



Analysis of Nursing Service Quality Based on Servqual and Al-Islam Kemuhammadiyah Values as Determinants of BPJS Patient Loyalty

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Abstract: The National Health Insurance (JKN) program encourages hospitals to improve service quality to maintain patient loyalty, particularly among BPJS patients. Nursing services play a pivotal role in patient interaction, while the integration of Al-Islam Kemuhammadiyah (AIK) values is believed to strengthen the spiritual dimension of care. This study aims to analyze the effect of nursing service quality based on SERVQUAL (Tangibles, Reliability, Responsiveness, Assurance, Empathy) and AIK values on BPJS patient loyalty at RSU Aisyiyah Padang. A quantitative cross-sectional design was employed, involving 120 inpatient BPJS participants selected through consecutive sampling. Data were collected using SERVQUAL questionnaires and AIK-based instruments. Data analysis included univariate, bivariate (Chi-Square test), and multivariate (logistic regression) analyses. The results show that the majority of patients were female (54.2%) with senior high school (37.5%) and university education (29.2%). The highest-rated SERVQUAL dimension was Empathy (74.2%), while Tangibles remained the lowest (53.3%). Most patients rated the implementation of AIK values as good (73.8%) and were categorized as loyal (77.5%). Bivariate analysis indicated that all SERVQUAL dimensions and AIK values were significantly associated with patient loyalty ($p < 0.05$). Multivariate analysis revealed that only Assurance ($p = 0.010$; $\text{Exp}(B) = 0.223$) and AIK values ($p = 0.000$; $\text{Exp}(B) = 0.93$) significantly influenced patient loyalty. These findings confirm that nurse competence, assurance, and the application of Islamic values are dominant factors in fostering BPJS patient loyalty. This study provides a basis for developing hospital policies that integrate service quality and Islamic values.

Keywords: Al-Islam Kemuhammadiyah; Nursing Service; Patient loyalty

Introduction

The development of the healthcare system in Indonesia continues to show significant progress, especially in responding to increasing public expectations regarding service quality (Noviyani & Viwattanakulvanid, 2024). The implementation of the National Health Insurance (JKN) program organized by BPJS Kesehatan encourages healthcare facilities, including hospitals, to provide services that are not only comprehensive but also of superior quality in order to increase patient satisfaction and loyalty (Prasetyo & Rahayu, 2025). The quality of nursing services plays a

central role in determining the effectiveness and operational success of a hospital, as nurses interact directly and intensively with patients during their treatment period (Stavropoulou et al., 2022; Tabish, 2024).

General Hospitals (RSU) and Specialized Hospitals, both government-owned and private, that collaborate with BPJS are advanced referral health facilities in the implementation of National Health Insurance (JKN) health services (Meliala & Rarasati, 2022). The increasing number of hospitals partnering with BPJS has led to intense competition among hospitals to attract and retain patients as service users (Ratnawati et al., 2023). In

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Example: Susilawati, S., Doyan, A., Mulyadi, L., & Hakim, S. (2019). Growth of tin oxide thin film by aluminum and fluorine doping using spin coating Sol-Gel techniques. *Jurnal Penelitian Pendidikan IPA*, 1(1), 1-4. <https://doi.org/10.29303/jppipa.v1i1.264>

this context, service quality is a key factor in creating patient satisfaction. Patients who are satisfied with the services they receive tend to be loyal, return when they need healthcare services in the future, and even recommend the hospital to others.

The loyalty will certainly provide long-term benefits for hospitals in the form of income stability and promotional cost efficiency. According to BPJS Kesehatan, as of June 30, 2024, JKN membership coverage has reached 273.5 million people or 96.8% of Indonesia's total population (Nurlianti et al., 2025). This nearly universal coverage makes BPJS the dominant financing system in various hospitals, both public and private. Therefore, quality service, especially in the nursing unit as the frontline of direct service, is a crucial aspect in maintaining the loyalty of BPJS patients. One approach used to measure the quality of nursing services is SERVQUAL (Service Quality), which consists of five main dimensions: Tangibles (physical appearance and facilities), Reliability (consistency in providing services), Responsiveness (the alertness and responsiveness of staff), Assurance (the competence and sense of security provided by staff), and Empathy (personal care and attention to patients) (Sugiarto & Octaviana, 2021; Yousapronpaiboon, 2014). These five dimensions are believed to represent patients' perceptions of the quality of nursing services.

Islam is a perfect teaching, the perfection of which is proven by the breadth of its laws covering various aspects of human life and the environment. The source of Islamic teachings is the Quran, which was explained by the Prophet Muhammad SAW through the Qauliyah Sunnah, Fi'liyah Sunnah, and Taqiriyah Sunnah. Hospitals owned by Muhammadiyah organizations, one of which is Aisyiyah Padang General Hospital, have a greater responsibility to apply Islamic and Muhammadiyah values in their nursing practice. The spirit of Al-Ma'un, the values of sincerity, compassion, justice, as well as humane and professional service are important foundations in shaping services that are not only of high quality but also have spiritual value. These values are believed to strengthen the dimensions of empathy, trust, and patient comfort during the treatment process.

According to WHO data for the Southeast Asia Region in 2018, around 55% of health service users were dissatisfied with the services provided (Handayani et al., 2024). Previous studies have shown a positive relationship between the quality of nursing services and patient loyalty, but not many studies have specifically examined the context of BPJS patients in private religious-based hospitals such as RSU Aisyiyah Padang. RSU Aisyiyah Padang, as a hospital based on Islamic values, is expected to provide friendly, professional, and

standard-compliant services. A preliminary study at RSU Aisyiyah Padang showed that there were still complaints about the accuracy of services, the speed of nurse response, and therapeutic communication, which could potentially affect the loyalty of BPJS patients at RSU Aisyiyah Padang. Therefore, it is important to conduct a comprehensive study analyzing the quality of nursing services based on SERVQUAL and Islamic Muhammadiyah values as determinants of BPJS patient loyalty at RSU Aisyiyah Padang. The results of this study are expected to form the basis for policy-making to improve the quality of nursing services and strengthen the hospital's identity as an institution that upholds Islamic and Muhammadiyah values.

Methods

This study is quantitative with a cross-sectional design for bivariate analysis and multiple logistic regression for multivariate analysis (Cai et al., 2025; Shariatnia et al., 2022). The study will be conducted in 2025 at Aisyiyah Padang General Hospital. The population in this study is all BPJS inpatients at the hospital during the study period. The sampling technique used is consecutive sampling with the sample size increased to 120 patients.

The research instrument for the independent variable is a closed questionnaire that has been modified and adapted to the SERVQUAL model, which covers 5 dimensions of nursing service (Tangibles, Reliability, Responsiveness, Assurance, Empathy) (Jonkisz et al., 2022) and the Muhammadiyah Islamic Values Questionnaire developed from basic Islamic principles such as honesty, trustworthiness, ihsan, service with heart, and Islamic morals in nursing practice. The dependent variable questionnaire in this study was patient loyalty, which was measured through indicators such as intention to return for treatment, recommendation to others, and overall satisfaction.

This study employs a structured and sequential data analysis approach to comprehensively examine patient loyalty within Muhammadiyah healthcare institutions. The analysis begins with univariate analysis, which is used to describe the characteristics of respondents and the distribution of research variables (Wu et al., 2024). Frequency distributions are applied to demographic variables such as age, gender, education level, and length of service utilization. In addition, mean scores and standard deviations are calculated to provide an overview of respondents' perceptions regarding each SERVQUAL dimension tangibles, reliability, responsiveness, assurance, and empathy as well as the Islamic values upheld by Muhammadiyah institutions.

Subsequently, bivariate analysis is conducted to identify the relationship between each independent variable and patient loyalty (Marisya et al., 2024). The Chi-Square test is employed because the data are categorical in nature and aim to determine whether there is a statistically significant association between SERVQUAL dimensions and Muhammadiyah Islamic values with patient loyalty. This stage allows the study to screen variables that demonstrate meaningful relationships and merit further analysis.



Figure 1. Model of Analysis

Finally, multivariate analysis using binary logistic regression is applied to determine the most dominant factors influencing patient loyalty. Logistic regression enables the simultaneous assessment of multiple independent variables while controlling for potential confounders, thereby identifying which service quality dimensions and Islamic values significantly predict patient loyalty.

Result and Discussion

Univariate Analysis

Table 1. Frequency Distribution of Patient Characteristics at Asisyyah General Hospital Padang in 2025

Variable	Frequency	Percentage %
Gender		
Male	55	45.8
Female	65	54.2
Total	120	100.0
Education		
SD	10	8.3
SMP	30	25.0
SMA	45	37.5
PT	25	29.2
Total	120	100.0

Based on Table 1, the results show that the majority of patients are female (54.2%), while males account for 45.8%. This indicates that female patients will dominate inpatient care at Aisyiyah General Hospital Padang in 2025. In terms of education, the majority had a high school education (37.5%), followed by college (29.2%), junior high school (25.0%), and the least were elementary school graduates (8.3%). This means that most patients had a secondary to higher education, which may have influenced their perception of service quality.

Table 2. Frequency Distribution of SERVQUAL-Based Nursing Services at Aisyiyah Padang General Hospital in 2025

Variable	Frequency	Percentage %
Tangibles		
Good	64	53.3
Not so good	56	46.7
Total	120	100.0
Reliability		
Good	75	62.5
Not so good	45	37.5
Total	120	100.0
Responsiveness		
Good	81	67.5
Not so good	59	32.5
Total	120	100.0
Assurance		
Good	80	66.7
Not so good	40	33.3
Total	120	100.0
Empathy		
Good	89	74.2
Not so good	31	25.8
Total	120	100.0

Based on Table 2 Tangibles Dimension (Physical Evidence): 53.3% of respondents rated it as good, but 46.7% rated it as poor. This indicates the need for improvement in the physical facilities of the hospital. Reliability Dimension: 62.5% rated it as good, while 37.5% rated it as poor. This means that the majority of patients believe in the consistency of nursing services, although there is still room for improvement. Responsiveness Dimension: the majority rated it as good (67.5%), indicating that nurses are quite responsive to patient needs. Assurance Dimension: 66.7% of respondents rated it as good, meaning that patients are quite confident in the competence and professional attitude of health workers. Empathy Dimension: the highest, with 74.2% of respondents rating it as good. This shows that nurses have demonstrated care, attention, and good communication with patients.

Based on Table 3, most patients (73.8%) assessed that the application of Al-Islam Kemuhmadiyahahan

values in nursing services was good, while 26.7% assessed it as poor.

Table 3. Frequency Distribution of Al Islam Kemuhadiyahan Values in Nursing Services at Aisiyiah Padang General Hospital in 2025

The Values of Islam and Muhadiyahan	Frequency	Percentage %
Good	88	73.8
Not so good	32	26.7
Total	120	100.0

Based on Table 4, the majority of patients (77.5%) were classified as loyal, while 22.5% were classified as less loyal.

Table 4. Patient Loyalty at Aisiyiah Padang General Hospital in 2025

Patient Loyalty	Frequency	Percentage %
Loyal	93	22.5
Less Loyal	27	77.5
Total	120	100.0

Bivariate Analysis

Based on Table 5, the Chi-Square test results show that all dimensions of SERVQUAL-based nursing service quality and Al-Islam Kemuhammadiyah values have a significant relationship with patient loyalty ($p < 0.05$). In terms of tangibles, patients who gave a good rating had a loyalty rate of 87.5% compared to 66.1% in the poor category ($p = 0.005$). The reliability dimension shows that 80% of patients with a good rating were loyal, while only 60% of those with a poor rating were loyal ($p = 0.000$). In terms of responsiveness, patient loyalty reached 87.7% in the good category and decreased to 56.4% in the poor category ($p = 0.000$). The assurance dimension also showed a striking difference, with 91.3% of patients loyal in the good category, while only 50% in the poor category ($p = 0.000$). Furthermore, in empathy, patient loyalty who rated good reached 91%, while in the poor category it was only 38.7% ($p = 0.000$). Finally, in terms of Al-Islam Kemuhammadiyah values, patients who rated the service as good had a loyalty rate of 92%, higher than the 43.4% in the poor category ($p = 0.005$). These findings confirm that the better the service and the application of Islamic values, the higher the level of patient loyalty.

Table 5. The Relationship between SERVQUAL-Based Nursing Service Quality and Al-Islam Kemuhammadiyah Values as Determinants of BPJS Patient Loyalty at Aisiyiah General Hospital in Padang

Variable	Patient Loyalty				Total		p-value
	Loyal		Less Loyal		F		
	F	%	f	%			

Tangibles							
Good	56	87.5	8	12.5	64	100	0.005*
Not so good	37	66.1	19	33.9	56	100	
Reliability							
Good	66	80.0	9	12.0	75	100	0.000*
Not so good	27	60.0	18	40.0	45	100	
Responsiveness							
Good	71	87.7	10	12.3	81	100	0.000*
Not so good	22	56.4	17	43.6	39	100	
Assurance							
Good	73	91.3	7	8.8	80	100	0.000*
Not so good	20	50.0	20	50.0	40	100	
Empathy							
Good	81	91.0	8	9.0	89	100	0.000*
Not so good	12	38.7	19	61.3	31	100	
The Values of Islam and Muhammadiyah							
Good	81	92.0	7	8.0	88	100	0.005*
Not so good	37	43.4	19	12.6	56	100	

Note: * (Significant)

Multivariate Analysis

The results of the logistic regression analysis show that of the six independent variables tested, only Assurance and Al-Islam Kemuhammadiyah (AIK) have a significant effect on patient loyalty. The Assurance variable has a p -value of 0.010 with $\text{Exp(B)} =$

0.223, which means that patients with a good perception of assurance are 77.7% less likely to be loyal than patients with a poor perception. Furthermore, the AIK variable is also significant with $p = 0.000$ and $\text{Exp(B)} = 0.093$, indicating that the application of good AIK values reduces the probability of patient loyalty by 90.7%.

Meanwhile, other variables such as Tangibles ($\text{Exp}(B) = 0.544$; $p = 0.353$), Reliability ($\text{Exp}(B) = 1.116$; $p = 0.880$), Responsiveness ($\text{Exp}(B) = 0.800$; $p = 0.774$), and Empathy ($\text{Exp}(B) = 0.345$; $p = 0.196$) did not significantly affect

patient loyalty. Thus, it can be concluded that patient loyalty is more influenced by the assurance aspect and the application of AIK values, even though the direction of the relationship tends to be negative.

Table 6. Multivariate Analysis between independent variables and dependent variables at Aisyiyah General Hospital Padang

Variabel	Step 1	Step 2	Step 3	Step 4	Step 5	Exp(B)
Tangibles	0.353	0.355	0.350	-	-	0.544
Reliability	0.880	-	-	-	-	1.116
Responsiveness	0.774	0.800	-	-	-	0.800
Assurance	0.196	0.195	0.152	0.061	0.010*	0.223
Empathy	0.196	0.191	0.098	0.109	-	0.345
The Values of Islam and Muhammadiyah	0.010	0.010	0.010	0.011	0.000**	0.93

Discussion

Univariate Analysis

The results of the study show that patients at the 'Aisyiyah Padang General Hospital in 2025 are mostly female (54.2%) and have a high school education (37.5%) or college education (29.2%). These characteristics influence how patients assess service quality, where women tend to be more concerned about health, and patients with higher education are more critical of service quality. In terms of SERVQUAL-based nursing services, the empathy dimension received the highest rating (74.2%) because nurses were considered capable of showing attention and care, while the tangibles dimension was only rated as good by 53.3% of patients, indicating that there were still deficiencies in the hospital's physical facilities.

In addition, the majority of patients (73.8%) considered the application of Al-Islam Kemuhammadiyah values in services to be good, although a small proportion (26.7%) considered it to be less than optimal. This influenced patient loyalty, with 77.5% stating that they were loyal to hospital services. This high level of loyalty is thought to be influenced by the quality of service, particularly empathy, and the application of Islamic values in service. According to Oliver (1999), loyalty is formed from consistent satisfaction, trust, and repeated positive experiences. Thus, although the level of patient loyalty is relatively high, improvements in physical facilities and strengthening the internalization of AIK values are still needed in order to maximize loyalty.

The influence of SERVQUAL-based nursing service quality on BPJS patient loyalty at Aisyiyah General Hospital Padang

The results of this study indicate that SERVQUAL-based nursing service quality has a significant relationship with patient loyalty. Based on univariate analysis, most patients rated the nursing service dimensions as good, especially in the Empathy aspect

(74.2%), while the dimension with the lowest rating was Tangibles (53.3%). This finding is in line with the theory of Parasuraman et al. (1988), which states that empathy is an important dimension in building interpersonal relationships between health workers and patients, thereby increasing satisfaction and loyalty.

Bivariate analysis using the Chi-Square test shows that all SERVQUAL dimensions are significantly related to patient loyalty ($p < 0.05$). For example, in the Assurance dimension, patients with good ratings have a loyalty rate of 91.3%, which is much higher than only 50% in the group with poor ratings ($p = 0.000$). Similarly, in the Empathy dimension, patients with good perceptions showed loyalty of 91%, while those with poor ratings only showed 38.7% ($p = 0.000$). These results are in line with the research by Aliyah et al. (2024), which states that bivariate analysis shows that there is a significant relationship between service quality and patient loyalty ($p\text{-value} = 0.007 < 0.05$) and a significant relationship between patient satisfaction and patient loyalty ($p\text{-value} = 0.000 < 0.05$)²². Khamidah et al. (2024) found that fast and accurate service can build trust and satisfaction among patients, especially BPJS patients who usually have high expectations for good public services. Therefore, it can be concluded that the quality of nursing services using the SERVQUAL approach is proven to be a key factor in increasing patient loyalty, especially through the dimensions of empathy and assurance, which are the most influential. This indicates that humane, prompt, and patient-centered care can strengthen trust and encourage patients to remain loyal to hospital services.

The Influence of Al-Islam Kemuhammadiyah Values on BPJS Patient Loyalty at Aisyiyah General Hospital Padang

The results of the study indicate that the application of Islamic values has a significant relationship with patient loyalty at Aisyiyah General Hospital in Padang. Patients who rate the application of Islamic values as

good tend to be more loyal (92.0%) than those who rate it as poor (43.4%). This confirms that aspects of honesty, care, empathy, and Islamic ethics in nursing services can build trust and emotional closeness with patients, thereby increasing their tendency to continue choosing the hospital and recommending it to others (Rita & Afconneri, 2019).

This finding is in line with the research by Hadytiaz et al. (2022), which highlights the implementation of Islamic values in Sharia hospitals, such as greetings, hospitality, empathy, reminders to pray, and Sharia service standards (gender segregation, use of hijab, prayer before treatment), which have been proven to increase patient satisfaction. Thus, the application of Islamic values not only affects satisfaction but also strengthens patient loyalty. Therefore, hospitals need to ensure the consistent application of Al-Islam Kemuhammadiyah values in every service so that patient loyalty can be maintained continuously.

The simultaneous influence of SERVQUAL-based nursing service quality and Al-Islam Kemuhammadiyah values on BPJS patient loyalty at Aisyiyah General Hospital in Padang

Multivariate analysis obtained results showing that SERVQUAL-based nursing service quality and Al-Islam Kemuhammadiyah values simultaneously affect BPJS patient loyalty at Aisyiyah Padang General Hospital. Based on logistic regression analysis, of the five SERVQUAL dimensions, only the Assurance dimension significantly influenced patient loyalty with a significance value of $p = 0.010$ ($\text{Exp}(B) = 0.223$). This indicates that the better the assurance provided by nurses through competence, trust, and a sense of security to patients, the higher the chance of patient loyalty to hospital services. This finding is in line with Parasuraman et al. (1988) theory, which states that assurance plays an important role in building patient trust and confidence in the quality of health services.

Meanwhile, the dimensions of Tangibles, Reliability, Responsiveness, and Empathy did not show a significant partial effect, although they still contributed simultaneously. This indicates that physical aspects, reliability, responsiveness, and empathy are not yet dominant factors in increasing BPJS patient loyalty. This condition may be influenced by limited facilities and the workload of nurses in providing equal service to all BPJS patients. However, the existence of these dimensions remains important because they support the creation of overall satisfaction (Alfatafta et al., 2025; Mrabet et al., 2022).

In addition to service quality, the variable of Al-Islam Kemuhammadiyah values was also proven to have a significant effect on patient loyalty with a value of $p = 0.000$ ($\text{Exp}(B) = 0.93$). This finding indicates that the stronger the internalization of Islamic values, such as

sincerity, trustworthiness, service based on worship, and strengthening of ukhuwah (brotherhood), the higher the patient loyalty to the hospital. These spiritual values become a differentiation and competitive advantage for Aisyiyah General Hospital compared to other hospitals. These results are in line with Humaini (2023) research, which shows that Spiritual Care has a significant effect on patient loyalty, both directly and indirectly through satisfaction. The study also confirms that Spiritual Care has a greater influence on patient loyalty. Simultaneously, the results of this study prove that the integration of nursing service quality (particularly the Assurance dimension) with the application of Al-Islam Kemuhammadiyah values has a significant influence on BPJS patient loyalty (Rita et al., 2025). Therefore, Aisyiyah Padang General Hospital needs to maintain and strengthen the application of Islamic values in its services, while improving the quality of care assurance to create sustainable patient loyalty.

Conclusion

Based on the results of research conducted at 'Aisyiyah Padang General Hospital in 2025, the majority of inpatients were women (54.2%) with high school education (37.5%) and college education (29.2%), who tended to be more critical in assessing service quality. The assessment of nursing service quality based on SERVQUAL showed that the Empathy dimension was the highest (74.2%), while Tangibles received the lowest rating (53.3%). Most patients rated the application of Al-Islam Kemuhammadiyah values in services as good (73.8%), and patient loyalty was relatively high (77.5%). Bivariate analysis shows that all SERVQUAL dimensions and Al-Islam Kemuhammadiyah values are significantly related to patient loyalty ($p < 0.05$), while multivariate analysis indicates that only Assurance ($p = 0.010$; $\text{Exp}(B) = 0.223$) and Al-Islam Kemuhammadiyah values ($p = 0.000$; $\text{Exp}(B) = 0.93$) significantly affect BPJS patient loyalty. This confirms that the assurance of nurse competence and the application of Islamic values are dominant factors in building patient loyalty. RSUD 'Aisyiyah Padang is advised to improve the hospital's physical facilities (Tangibles) in order to increase positive patient perceptions from 53.3%, strengthen the Assurance dimension through training and improving the professionalism of nurses, and consistently apply Al-Islam Kemuhammadiyah values, which are currently at a good level of 73.8%. Additionally, the hospital needs to maintain the quality of Empathy (74.2%) and Responsiveness (67.5%) to ensure patient satisfaction, while developing engagement programs and Islamic-

based services to increase and sustain the current patient loyalty rate of 77.5%.

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Author Contributions

All authors contributed equally to the conception, design, data collection, analysis, and writing of this study. N. R: served as the principal investigator, leading the research design, coordination, and manuscript preparation. L. H: contributed to data analysis and interpretation of results. S. N. D: assisted in literature review and data collection. M. Y and F. A: supported the discussion development and final manuscript editing. All authors have read and approved the final version of the manuscript.

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Conflicts of Interest

The authors declare that there are no conflicts of interest regarding the publication of this paper. All authors have no financial, institutional, or personal relationships that could inappropriately influence or bias the content of this research.

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