Quality of Service and Satisfaction Level of Non-National Health Insured Inpatients at K Referral Center Hospitals

Anak Agung Ayu Wanda Widyaputri[1*], Ayun Sriatmi[2], Rani Tiyas Budiyanti[2]

[1]Faculty of Public Health, Universitas Diponegoro, Indonesia
[2]Departement of Health Policy and Administration, Faculty of Public Health, Universitas Diponegoro, Indonesia
*Corresponding Author: Email: gungndawidya@gmail.com

Abstract
Introduction: The results of the community satisfaction survey at K Referral Center Hospital in 2019-2023 showed a decrease in patient satisfaction. In inpatient installation, satisfaction levels reached only 83.53% in May 2024, below the minimum standard of 90% set by the Ministry of Health (Kepmenkes Number 129 / Menkes / SK / II / 2008) for inpatient care. This study aimed to identify the level of satisfaction regarding the quality of inpatient services among non-national health insurance patients.
Methods: This was a cross-sectional quantitative study. Sample calculation using the proportional sampling technique with accidental data collection for 97 non-national health-insured inpatients in January-February 2025. Data were processed using the chi-squared relationship test with SERVQUAL variables.
Results: Most patients were satisfied (60.8%) with the services they received, whereas the others were dissatisfied (39.2%). A significant relationship was found between the tangible dimensions, responsiveness, reliability, and patient satisfaction. No significant relationship was found between the dimensions of empathy, assurance, and patient satisfaction.
Conclusion: Inpatients satisfaction in K referral Hospital is related to the facilities owned by the hospital, attitudes of medical personnel, speed of response to complaints, and reliability of officers in providing services that can increase trust in health services.

Keywords: Patient satisfaction, Inpatient care, Service quality, SERVQUAL model.

Introduction

K Referral Center Hospital is a type A hospital with plenary accreditation owned by the Indonesian government of the Republic of Indonesia located in Semarang City, which also prioritizes patient satisfaction. The hospital is one of the hospitals with the highest number of patients in Semarang City and is the main referral center, which is an aspect that needs to be considered in providing good service quality to increase patient satisfaction and minimize patient complaints. Based on the value of the Community Satisfaction Index for K Referral Center Hospital, it was found that there was a decrease from 2019 to 2023 (87.9%), which did not reach the target of ≥90% set by Indonesian Minister of Health No. 129/MENKES/SK/II/2008.

The percentage of inpatients' satisfaction in January 2024 and the

achievement of the IKM value of K Referral Center Hospital decreased from December 2023, which was previously 88.46 to 87.5%. There was a decrease in satisfaction in May 2024 for inpatient installations to 83.27%.[1] in The number of visits that tended to decrease was found for inpatients with non-national health insured payments. From 2019, which reached 3,001 patients, it only reached 1, 583 patients by 2023. When viewed from the perspective of non-national health insured patients obtained through interviews, some said they were not satisfied with the services provided, and their complaints lay in service time, the readiness of health workers, especially regarding infusion changes, and the completeness of facilities and infrastructure in the inpatient room.

Based on the results of the annual report for inpatient installation, it was found that there are obstacles to the flow of patients that have not run optimally, even though the hospital has attempted to coordinate the treatment room to receive patients immediately on the system when the patient arrives in the room and accelerates patient discharge. The complaints found are in line with the SERVQUAL theory proposed by Parasuraman, which includes tangibles, empathy, reliability, responsiveness, and assurance, and it is stated that these aspects can affect patient satisfaction.[2] Therefore, it is necessary to study the relationship between the quality of health services and the level of satisfaction of non-national health insured patients in the inpatient installation of K Referral Center Hospital.

Methods

This research modifies the SERVQUAL theory using customer satisfaction theory. This study was conducted from January to February 2025 at the K Referral Center Hospital. The study population included inpatients with non-national health insurance at the K Referral Center Hospital. This sample calculation uses proportional sampling for Classes 1, 2, and 3. This was obtained for Class 1 (26 respondents, 26.8%), Class 2 (20 respondents, 20.6%), and Class 3 (51 respondents, 52.6%). Therefore, 97 participants met the inclusion and exclusion criteria.

The inclusion criteria were patients hospitalized between January and February 2025, aged > 18 years, and capable of health. Patients unwilling to participate in the study were excluded. Data were collected through interviews, using questionnaires. Secondary data were collected from patient medical records and patient visit reports at the K Referral Center Hospital. Data normality tests were performed using the Kolmogorov-Smirnov test. Data analysis was performed univariately in the form of percentages of patient satisfaction levels in tables and narratives. Bivariate analysis using the chi-square test.

Results

The majority of the respondents (Table 1), based on residence domicile, were in Semarang City (62.9 %). The majority of respondents were male (55.7%) and in early adulthood (28.9%). The majority of respondents worked as private employees and laborers. Based on the last education category, most participants were college graduates (67%). With the majority in general services (92.8%) and with a Class 3 type, as much as 52.6%. The majority of the respondents were hospitalization for 1-3 days (56.7%) with private financing (75.3%). Finally, the majority of the respondents had an income ≥ Semarang minimum wage (61.9%).

Based on the results obtained (Table 2), 60.8% of the respondents stated that they were satisfied with the services provided during the hospitalization process, whereas 39.2% stated that they were less satisfied with the services they received. Several dimensions still had the highest unfavorable scores, such as the tangibles dimension, which was rated unfavorably at 42.3%.

The results in Table 3. Three independent variables (Tangibles, Responsiveness, and Reliability) were significantly related to the dependent variable, namely, Level of Inpatient Patient Satisfaction (p≤0.05). The other independent variables (Empathy and Assurance) were not significantly related (p>0.05).

152

Table 1. Respondent characteristics

Respondent characteristics	f	%
Domicile		
Within Semarang	61	62.9
Outside Semarang	36	37.1
Gender		
Men	54	55.7
Women	43	44.3
Age		
18-25 Years	11	11.3
26-35 Years	28	28.9
36-45 Years	25	25.8
46-55 Years	16	16.5
>55 Years	17	17.5
Job		
Students	13	13.4
PNS (Civil Servants)	6	6.2
Private Employees	17	17.5
Laborers	17	17.5
Freelance	7	7.2
Self-employed	16	16.5
Housewives	16	16.5
Retirees	5	5.2
Education level		
Middle School Graduate	3	3.1
High School Graduate	29	29.9
Bachelor's Degree	65	67
Services Type		
General	90	92.8
Maternal and Child	4	4.1
Cardiology	1	1
Geriatrics	2	2.1
Care Class Type		
Class 1	26	26.8
Class 2	20	20.6
Class 3	51	52.6
Duration of Treatment		
1-3 Days	55	56.7
4-7 Days	33	34
> 7 Days	9	9.3
Funding		
Self-funded	73	75.3
Private Insurance	24	24.7
Monthly Income		
≥ Minimum Wage of Semarang City	60	61.9
< Minimum Wage of Semarang City	37	38.1

Table 2. Univariate Analysis Results

Variable	Category	Total	
		f	%
Patients' satisfaction	Less Satisfied	38	39.2
	Satisfied	59	60.8
Tangibles	Less Satisfied	41	42.3
	Satisfied	56	57.7
Empathy	Less Satisfied	40	41.2
	Satisfied	57	58.8
Responsiveness	Less Satisfied	38	39.2
	Satisfied	59	60.8
Reliability	Less Satisfied	38	39.2
	Satisfied	59	60.8
Assurance	Less Satisfied	28	28.9
	Satisfied	69	71.1

Table 3. Bivariate Analysis Results

Variable	Category	Satisfaction' Level				Total		P-Value
		Less Satisfied		Satisfied				
		f	%	f	%	f	%	
Tangibles	Not Good	25	61	16	39	41	100	0.000
	Good	13	23.2	43	76.8	56	100	
Empathy	Not Good	20	50	20	50	40	100	0.106
	Good	18	31.6	39	68.4	57	100	
Responsiveness	Not Good	23	50.5	15	39.5	38	100	0.001
	Good	15	25.4	44	74.6	59	100	
Reliability	Not Good	21	55.3	17	44.7	38	100	0.017
	Good	17	28.8	42	71.2	59	100	
Assurance	Not Good	13	46.4	15	53.6	28	100	0.482
	Good	25	36.2	44	63.8	69	100	

Discussion

Respondent Characteristics

In this study, respondents with domiciles were not only from Semarang City but also from outside Semarang City. This may reflect that the reach of K Referral Center Hospital as a choice of respondents in choosing a hospital that suits their preferences is also high. The respondents in this study were predominantly men, although the number of women was almost equal. When viewed by age category, patients who were satisfied with the services obtained were more likely to be in early adulthood (57.1%), which is a productive age range. In terms of biological and physiological differences, men are more likely to be affected by certain diseases than women.[3,4] The majority of respondents had completed high school and college education. The higher a person's education, the higher the relative utilization of health services, which can affect their assessment of satisfaction.[5,6] The majority of respondents earned an income ≥ Semarang MSE of IDR 3,243,969. The most common treatment process was 1-3 days. The length of treatment can affect patient perceptions, as patients with shorter treatment times tend to feel more satisfied with the services provided.[3] In addition, the high number of respondents who used self-funded compared to private insurance may indicate that high-income patients prefer health services that they feel are able to serve quickly without spending a lot of time on the queuing system.

Relationship between Tangibles Dimension and Patient Satisfaction Level

From the results of the study, it was found that the majority of respondents (61 %) rated the Tangibles dimension in the hospital. Although the results showed that positive perceptions dominated, the percentage who rated this physical evidence was 39%, indicating that there were several aspects that still needed improvement. Based on the results of this study, the Tangibles dimension affects patient satisfaction. The results of the relationship test with chi-square obtained a p-value of 0.000, and the value of the respondents stated that they were satisfied with the health services of the tangibles dimension, which was considered good (76.8%).

Findings in the field revealed that tangible aspects such as cleanliness, facilities, medical equipment, and appearance of health workers play a role in shaping patient perceptions of service quality. Sulistyowati, Suryani, and Harokan (2024) found that good physical evidence (tangibles) had a 4.6 times chance of good patient satisfaction than respondents with poor physical evidence assessment.[7] In terms of lighting, there were still patients who felt that the lighting in the treatment room was inadequate. In a study by M. Gimenez, L. Geerdinck, et al. (2017) stated that sufficient lighting, both natural and artificial, contributes to patient comfort.[8] Lighting that is too dim can cause anxiety and depression, while lighting that is too bright can cause visual discomfort and sleep disturbances.[9,10]

The use of clear information media can improve patient satisfaction, reduce confusion, and prevent miscommunication, especially in nurse shift changes.[11] The implementation of technology-based information systems, such as IVRS (Interactive Voice Response System), can be an innovative solution to improve access to information and efficiency of health services.[12] This IVRS system has been implemented in several countries such as the United States, Canada, the UK, and Australia where the use of IVRS in these countries has widely streamlined the health system and it is possible for K

Referral Center Hospital to apply the same.[13]

Although the majority of respondents gave good ratings, there were still aspects that needed to be improved, such as parking management, standards of cleanliness and bed maintenance, room lighting, and information media regarding service procedures. For future improvements, it is recommended that the hospital improve facility management on a regular basis, optimize the parking system, and provide information media related to health procedures or services available at the hospital that can be reached by patients through pamphlets or flyers available in each treatment room.[14]

Relationship between Empathy Dimension and Patient Satisfaction Level

The results showed that the majority of respondents who rated the empathy dimension in the hospital as good were 58.8% and those who were not good were 41.2%, the number of numbers that were not far adrift indicated that there was room for improvement for several aspects of the empathy dimension. Based on the results of the study, it is known that the results of the relationship test using chi-square were obtained with a p-value of 0.106, which illustrates that there is no significant relationship between the empathy dimension and the level of satisfaction of non-national health-insured inpatients at K Referral Center Hospital.

The researchers found a lack of intensive empathy provided by nurses toward patients to provide or show more attention. This can also be caused by the high workload of medical personnel, which limits the intensity of interaction with patients.[15] It is possible that patients may feel satisfied with the overall service despite lacking emotional attention.[16] Another factor based on the analysis of these findings is that each patient has different needs and preferences. Patients who prioritize medical aspects may not place as much emphasis on healthcare providers' empathetic attitudes but instead focus more on treatment outcomes.

Patients may feel satisfied with the overall care, even if they feel emotionally neglected, provided that other factors are

met. If patients have low expectations regarding empathy, they may still feel satisfied even if they do not receive a high level of empathy. There are opportunities for improvement in increasing the empathy of medical personnel, such as providing emotional support and listening more carefully to patients' complaints. With this improvement in the quality of interaction, patient trust and satisfaction can be further enhanced, which has the potential to encourage them to return to use hospital services in the future.[17,18]

Relations between Responsiveness Dimension and Patient Satisfaction Level

The results showed that the majority of respondents rated the responsiveness dimension in hospitals as good (60.8%) or poor (39.2%). On the basis of these results, responsiveness was found to affect patient satisfaction. From the results of the chi-square test, a p-value of 0.001 was obtained, and the respondents stated that they were satisfied with health services in the good responsiveness dimension (74.6%).

Patients who visit health facilities generally require prompt action regarding administration, examination, or medication. The fact that the examination schedule is still not running optimally, as felt by some patients, indicates that there are still certain situations in which the staff are late in responding directly to patients. In the study by Jalil, A., Zakar, R., Zakar, M. Z., & Fischer, F. (2017), it is mentioned that emphasizing the importance of communication and speed of response to patient complaints is crucial. The quality of healthcare services depends on the duty of healthcare workers to provide appropriate assistance, maintain good relationships with colleagues, and establish effective communication with patients and their families to build trust.[19] A responsive attitude reflects good service quality and increases patient trust in health facilities. [20]

Overall, although K Referral Center Hospital has demonstrated good performance in terms of responsiveness, there is still room for improvement, particularly in terms of delays in dispensing medication at pharmacies and conducting health examinations. The speed of service

provides comfort to patients and reduces their anxiety about their health condition.[21] Quick and standard responses to patient complaints and needs are crucial factors in improving patient satisfaction at K Referral Center Hospital. Therefore, responsive services must be maintained and improved.

Relationship between Reliability Dimension and Patient Satisfaction Level

The results showed that the majority of respondents rated the reliability dimension in hospitals as good (60.8%) or poor (39.2%). Based on these results, reliability was found to affect patient satisfaction. From the results of the chi-square test, a p-value of 0.018 was obtained, and the respondents stated that they were satisfied with health services in the good reliability dimension (71.2%).

In line with Fachri's (2023) research, the more positive customers' perceptions of service reliability, the higher their level of satisfaction will be. Conversely, if patients' perceptions of service reliability are poor, their satisfaction will decline.[22] It was found that some patients did not receive regular checks for infusion changes, which sometimes required them to call the nurse first to request an infusion change. If medical procedures such as administering medication, changing infusions, or other medical procedures are performed inconsistently, patients may feel uncertain about the quality of service. If the company, which is a hospital in this study, cannot meet consumer needs quickly and satisfactorily, consumers will feel disappointed and will potentially switch to other healthcare providers.

It can be said that the technical aspects of the service are quite reliable and show that most patients feel comfortable with the medical procedures they undergo, but improvements are still needed to ensure that the procedures performed by medical personnel are carried out using techniques that cause minimal pain.[13] Based on the average satisfaction level obtained, this hospital is considered reliable in its service process. However, several issues must be addressed. To improve reliability, the PDCA (Plan-Do-Act-Check) cycle can be implemented to help create a culture of

continuous improvement.[23] In addition, management support in providing adequate resources is necessary to ensure that services remain consistent, accurate, and reliable, thereby increasing patient satisfaction.

Relationship between Assurance Dimension and Patient Satisfaction Level

The majority of respondents rated the assurance dimension in hospitals as good (71.1 %). However, there is still room for improvement, because 28.9% rated the assurance dimension of this hospital as poor. Based on the research findings, the results of the chi-square test yielded a p-value of 0.471, indicating no significant relationship between the assurance dimension and the satisfaction level of non-national health insured inpatients at K Referral Center Hospital.

Guarantees of the services provided by employees are significantly influenced by their performance in carrying out their duties. This is possible because patients already consider health service guarantees a standard that should be accepted; therefore, this aspect does not become a distinguishing factor in their satisfaction. Good performance reflects the ability of employees to provide reliable, independent, and professional services, which ultimately contributes to the satisfaction of service recipients.[24] In addition, service assurance also depends on a strong organizational commitment, which encourages every employee to provide services with sincerity and dedication for the satisfaction of service recipients.[2]

From the results of the study, in terms of social interaction, health workers were quite successful in creating a comfortable environment for patients; however, there were still respondents who felt that information about drug side effects and treatment procedures was not conveyed in detail. This indicates weaknesses in the delivery of information that could affect patients' understanding of and safety in taking medication. This shows that even though medical personnel are professionals, information communication still needs to be improved.

Conclusion

The majority of the patients were satisfied (60.8%) with the services they received, whereas the rest were dissatisfied (39.2%). Patient satisfaction was related to the facilities available at the hospital, attitude of the medical staff, speed of response to complaints, and reliability of staff in providing services, all of which can increase trust in health services. Hospitals need to improve their monitoring of cleanliness maintenance in all patient care areas, enhance communication through media such as pamphlets/flyers, improve response times for each type of service, and monitor the implementation of standard operating procedures (SOPs) in service delivery.

Ethics Approval

This study was approved by the Health Research Ethics Committee of the Faculty of Public Health, Diponegoro University prior to its implementation (No. 394/EA/KEPK-FKM/2024).

Funding

Author Contributions

The author developed a research plan, conducted the research, compiled a report on the research results, and analyzed the results.

References

1. RSUP Dr. Kariadi. Laporan Tahun 2023 RSUP Dr. Kariadi. 2024.
2. Chandra T, Chandra S, Hafni L. Service Quality, Consumer Satisfaction, Dan Consumer Loyality : Tinjauan Teoritis. Angewandte Chemie International Edition, 6(11), 951–952. 2020. 22–31 p.
3. Crimmins EM, Shim H, Zhang YS, Kim JK. Differences between men and women in mortality and the health dimensions of the morbidity process. Clin Chem. 2019;65(1):135–45.
4. Tuck C Ngun NG. Emotional Changes In Male Sex men. Front Neuroendocr. 2021;5(3):1–44.
5. Raghupathi V, Raghupathi W. The

Influence of Education on Health: 1995-2015. Arch Public Heal. 2020;78(1):1–18.

6. Health-Care Utilization as a Proxy in Disability Determination. Health-Care Utilization as a Proxy in Disability Determination. 2018.

7. Sulistyowati WT, Suryani L, Harokan A. Analisis kepuasan pasien peserta bpjs di ruang pelayanan rawat inap di rumah sakit umum. Cendekia Med J STIKES Al-Ma'arif Baturaja. 2024;9(2).

8. Giménez MC, Geerdinck LM, Versteylen M, Leffers P, Meekes GJBM, Herremans H, et al. Patient room lighting influences on sleep, appraisal and mood in hospitalized people. J Sleep Res. 2017;26(2):236–46.

9. Asadi N, Gudarzi ST, Hosseini SS, Hashemi Z, Dehaghi RF. The Correlation Between Lighting Intensity, Eye Fatigue, Occupational Stress, and Sleep Quality in the Control Room Operators of Abadan Refinery. Shiraz E Med J . 2024;25(8).

10. Ikeno T, Deats SP, Soler J, Lonstein JS, Yan L. Decreased daytime illumination leads to anxiety-like behaviors and HPA axis dysregulation in the diurnal grass rat (Arvicanthis niloticus). PubMed Cent. 2017;176(3):139–48.

11. Sharkiya SH. Quality communication can improve patient-centred health outcomes among older patients: a rapid review. BMC Health Serv Res. 2023;23(1):1–14.

12. Ganjali R, Ghorban Sabbagh M, Eslami S. A patient-centered interactive voice response system for supporting self-management in kidney transplantation: design and field testing. Front Digit Heal. 2024;6(February):1–13.

13. Setyaningrum D, Sriatmi A, Arso SP. Patient Satisfaction on Hospital Outpatient Service Quality Based on the Donabedian Model. 2024;7(3):229–34.

14. Clarke MA, Moore JL, Steege LM, Koopman RJ, Belden JL, Canfield SM, et al. Health information needs, sources, and barriers of primary care patients to achieve patient-centered care: A literature review. Health Informatics J. 2016;22(4):992–1016.

15. Goudarzian AH, Nikbakht Nasrabadi A, Sharif-Nia H, Farhadi B, Navab E. Exploring the concept and management strategies of caring stress among clinical nurses: a scoping review. Front Psychiatry. 2024;15(May):1–14.

16. Ramos-Vera C, Saintila J, Calizaya-Milla YE, Acosta Enríquez ME, Serpa Barrientos A. Relationship Between Satisfaction With Medical Care, Physical Health, and Emotional Well-Being in Adult Men: Mediating Role of Communication. J Prim Care Community Heal. 2022;13.

17. Kwame A, Petrucka PM. A literature-based study of patient-centered care and communication in nurse-patient interactions : barriers , facilitators , and the way forward. BMC Nursing [revista en Internet] 2021 [acceso 2 de setiembre de 2023]; 20:158. BMC Nurs. 2021;20(158):1–10.

18. Saadah N, Abidin Z. Navigating healthcare service quality, preparedness and resources availability using servqual during covid 19. 2022;27(1):93–109.

19. Jalil A, Zakar R, Zakar MZ, Fischer F. Patient satisfaction with doctor-patient interactions: a mixed methods study among diabetes mellitus patients in Pakistan. BMC Health Serv Res. 2017;17(1):1–13.

20. Aladwan MA, Anuar MM, Aladwan RM, Salleh HS. The Effect of Service Quality, Patient Trust and Hospital Reputation on Patient Satisfaction in Jordanian Public Hospital. WSEAS Trans Bus Econ. 2024;21:410–26.

21. Dewi AR, Suryawati C, Arso SP. The Effect of Service Quality and Hospital Image on Patient Satisfaction in Indonesia: Literature Review. Media Publ Promosi Kesehat Indones. 2023;6.

22. Fachri M. Pelayanan dan Daya Tanggap terhadap Kepuasan Pasien Rawat Jalan di Rumah Sakit X Tahun 2023. J Kedokt dan Kesehat . 2024;20(1):87–98.

23. Naughton E, Moran R, Kharub M, Sa JC, McDermott O. A structured model for continuous improvement

methodology deployment and sustainment: A case study. Heliyon 2024;10(21):e40034.

24. Rosen MA, Diazgranados D, Dietz AS, Benishek LE, Thompson D, Weaver SJ. Teamwork in Healthcare. Teamwork Healthc. 2020;73(4):433–50.