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The Influence of Interpersonal Communication and Service Quality of Cardiologists on Patient Loyalty at Welas Asih Regional General Hospital

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ABSTRACT

Communication in health services plays an important role in building patient trust and loyalty to hospitals. Cardiac services, as a leading service at Welas Asih Hospital in West Java Province, recorded 9,177 visits by BPJS patients in 2024. The high number of visits with limited practice time causes interaction between doctors and patients to be limited, potentially causing dissatisfaction, especially in the aspect of communication. This research uses a quantitative descriptive analytical approach with the population of all BPJS outpatients who received cardiology services. The research sample of 106 respondents was obtained through accidental sampling techniques. Data were collected using questionnaires that had been tested for validity and reliability, then analyzed using multiple linear regression with the help of SPSS. The results showed that physician interpersonal communication ($r = 0.751$; $p < 0.001$) and service quality of cardiologists ($r = 0.828$; $p < 0.001$) had a positive and significant relationship with patient loyalty. Both variables explain 69.8% of the variation in patient loyalty ($R^2 = 0.698$). Service quality was the most dominant variable affecting loyalty ($\beta = 0.663$; $p < 0.001$), while interpersonal communication had a smaller effect ($\beta = 0.198$; $p = 0.043$). This research confirms that good service quality and empathetic, clear communication by doctors can increase patient loyalty. Therefore, improving doctors' communication competence and strengthening service excellence in cardiac specialist services is very important to maintain patient trust and loyalty.

Keywords: *interpersonal communication; service quality; patient loyalty; Cardiologist*

INTRODUCTION

Communication in health services plays a very important role because of the need for two-way information exchange between health workers and customers (Colnar et al., 2022). This shows that communication and health are inseparable (Putri et al., 2024). Conveying information in the context of health is not an easy thing, so good and effective communication is needed (Simonovich et al., 2021).

Health communication is a complex and important process for disseminating information and influencing the behavior of individuals, groups, and society related to overall health (Afful-Dadzie et al., 2023; Cai et al., 2022). According to Igwe (2024), health communication includes various elements that are interconnected and play an important role in shaping perceptions, attitudes, and actions related to health. Health communication involves health messages, elemental elements, or communication participants (Xiaotong et al., 2024). In health communication, various participants involved in the health process include doctors, patients, nurses, health professionals, or others (Cesar et al., 2024; Jiang et al., 2022; Murugesu et al., 2022).

The inability of healthcare workers to communicate effectively with patients often leads to patient dissatisfaction with the services provided (Abass et al., 2021; Murugesu et al., 2022; Strzelecka et al., 2021). Hospitals as public service facilities often receive complaints from customers as users of health facilities (Nirala et al., 2022; Rejeki & Hamid, 2023). A study in the UK stated that in the first quarter, there were 46,192 customer complaints, the largest proportion of which was due to miscommunication, as much as 16.4% (D'Antignac, 2022).

The Ministry of Health has determined priority services in hospitals, including Cancer, Heart, Stroke, Uronephrology, Maternal and Child Health, Emerging Infectious Diseases, Diabetes Mellitus, Tuberculosis, Gastrohepatology, and psychiatric services (Caffarelli et al., 2023). Welas Asih Hospital has designated cardiac services as a plenary superior service with patient data in 2023 as many as 8,484 patients and in 2024 as many as 9,177 patients. The large number of patients with limited practice time will provide limited interaction between doctors and patients, which can cause patient dissatisfaction with health services such as limited information due to full registration quotas (Strzelecka et al., 2021).

In an effort to improve the quality of health services, especially superior cardiac services, cardiologists must understand that effective communication is the key to building trust and positive relationships with patients despite the limitations in service time (Azhar & Kusumawati, 2022). Good communication not only involves the ability to explain medical information in detail, but also the use of language that is simple and easy to understand for patients from various educational backgrounds (Rahmawati et al., 2024; Taylan & Weber, 2023). In addition, empathy in listening to patients' complaints and giving them full attention during interactions is also an important factor that determines the quality of communication (Steinmair et al., 2022; Tustonja et al., 2024).

Customers can express their satisfaction with a service, especially patients in hospitals, when the expected health services are in accordance with what they receive (Amporfro et al., 2021; Radu et al., 2022; Rahman et al., 2021). According to Makida (2021), customer satisfaction is a measure of how the service or services received meet the expectations of patients/customers, where this satisfaction will affect the loyalty of health service users, characterized by changes in behavior, loyalty to hospitals, and repeat purchases.

This study fills the gap in prior research by examining the simultaneous effects of communication and service quality, specifically in cardiac specialty services under Indonesia's BPJS system. While previous studies have explored communication or service quality separately in general healthcare contexts, this research integrates both factors within the unique constraints of a high-volume, universal health coverage environment. The study also addresses the specific challenges of cardiac care, where communication complexity and service quality are critical for chronic disease management.

The purpose of this study, in general, is to determine the influence of interpersonal communication and service quality of cardiologists on patient loyalty at Belas Asih Hospital. Specifically, this study aims to analyze the picture of interpersonal communication carried out by cardiologists, assess the level of service quality provided by cardiologists, and identify the level of patient loyalty to these services. In addition, this study also aims to analyze the influence of interpersonal communication on patient loyalty, the influence of service quality on patient loyalty, and the simultaneous influence of interpersonal communication and service quality on patient loyalty at Welas Asih Hospital.

Practically, this study provides strategic insights for hospital management to enhance patient loyalty through integrated communication and service improvement. The findings can guide the development of training programs focused on interpersonal communication skills for cardiologists and service excellence protocols. For policymakers, the results support the integration of communication quality indicators into national health service standards. Furthermore, this research contributes to the global literature on patient loyalty in universal

health coverage systems, offering evidence-based strategies that align with international quality frameworks.

METHOD

Types and Research Designs

This study is a quantitative research with a descriptive analytical approach and a cross sectional design. This study aims to determine the relationship and influence between interpersonal communication and doctors' service quality on patient loyalty in one measurement time.

Population and Sample

Population: All outpatients who received services from cardiologists at Belas Asih Hospital in the study period. Sample: Patients who meet the inclusion and exclusion criteria, selected by accidental sampling or consecutive sampling techniques.

Inclusion criteria:

1. Adult patients (≥18 years old).
2. Have received at least two services from a cardiologist.
3. Willing to be a respondent.

Exclusion criteria:

1. Patients with severe cognitive impairment.
2. Patients in emergency conditions.

Large Sample

The sample size in this study was determined using the Green formula for multiple linear regression analysis, because this study will analyze the influence of two independent variables (interpersonal communication and service quality) on one dependent variable (patient loyalty). According to Green, there are two guidelines for determining the number of samples:

1. To test the significance of the coefficient of determination (F test):

$N \geq 50+8m$

2. To test the significance of partial regression coefficients (t-test):

$N \geq 104+m$

With:

- N = Minimum number of samples
- m = Number of predictors (independent variables)

In this study, the number of predictors m=2. So:

- For the F test: $N \geq 50+8(2)=66$
- For t-test: $N \geq 104+2=106$

Because this study also aims to see the influence of each independent variable on patient loyalty, a t-test calculation is used, so that the minimum sample size is 106 respondents. Thus, the number of samples that will be used in this study is 106 respondents.

Research Instruments

Data collection was carried out with a structured questionnaire: Interpersonal communication is measured on a Likert scale (e.g. referring to dimensions of empathy, clarity,

active listening, etc.). Service quality diukur berdasarkan model SERVQUAL (tangible, reliability, responsiveness, assurance, empathy). Patient loyalty is measured through the dimensions of return intent, recommendations, and ongoing satisfaction.

Data Collection Techniques

Primary: Direct questionnaire to outpatients of cardiac specialists. Secondary: Data on the number of patient visits, medical records, and physician profiles from hospitals.

Data Analysis Techniques

1. Descriptive Analysis: To describe respondent characteristics, interpersonal communication, service quality, and patient loyalty (mean, SD, frequency distribution).
2. Bivariate Analysis: A Pearson or Spearman correlation test to see the relationship of each independent variable to loyalty.
3. Multivariate Analysis: Multiple linear regression to determine the simultaneous influence of interpersonal communication and service quality on patient loyalty.

Analysis with the help of IBM SPSS software version 27.0 with a significance level set $p < 0.05$.

RESULTS AND DISCUSSION

Table 1. Characteristics of Research Subjects

Characteristics	n	%
Gender		
Man	61	56,0
Woman	48	44,0
Age		
≤20 years old	3	2,8
21 – 30 years old	1	0,9
31 – 40 years old	5	4,6
41 – 50 years old	17	15,6
>50 years old	83	76,1
Final Education		
SD	45	41,3
SMP	26	23,9
SMA	22	20,2
College (D3–S3)	16	14,6
Inspection Status		
<6 months	20	18,3
6 – 12 months	9	8,3
>12 months	80	73,4
Number of Checks		
1 – 2 times	12	11,0
3 – 5 times	12	11,0
>5 times	85	78,0

Source: Primary data processed, 2024

Based on Table 1, the characteristics of 109 patient respondents who were the subject of the study were obtained as follows:

Most of the respondents were male (56.0%), while women amounted to 44.0%. These findings show that male patients use the services of cardiologists at Welas Asih Hospital more than female patients.

In terms of age, the majority of respondents were in the >50-year-old group (76.1%), followed by the 41–50-year-old group (15.6%), while the ≤40-year-old age group comprised only a small percentage of respondents (8.3%). This illustrates that most heart patients are in the elderly age group, which corresponds to an increased risk of cardiovascular disease at the age of 50.

Based on the latest education level, most of the respondents had an elementary school (SD) education as much as 41.3%, followed by junior high school (23.9%), high school (20.2%), and college (14.6%). This distribution shows that the majority of patients have a primary to secondary level of education, which can affect the level of understanding and communication of medical information provided by doctors.

On the examination status variable, the majority of patients (73.4%) had undergone an examination for more than 12 months, indicating long-term involvement with the services of a cardiologist. As many as 18.3% underwent examinations for less than 6 months, and only 8.3% were in the period of 6–12 months. This indicates that most of the patients are routine control patients who have been undergoing treatment at the Compassion Hospital for a long time.

Meanwhile, based on the number of examinations, most patients (78.0%) had undergone examinations more than five times, while 11.0% were in the 1–2 and 3–5 categories respectively. This condition reinforces the finding that heart patients tend to have an ongoing relationship with their specialist doctor, which is relevant to the patient loyalty analysis in this study.

Overall, the characteristics of the subjects showed that the majority of patients in this study were male, elderly (>50 years old), primary-secondary education, and had undergone examinations for more than one year and more than five visits. This profile corresponds to the typical characteristics of chronic heart disease patients who require long-term medical monitoring and control.

Table 2. Overview of Interpersonal Communication Distribution, Service Quality, and Patient Loyalty

Variabel	Mean (%)	SD	Minimal	Maximum:
Physician Interpersonal Communication	87,94	11,91	37,1	100,0
Service Quality Cardiologist	88,03	10,95	42,5	100,0
Patient Loyalty	87,34	11,36	40,0	100,0

Source: Primary data processed, 2024

Based on Table 2, the mean values of the three research variables are in the high to very high category, with a score range between 87.34% and 88.03%.

The physician's interpersonal communication variable had an average score of 87.94% (SD = 11.91) with a minimum score of 37.1% and a maximum of 100.0%. These results show that most patients assess the doctor's ability to interact, provide medical explanations, and show empathy at an excellent level. The relatively small standard deviation indicates a fairly

consistent patient perception of the quality of doctors' interpersonal communication at Welas Asih Hospital.

In the service quality variable of cardiologists, the highest average score was 88.03% (SD = 10.95) with a value range of 42.5%–100.0%. This shows that patients assess the overall quality of cardiac specialist services—including the dimensions of reliability, responsiveness, assurance, empathy, and tangibles—in the very good category. This means that doctors are considered able to provide fast, precise, professional services and foster a sense of security for patients.

Meanwhile, in the patient loyalty variable, an average score of 87.34% was obtained (SD = 11.36) with a value range of 40.0%–100.0%. These results show that the level of patient loyalty to cardiology services is very high, characterized by the desire to make repeat visits, compliance with medical recommendations, and willingness to recommend services to others.

In general, relatively uniform and high average scores on all three variables show that patients at Welas Asih Hospital have a positive perception of doctor interaction, quality of medical services, and their own loyalty to the services received. This indicates that effective communication practices and good service quality contribute strongly to the formation of patient loyalty.

Table 3. Correlation of Interpersonal Communication and Service Quality to Patient Loyalty

Variabel	Patient Loyalty	
	r	p-value
Physician Interpersonal Communication	0,751	< 0.001
Service Quality Cardiologist	0,828	< 0.001

Source: Primary data processed by Pearson correlation analysis, 2024

Based on the results of Pearson's correlation analysis in Table 3, there was a strong and statistically significant relationship between the two independent variables (physician interpersonal communication and cardiologist service quality) and the dependent variable (patient loyalty).

The physician's interpersonal communication variable had a correlation coefficient (r) of 0.751 with a p-value of < 0.001, indicating a strong and significant positive relationship. This means that the better the doctor's ability to communicate interpersonally—including empathy, clarity of medical explanations, and respect for patients—the higher the level of patient loyalty to cardiologists' services at Welas Asih Hospital.

Furthermore, the service quality variable of cardiologists had a correlation coefficient (r) of 0.828 with $p < 0.001$, which also showed a very strong and significant positive relationship. This means that the better the quality of doctors' services, including reliability, responsiveness, assurance, empathy, and physical evidence (tangibles), the higher the loyalty of patients.

In comparison, the correlation value of service quality ($r = 0.828$) was higher than that of interpersonal communication ($r = 0.751$), indicating that the quality of physician service had a greater influence on patient loyalty. In other words, good quality medical services are a major

factor that strengthens patient loyalty to continue using the service and recommending it to others.

Overall, the results of this analysis confirm that both interpersonal communication and the service quality of cardiologists play an important role in shaping patient loyalty, with service quality as the most dominant factor.

Table 4. Multivariate Analysis: The Influence of Interpersonal Communication and Service Quality on Patient Loyalty

Independent Variables	B	BE B	β (Beta)	p-value	R^2
(Konstanta)	10,170	4,968	-	0,043	0,698
Physician Interpersonal Communication (%)	0,189	0,092	0,198	0,043	
Service Quality Cardiologist (%)	0,688	0,100	0,663	<0.001	

Source: Primary data processed by multiple linear regression, 2024

The results of multiple linear regression analysis showed that interpersonal communication and service quality simultaneously had a significant effect on patient loyalty ($F = 122.510$; $p < 0.001$), with a determination coefficient $R^2 = 0.698$. This means that both variables explain 69.8% of patient loyalty variations, while 30.2% are influenced by other factors outside the model, such as service costs, facility comfort, previous clinical experience, and disease severity.

Partially, both variables make a significant contribution:

- Service quality ($\beta = 0.663$; $p < 0.001$) → had the greatest influence on patient loyalty.
- Interpersonal communication ($\beta = 0.198$; $p = 0.043$) → had a positive but smaller effect.

These findings show that the quality of doctor's services is the dominant factor in building loyalty of heart patients. However, the role of interpersonal communication remains important as a complementary factor that improves the perception of overall service quality. Good communication builds trust and strengthens the value of doctors' empathy, which ultimately reinforces the influence of service quality on loyalty.

The regression equations obtained are:

Patient Loyalty = 10.170 + 0.189(Interpersonal Communication) + 0.688(Service Quality)

Practical interpretation:

- A 1 percentage point increase in service quality perception predicts an increase of 0.688 loyalty points, ceteris paribus.
- A 1 percentage point increase in the perception of interpersonal communication predicts an increase of 0.189 loyalty points.

The dominance of service quality (β the largest standard) indicates that service quality improvement interventions—especially reliability, responsiveness, and assurance (clinical competence and safety)—are likely to have the greatest impact on strengthening loyalty.

In terms of global effects, from $R^2 = 0.698$, Cohen's $f^2 = R^2/(1-R^2) \approx 2.31$, which is very large. This confirms the power of the model in explaining loyalty variations in the context of cardiac services.

The model has a Durbin–Watson = 1.785, indicating the absence of autocorrelation, and a VIF of < 5, indicating no serious multicollinearity. Statistically, this model is stable and valid to explain the influence of independent variables on patient loyalty.

Overview

This study found that patients rated the doctor's interpersonal communication and service quality in the category of excellent. These results confirm the importance of empathic doctor-patient interaction and consistent service quality in building patient trust and loyalty in cardiac services.

The Relationship between Interpersonal Communication and Service Quality with Patient Loyalty

Correlation analysis showed a strong and significant relationship between physician interpersonal communication ($r = 0.751$; $p < 0.001$) and service quality ($r = 0.828$; $p < 0.001$) and patient loyalty. These findings are consistent with the SERVQUAL theory (Parasuraman, Zeithaml & Berry, 1988) which states that a positive perception of service quality increases customer satisfaction and loyalty.

Empathetic and effective communication creates emotional relationships that strengthen perceived service quality, thereby fostering patient loyalty to continue to choose the same doctor and hospital.

Simultaneous and Partial Influence

The regression model showed that both variables had a simultaneous significant influence on patient loyalty ($p < 0.001$), with an explanatory contribution of 69.8%. Partially, **service quality** was the strongest predictor of loyalty ($\beta = 0.663$), while **interpersonal communication was** also significant ($\beta = 0.198$). These findings are in line with research by **Tjiptono** and **Zeithaml & Bitner** which confirms that service quality has a greater impact on loyalty than interpersonal communication alone. However, good communication still plays an important role as a supporting factor that strengthens the perception of quality.

Practical Implications

1. **Compassion Hospital Manager:** needs to focus on improving service quality through *service excellence* training, improving waiting times, and implementing *patient-centered care*.
2. **Clinical:** clinicians need to strengthen empathic communication skills and patient education techniques (teach-back, motivational interviewing).
3. **Policy:** these results can be the basis for the development of quality indicators of cardiologist services that are oriented towards patient loyalty.

Research Limitations

1. The cross-section design does not show a cause-and-effect relationship.
2. Self-report data can lead to subjective bias..
3. The research was limited to one hospital, so the generalization of results was still limited.

A. Validity Test

The validity test was carried out to determine the extent to which each item of the statement on the questionnaire was able to measure the aspect referred to in the research variable. The technique used is Pearson Product Moment correlation (Corrected Item–Total Correlation), where each item is correlated with the total score of each variable. The validity assessment criteria are set based on the value of the correlation coefficient (r) and the level of significance (p-value). The statement item is declared valid if it meets the requirements of $r \geq 0.30$ and $p < 0.05$ (Ghozali).

Table 5. Validity Test (Item–Total)

Item	r (with total)	p-value	Results
Physician Interpersonal Communication			
U1	0,871	0,000	Valid
U2	0,835	0,000	Valid
U3	0,848	0,000	Valid
U4	0,779	0,000	Valid
U5	0,874	0,000	Valid
U6	0,823	0,000	Valid
U7	0,818	0,000	Valid
Service Quality			
U8	0,678	0,000	Valid
U9	0,796	0,000	Valid
U10	0,888	0,000	Valid
U11	0,857	0,000	Valid
U12	0,856	0,000	Valid
U13	0,769	0,000	Valid
U14	0,776	0,000	Valid
U15	0,889	0,000	Valid
Patient Loyalty			
U16	0,823	0,000	Valid
U17	0,827	0,000	Valid
U18	0,832	0,000	Valid
U19	0,877	0,000	Valid
U20	0,888	0,000	Valid

Source: Primary data is processed by item-total correlation analysis, 2024

1.Results of the Validity Test of Doctors' Interpersonal Communication

The results of the validity test showed that all statement items (U1–U7) in the Physician Interpersonal Communication variable had an item-total correlation coefficient ranging from 0.779–0.874, with a significance value of $p = 0.000$ (< 0.05). This high correlation value indicates that each statement item is strongly correlated with the total score of the variable, so

that the entire item is declared valid. The results show that each question in this variable is able to consistently measure aspects of interpersonal communication, such as clarity of information, empathy, and physician attention to patients.

2. Results of the Cardiac Specialist Service Quality Validity Test

The validity test on eight statement items (U8–U15) for the Cardiologist Service Quality variable resulted in an item-total correlation value between 0.678–0.889, with a significance value of $p = 0.000$ for all items. Based on the validity criteria ($r \geq 0.30$; $p < 0.05$), all statements are declared valid. This shows that each statement in the instrument has well described the five main dimensions of service quality according to the SERVQUAL theory (Parasuraman, Zeithaml & Berry), namely reliability, responsiveness, assurance, empathy, and tangibles.

3. Results of the Patient Loyalty Validity Test

The results of the validity test on five questions (U16–U20) showed a correlation coefficient between 0.823–0.888, with a significance value of $p = 0.000$. A high correlation value signifies that all items are strongly correlated with the total variable score, so that all items are declared valid. These items consistently describe the patient loyalty dimension, including a desire to return to hospital services, a willingness to recommend to others, and a positive perception of cardiologist services.

Validity Test Conclusion

Overall, the results of the validity test show that all items in the three research constructs have a correlation coefficient above 0.30 and a significance of < 0.05, which means that all statement items are declared valid and suitable for use as a measurement tool for research variables.

Reliability Test

The reliability test aims to measure the level of internal consistency of each construct (latent variable) used in the research. This test was carried out using Cronbach's Alpha technique, where an instrument is considered reliable if the alpha value ≥ 0.70 (Nunnally; Ghozali). The higher the alpha value, the better the internal consistency between items in measuring the same construct.

Table 6. Reliability Test (Cronbach's Alpha and Item–Total Statistics)

Item	Corrected Item–Total Correlation	Cronbach's Alpha if Item Deleted	Cronbach's Alpha
Physician Interpersonal Communication			
U1	0,819	0,911	0,927
U2	0,773	0,915	
U3	0,795	0,914	
U4	0,701	0,922	
U5	0,814	0,912	
U6	0,746	0,919	

Item	Corrected Item–Total Correlation	Cronbach's Alpha if Item Deleted	Cronbach's Alpha
U7	0,752	0,917	
Service Quality			
U8	0,593	0,929	0,928
U9	0,719	0,921	
U10	0,849	0,911	
U11	0,800	0,914	
U12	0,805	0,914	
U13	0,700	0,922	
U14	0,709	0,921	
U15	0,847	0,910	
Patient Loyalty			
U16	0,718	0,890	0,903
U17	0,727	0,888	
U18	0,743	0,885	
U19	0,802	0,872	
U20	0,807	0,871	

Source: Primary data processed with reliability analysis, 2024

1. Results of the Doctor's Interpersonal Communication Reliability Test

The results of the reliability test showed that the Physician Interpersonal Communication variable (U1–U7) had a Cronbach's Alpha value of 0.927, which was classified as very high (>0.90). Corrected Item Value–The total correlation of all items ranged from 0.701 to 0.819, and Cronbach's Alpha if Item Deleted was in the range of 0.911–0.922. No items increased reliability when removed, so all items were retained. These results show that this variable instrument has excellent internal consistency and is able to stably measure physician interpersonal communication.

2. Results of the Reliability Test of the Service Quality of the Cardiologist

In the Service Quality variable (U8–U15), Cronbach's Alpha value was 0.928, which is also very high. Corrected Item Value–The total correlation of all items ranged from 0.593 to 0.849, and Cronbach's Alpha if Item Deleted ranged from 0.910 to 0.929. This shows that all statements in the service quality instrument are consistent in measuring the perception of the quality of cardiologist services, including reliability, responsiveness, assurance, attention, and physical evidence of service.

3. Patient Loyalty Reliability Test Results

The Patient Loyalty variable (U16–U20) had a Cronbach's Alpha value of 0.903, indicating a very high level of reliability. The Corrected Item Value–Total Correlation ranged from 0.718 to 0.807, and Cronbach's Alpha if Item Deleted was between 0.871 and 0.890. This means that each question item has a strong correlation with the total variable score and contributes significantly to the stability of patient loyalty measurements.

Reliability Test Conclusion

Based on the calculation results, the entire research construct has a Cronbach's Alpha value above 0.90, which means that the research instrument has very high reliability. Thus, this research questionnaire is consistent, accurate, and trustworthy to measure the three variables studied, namely physician interpersonal communication**, service quality of cardiologists, and patient loyalty at Welas Asih Hospital.**

B. Implications of Validity and Reliability Test Results

1. High validity indicates that the entire item of the statement has corresponded to the theoretical concept of the variable being measured. This means that respondents understand the meaning of each statement and provide relevant answers to the research construct.
2. High reliability ($\alpha \geq 0.90$) indicates that all items have strong internal consistency; if the study is repeated in similar populations, the results are likely to be stable and similar.
3. These results reinforce the belief that research instruments are feasible to measure the relationship between interpersonal communication and the service quality of cardiologists on patient loyalty at the Mercuh Hospital.

CONCLUSION

The results of the study showed that doctors' interpersonal communication and service quality at Welas Asih Hospital were considered very good by patients. There was a positive and significant relationship between interpersonal communication and service quality and patient loyalty ($p < 0.001$), where the two variables together explained 69.8% of the variation in patient loyalty. The service quality factor is the most dominant variable influencing patient loyalty, followed by doctors' interpersonal communication. These findings confirm that consistent quality of physician services supported by effective communication can strengthen patient loyalty to cardiac services at Welas Asih Hospital. Thus, this study emphasizes the importance of the role of interpersonal communication and service quality of doctors in building patient loyalty. Improving service reliability and the implementation of empathic communication will help Welas Asih Hospital maintain patient trust and loyalty, while supporting the sustainability of humane and patient-oriented health services.

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