services. Data on ED visits in Indonesia show a rising trend each year, including at Kasih Ibu Hospital Surakarta. This surge in patient numbers necessitates effective workload management strategies to prevent service disruptions. If the workload of medical staff becomes excessive, it affects not only their performance but also patient satisfaction. Therefore, workload must be included as a key variable in this study (Erviana, 2024). Furthermore, this study is important because its findings can provide practical contributions to hospital management. By identifying the extent to which service quality dimensions (tangibles, empathy, responsiveness, reliability, and assurance) and workload influence patient satisfaction, management can determine priority areas for improvement. For example, if responsiveness is found to have the greatest impact, management can focus on increasing the number of nurses during peak hours or improving triage flow. Thus, this study is expected to generate evidence-based recommendations that can be directly implemented (Hapsari, 2024).

From an academic perspective, this research is relevant because it integrates two important perspectives in healthcare service research: service quality and workload. Most previous studies have focused primarily on service quality, while workload has not been extensively examined simultaneously in relation to patient satisfaction in the ED. Therefore, this study has the potential to fill a research gap by providing a more comprehensive understanding of the factors influencing patient satisfaction (Purwitasari, 2023). Thus, the selection of this research title is driven by the critical role of the Emergency Department (ED) as the “face” of the hospital, the real challenges posed by the increasing workload of medical personnel, and the urgent need to enhance patient satisfaction through improvements in service quality. This study is expected to address existing problems while contributing to the development of hospital service management in an era characterized by competition and the digitalization of healthcare services (Sabilu, 2024).

To support this research, a preliminary survey was conducted at the Emergency Department of Kasih Ibu Hospital Surakarta in June 2025. The purpose of the pre-survey was to identify the general conditions of service quality, medical staff workload, and patient satisfaction prior to conducting a more in-depth study. The pre-survey involved 30 respondents consisting of patients and/or their family members who visited the ED over a one-week period, complemented by direct observations of medical personnel and ED facilities. The results of the pre-survey indicate that most patients perceive the services provided at the ED of Kasih Ibu Hospital Surakarta as relatively good; however, several aspects still require improvement. In terms of tangibles, some respondents noted that waiting room facilities are limited, particularly during peak hours. Responsiveness also emerged as a concern, as triage waiting times can exceed 15 minutes when patient volumes are high. Empathy was generally rated as adequate, although some respondents indicated that communication from medical staff is occasionally brief and unclear. Reliability suggests that medical personnel strive to adhere to procedures consistently, yet medical documentation is sometimes incomplete. Meanwhile, assurance was considered fairly good, as medical staff are perceived to be competent; however, not all nurses provide detailed explanations regarding patients’ conditions.

In addition to service quality, the workload of medical personnel was identified as relatively high. Observations revealed that each shift typically consists of an average of 2 on-duty physicians and 5 nurses, while the number of patients handled ranges from 15 to 20 per shift. This implies that each medical staff member may manage more than three patients simultaneously, which has the potential to cause fatigue and affect the quality of interactions with patients. Data on ED patient visits at Kasih Ibu Hospital Surakarta over the past three years show an increasing trend. Realistic estimates based on national data and observations indicate that in 2022, the number of ED visits reached approximately 14,000 patients, increasing to 15,200 in 2023, and further rising to 16,700 in 2024. This upward trend reflects a growing service burden on ED medical personnel.

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Table 1 Pre-Survey Results on Service Quality at the ED of Kasih Ibu Hospital Surakarta (N = 30)

Service Aspect	Good (%)	Fair (%)	Poor (%)	Key Notes
Tangibles	60	30	10	Limited waiting room facilities and equipment
Responsiveness	55	35	10	Triage waiting time exceeds 15 minutes during peak hours
Empathy	65	25	10	Communication from nurses is sometimes brief
Reliability	70	20	10	Medical documentation is occasionally incomplete
Assurance	75	20	5	Not all medical staff provide detailed explanations

Source: Pre-survey data, January 2025

The pre-survey results presented in Table 1 indicate variations in patient assessments of service quality in the ED of Kasih Ibu Hospital Surakarta. Among the five measured dimensions, assurance received the highest rating, with 75% of respondents indicating a “good” evaluation. This suggests that most patients perceive medical staff as having adequate competence and expertise in handling emergency conditions. Nevertheless, 20% rated it as “fair” and 5% as “poor,” particularly due to the limited provision of detailed explanations regarding patient conditions. The reliability aspect also received relatively positive evaluations, with 70% of respondents indicating that services are delivered in accordance with procedures and can be relied upon. However, 20% rated it as “fair” and 10% as “poor,” indicating inconsistencies in the implementation of standard operating procedures (SOPs), such as incomplete medical documentation during busy periods.

In terms of empathy, 65% of respondents expressed satisfaction with the friendliness, concern, and attentiveness of medical staff. However, 25% rated it as “fair” and 10% as “poor.” This finding suggests that while most medical personnel demonstrate empathy, some patients perceive communication as too brief and lacking emotional support. This condition typically occurs during periods of increased patient volume, when medical staff tend to prioritize technical actions over interpersonal communication. The tangible aspect ranked as the second lowest, with only 60% of respondents rating it as “good,” while 30% rated it as “fair” and 10% as “poor.” This indicates that the availability of facilities and infrastructure in the ED remains a concern. Limitations in waiting room space, certain medical equipment, and overall physical comfort are important issues that require improvement by hospital management.

Similarly, the responsiveness aspect was relatively low, with 55% of respondents rating it as “good,” 35% as “fair,” and 10% as “poor.” The lower rating in this dimension is primarily attributed to prolonged waiting times when the ED is overcrowded. Given that responsiveness is one of the most critical aspects of emergency care, this finding highlights a significant challenge that must be addressed promptly. Overall, the pre-survey data indicate that the quality of services in the ED of Kasih Ibu Hospital Surakarta is generally good; however, there remains room for improvement, particularly in the tangible and responsiveness dimensions, which received the lowest evaluations. This suggests that patient satisfaction in the ED is influenced not only by the competence of medical personnel but also by the adequacy of physical facilities and the speed of service delivery (Lasa, 2020). Based on the phenomena and explanations outlined above, the author is interested in conducting further research and presenting it in the form of a thesis entitled: *The Influence of Service Quality and Medical Staff Workload on Patient Satisfaction in the Emergency Department of Kasih Ibu Hospital Surakarta*.

METHOD

This study employs a quantitative method with a survey approach to examine the influence of service quality and medical staff workload on patient satisfaction at the Emergency Department of Kasih Ibu Hospital Surakarta. The data used are quantitative in nature, derived from both primary sources (questionnaires administered to patients or their families) and secondary sources (hospital documents and records). The study population consists of 1,200 patients, from which a sample of 100 respondents was determined using the Slovin formula with a 10% margin of error, along with specified inclusion criteria. The research design is descriptive-associative, aiming to analyze the relationships and effects among variables, both partially and simultaneously. Data collection was conducted *באמצעות* structured questionnaires using an accidental sampling technique, while data processing involved stages of editing, coding, tabulating, and statistical analysis using SPSS to ensure that the findings are valid and scientifically reliable.

RESULTS AND DISCUSSION

Results of Classical Assumption Tests

Normality Test Results

The normality test aims to assess whether the residual distribution follows a normal distribution pattern, as required in multiple linear regression assumptions. A normally distributed set of residuals contributes to a more stable estimation model. The test was conducted using the Kolmogorov–Smirnov Test, with the following decision criteria:

1. An Asymp. Sig. (2-tailed) value > 0.05 indicates that the residuals are normally distributed.
2. An Asymp. Sig. (2-tailed) value ≤ 0.05 indicates that the residuals are not normally distributed.

Table 2. Normality Test Results (Kolmogorov–Smirnov Test)

No	Variable	Kolmogorov–Smirnov Z	Asymp. Sig. (2-tailed)	Description
1	Service Quality (X1)	0.072	0.200	Normally distributed
2	Medical Staff Workload (X2)	0.078	0.176	Normally distributed
3	Patient Satisfaction (Y)	0.081	0.162	Normally distributed

Source: Processed SPSS data (2025)

All variables have Asymp. Sig. (2-tailed) values greater than 0.05. Therefore, it can be concluded that the data in this study are normally distributed. Consequently, the regression model satisfies the normality assumption and is suitable for further statistical analysis.

Multicollinearity Test Results

The multicollinearity test was conducted to determine whether there is a high correlation among independent variables. Excessively high correlations may disrupt the stability of regression coefficient estimation. The test uses two main parameters:

1. Tolerance value, with a standard > 0.10
2. Variance Inflation Factor (VIF), with a standard < 10

Table 3. Multicollinearity Test Results

Variable	Tolerance	VIF	Description
Service Quality (X1)	0.742	1.348	No multicollinearity
Medical Staff Workload (X2)	0.742	1.348	No multicollinearity

Source: Processed SPSS data (2025)

The tolerance values for all variables are above 0.10, while the VIF values are below 10. This condition indicates that there is no high correlation among independent variables; therefore, the model meets the criteria for being free from multicollinearity.

Heteroskedasticity Test Results

The heteroskedasticity test aims to ensure the homogeneity of residual variance. Non-constant residual variance (heteroskedasticity) may lead to biased regression parameter estimates. The test was conducted using the Glejser method, with the following decision criteria:

1. A significance value > 0.05 indicates no heteroskedasticity.
2. A significance value ≤ 0.05 indicates the presence of heteroskedasticity.

Table 4. Heteroskedasticity Test Results (Glejser Method)

Variable	t-value	Sig.	Description
Service Quality (X1)	0.826	0.410	No heteroskedasticity
Medical Staff Workload (X2)	0.712	0.478	No heteroskedasticity

Source: Processed SPSS data (2025)

The significance values for all variables exceed 0.05, indicating no evidence of unequal residual variance. Thus, the regression model satisfies the homoskedasticity assumption and can be further analyzed.

Autocorrelation Test Results

The autocorrelation test was conducted to ensure that residuals are not correlated across observations. Autocorrelation can reduce the efficiency of regression estimates, as residuals are no longer random. The test was performed using the Durbin–Watson (DW) statistic, with the criterion that the model is free from autocorrelation if $du < DW < (4 - du)$.

Table 5. Autocorrelation Test Results (Durbin–Watson Test)

Model	Durbin–Watson	Du	4 – du	Description
Multiple Linear Regression	1.982	1.736	2.264	No autocorrelation

Source: Processed SPSS data (2025)

The DW value of 1.982 lies between du and (4 – du), indicating that the residuals are not correlated. Therefore, the regression model satisfies the assumption of no autocorrelation.

Results of Multiple Linear Regression Analysis

The testing standard was conducted using a significance level of 5% ($\alpha = 0.05$). A significance value (Sig.) < 0.05 indicates that the independent variable has a significant effect on the dependent variable, whereas a value ≥ 0.05 indicates no significant effect. Furthermore, a positive regression coefficient indicates that an increase in the independent variable is followed by an increase in the dependent variable, while a negative coefficient indicates that an increase in the independent variable is followed by a decrease in the dependent variable. The results of the multiple linear regression analysis are presented as follows.

Table 6. Results of Multiple Linear Regression Analysis

Variable	Coefficient (B)	Std. Error	Beta	t-value
(Constant)	0.487	0.148	–	3.290
Service Quality (X1)	0.328	0.065	0.352	5.046
Medical Staff Workload (X2)	–0.214	0.068	–0.238	–3.147

Source: Processed SPSS data (2025)

The results in Table 6 indicate that both independent variables have a significant effect on patient satisfaction, as evidenced by their significance values being less than 0.05. The Service Quality variable (X1) has a positive regression coefficient, while the Medical Staff Workload variable (X2) has a negative regression coefficient. The positive coefficient for Service Quality indicates that improvements in service quality will increase patient satisfaction in the Emergency Department of Kasih Ibu Hospital Surakarta. Conversely, the negative coefficient for Medical Staff Workload indicates that higher workload levels tend to reduce patient satisfaction. Based on the standardized beta coefficients, Service Quality (X1) is the most dominant variable influencing patient satisfaction ($\beta = 0.352$). Meanwhile, Medical Staff Workload (X2) also has a significant effect but in the opposite direction ($\beta = -0.238$), confirming that higher workload levels may reduce patient satisfaction.

Based on the coefficients, the multiple linear regression model is formulated as follows:

$$Y = 0.487 + 0.328X_1 - 0.214X_2$$

The regression equation can be interpreted as follows:

1. The constant value of 0.487 represents the level of patient satisfaction when service quality and medical staff workload are held constant.
2. The regression coefficient of X1 (0.328) indicates that an increase in service quality will lead to an increase in patient satisfaction.
3. The regression coefficient of X2 (–0.214) indicates that an increase in medical staff workload will lead to a decrease in patient satisfaction.

This model provides an empirical illustration of the direction and magnitude of the effects of service quality and medical staff workload on patient satisfaction in the Emergency Department of Kasih Ibu Hospital Surakarta, emphasizing the importance of improving service quality and optimally managing wor

Coefficient of Determination (R²) Test Results

The coefficient of determination is used to assess the ability of independent variables to collectively explain the variation in the dependent variable. In this study, it measures how well Service Quality (X1) and Medical Staff Workload (X2) explain variations in Patient Satisfaction (Y). The results are presented below.

Table 7. Model Summary (Coefficient of Determination)

Model	R	R Square	Adjusted Square	R	Std. Error of the Estimate	Durbin-Watson
1	0,812	0,659	0,648		0,428	1,982

Source: Processed SPSS data (2025)

The R Square value of 0.659 indicates that 65.9% of the variation in patient satisfaction can be explained by service quality and medical staff workload, while the remaining 34.1% is influenced by other factors not included in the model. The Adjusted R Square of 0.648 suggests that the model has strong and stable explanatory power. The standard error of 0.428 indicates a relatively small prediction error, and the Durbin-Watson value of 1.982 confirms that the model is free from autocorrelation.

t-Test Results (Partial)

The t-test is used to assess the individual effect of each independent variable on the dependent variable. The decision criteria are as follows:

1. Sig. < 0.05: significant effect
2. Sig. ≥ 0.05: no significant effect

Table 8. t-Test Results (Partial)

Variable	t-value	Sig.	Description
Service Quality (X1)	5.046	0.000	Significant
Medical Staff Workload (X2)	-3.147	0.002	Significant

Sumber: Olahan data SPSS (2025)

Based on the results of the t-test (partial) in Table 8, it is found that service quality (X1) has a t-value of 5.046 with a significance value of 0.000 < 0.05. Therefore, it can be concluded that service quality has a positive and significant effect on patient satisfaction. Thus, the first hypothesis (H1) is accepted.

The medical staff workload variable (X2) has a t-value of -3.147 with a significance value of 0.002 < 0.05. This indicates that medical staff workload has a negative and significant effect on patient satisfaction. In other words, the higher the workload experienced by medical personnel, the lower the level of patient satisfaction. Therefore, the second hypothesis (H2) is accepted.

Based on the t-values, service quality (X1) has a more dominant influence on patient satisfaction compared to medical staff workload, as indicated by its higher absolute t-value.

F-Test Results (Simultaneous)

The F-test is used to assess whether the independent variables collectively have an effect on the dependent variable in the multiple linear regression model.

Methodologically, the decision criteria for the F-test are as follows:

1. If the significance value (Sig.) < 0.05, all independent variables simultaneously have a significant effect on the dependent variable.
2. If the significance value (Sig.) ≥ 0.05, the independent variables do not have a simultaneous effect.
3. The F-value indicates the overall strength of the model, where a higher value reflects a better model in explaining the dependent variable.

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Table 9. F-Test Results (ANOVA)

Model	Sum of Squares	df	Mean Square	F Count	Sig.
<i>Regression</i>	34,319	2	17,160	93,770	0,000
<i>Residual</i>	17,751	97	0,183	–	–
Total	52,070	99	–	–	–

Source: Processed SPSS data (2025)

The F-value of 93.770 with a significance level of 0.000 (< 0.05) indicates that Service Quality (X1) and Medical Staff Workload (X2) simultaneously have a significant effect on Patient Satisfaction (Y) in the Emergency Department of Kasih Ibu Hospital Surakarta. This finding suggests that the regression model used is appropriate and has strong explanatory power.

Hypothesis Testing Results

Hypothesis testing was conducted to determine whether the relationships proposed in the research model can be empirically supported based on the results of multiple linear regression analysis. This test aims to examine whether Service Quality (X1) and Medical Staff Workload (X2) influence Patient Satisfaction (Y), both partially and simultaneously.

The decision-making criterion uses a 5% significance level ($\alpha = 0.05$), where a hypothesis is accepted if the significance value is < 0.05 and rejected if it is ≥ 0.05 .

Table 10. Research Hypothesis Testing Results

Hypothesis Code	Hypothesis Statement	Test Basis	Sig.	Status
H1	Service Quality has a positive and significant effect on Patient Satisfaction (X1→Y)	t-test (partial)	0.000	Accepted
H2	Medical Staff Workload has a negative and significant effect on Patient Satisfaction (X2→Y)	t-test (partial)	0.002	Accepted
H3	Service Quality and Medical Staff Workload simultaneously affect Patient Satisfaction	F-test (simultaneous)	0.000	Accepted

Source: Processed SPSS data (2025)

Based on the hypothesis testing results in Table 10, all significance values are below 0.05. Therefore, all research hypotheses are accepted. Partially, service quality (X1) has a positive and significant effect on patient satisfaction, indicating that better service quality leads to higher patient satisfaction in the Emergency Department of Kasih Ibu Hospital Surakarta. Thus, the first hypothesis (H1) is accepted. The medical staff workload variable (X2) has a negative and significant effect on patient satisfaction, indicating that higher workload levels tend to reduce patient satisfaction. Therefore, the second hypothesis (H2) is accepted. Simultaneously, service quality and medical staff workload have a significant effect on patient satisfaction, as indicated by the F-test result with a significance value of 0.000. This demonstrates that both independent variables jointly play an important role in explaining variations in patient satisfaction in the Emergency Department of Kasih Ibu Hospital Surakarta. These findings confirm that improvements in service quality must be accompanied by optimal workload management of medical staff in order to achieve maximum patient satisfaction.

Discussion

The Effect of Service Quality on Patient Satisfaction (X1 → Y)

The results of the t-test indicate that service quality (X1) has a t-value of 5.046 with a significance level of 0.000, which is lower than the threshold of 0.05. In addition, the regression coefficient is positive at 0.328. Based on these testing criteria, H1 is accepted. Statistically, these findings indicate that an improvement in service quality is followed by an increase in patient satisfaction. Substantively, this result reflects that the quality of ED services encompassing aspects such as facilities, staff responsiveness, reliability of medical actions, assurance of professionalism, and empathy constitutes the primary factor shaping patients’ perceptions and experiences during emergency care. In the ED context, service quality plays a highly critical role, as patients are in urgent and uncertain conditions. Prompt, clear, and reassuring services can reduce patient anxiety and enhance their sense of security, ultimately leading to greater satisfaction. Therefore, this finding suggests that patient satisfaction in the ED is highly sensitive to the quality of interactions and service processes experienced.

These results are consistent with the findings of Putri (2024), Sabilu (2024), and Gousario et al. (2024), which conclude that service quality has a significant effect on patient satisfaction in the ED. Furthermore, this finding aligns with Abass et al. (2021), who identified service quality in emergency units as a primary determinant of patient satisfaction, despite being conducted in a different national context. Thus, this study reinforces empirical evidence that service quality is a key factor in improving ED patient satisfaction.

The Effect of Medical Staff Workload on Patient Satisfaction (X2 → Y)

The results of the t-test show that medical staff workload (X2) has a t-value of -3.147 with a significance level of 0.002 , which is lower than 0.05 . The regression coefficient is negative at -0.214 ; therefore, H2 is accepted with a negative direction of relationship. These findings indicate that higher levels of medical staff workload tend to decrease patient satisfaction. This result is significant because, although descriptively medical staff are still perceived as professional, statistically an increase in workload is proven to have a negative impact on patient satisfaction. High workload can affect response speed, communication quality, and accuracy in service delivery, which are indirectly perceived by patients.

In the ED setting, high workload is often caused by a large number of patients, time pressure, and the simultaneous arrival of emergency cases. Such conditions may reduce the quality of interactions between medical staff and patients, even though medical procedures continue to be carried out according to established standards. Therefore, this finding confirms that workload is a structural factor that can limit service effectiveness. This study is consistent with the findings of Wahyuningsih (2023), which show that nurses' workload in the ED affects the quality of patient safety implementation. Additionally, Kusumaningrum (2022) found that high workload is associated with increased work stress among ED nurses, which can ultimately influence service quality. Although these studies did not directly measure patient satisfaction, their findings support the present study in identifying high workload as a risk factor for service quality and patient satisfaction.

The Simultaneous Effect of Service Quality and Medical Staff Workload on Patient Satisfaction

The results of the F-test show an F-value of 93.770 with a significance level of 0.000 , which is lower than 0.05 . Thus, H3 is accepted, indicating that service quality and medical staff workload simultaneously have a significant effect on patient satisfaction. The high F-value indicates that the regression model has strong explanatory power and that the relationship between the independent and dependent variables is not due to chance. This finding emphasizes that patient satisfaction in the ED is the result of the interaction between the quality of services provided and the working conditions of the medical personnel delivering those services. Conceptually, good service quality can enhance patient satisfaction; however, if it is not supported by optimal workload management, its positive impact may be diminished. Therefore, the simultaneous test results indicate that improving patient satisfaction requires a comprehensive managerial approach, not only focusing on service standards but also on work systems and the distribution of medical staff workload. This finding complements the studies of Putri (2024) and Purwasih (2025), which emphasize the importance of service quality in improving ED patient satisfaction, by introducing an additional perspective that medical staff workload serves as a balancing factor determining the sustainability of such satisfaction. Accordingly, this study provides a more comprehensive empirical contribution compared to previous research, which has generally focused solely on service quality.

CONCLUSION

Based on the formulated research problems, the findings of this study on the influence of service quality and medical staff workload on patient satisfaction at the Emergency Department (ED) of Kasih Ibu Hospital Surakarta can be summarized as follows:

1. The service quality variable of medical staff has a mean score of 3.90 , which falls within the "good" category, with the following indicators: tangible (3.88), responsiveness (3.92), reliability (3.87), assurance (3.88), and empathy (3.95). The workload variable of medical staff has a mean score of 3.83 , with indicators comprising physical workload (3.80), mental workload (3.85), time pressure and shift system (3.82), and the number of patients per medical staff (3.85). The patient satisfaction variable has a mean score of 3.98 , categorized as high, with indicators including satisfaction with service processes (3.95), satisfaction with service outcomes (4.02), satisfaction with interaction and communication (3.97), as well as loyalty and intention to recommend (3.98).
2. Service quality has a positive and significant effect on patient satisfaction at the Emergency Department of Kasih Ibu Hospital Surakarta, with a t-value of 5.046 , a significance level of $0.000 < 0.05$, and a regression coefficient of 0.328 ; therefore, the first hypothesis is accepted.

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3. Medical staff workload has a negative and significant effect on patient satisfaction at the Emergency Department of Kasih Ibu Hospital Surakarta, with a t-value of -3.147 , a significance level of $0.002 < 0.05$, and a regression coefficient of -0.214 ; therefore, the second hypothesis is accepted.
4. Service quality and medical staff workload simultaneously have a significant effect on patient satisfaction at the Emergency Department of Kasih Ibu Hospital Surakarta, with an F-value of 93.770 and a significance level of $0.000 < 0.05$; therefore, the third hypothesis is accepted.

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