The Relationship Between Access to Health Services and Service Quality in Realizing a Just and Sustainable Health System

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Access to healthcare services is an important determinant in improving the quality of healthcare services, particularly in rural areas that still face geographical and digital limitations. Inequality in access has the potential to hinder the realization of an equitable and sustainable healthcare system. This study aims to analyze the relationship between access to healthcare services and the quality of healthcare services. The research employed a descriptive analytic correlational design with a cross-sectional approach. The sample consisted of 150 community respondents in rural areas of Southeast Aceh Regency selected through purposive sampling. Data were collected using a structured questionnaire measuring dimensions of access (availability, affordability, acceptability, and digital access) as well as the quality of healthcare services. Data analysis was conducted bivariately using statistical tests appropriate to the level of data measurement. The results showed that most respondents perceived access to healthcare services as still inadequate, particularly in terms of geographical affordability and digital access. The quality of healthcare services was categorized as fairly good, although weaknesses remained in infrastructure and facilities. Bivariate analysis indicated a significant relationship between access to healthcare services and the quality of healthcare services (p-value < 0.05). Therefore, it is expected that efforts will be made to improve access to healthcare services through strengthening infrastructure, equitable distribution of healthcare personnel, and optimization of digital-based services to support the realization of a fair and sustainable healthcare system.

Keywords: Healthcare Access, Service Quality, Equitable Health System, Sustainable Health System

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1. Introduction

Access to healthcare services is one factor influencing public perception of the quality of healthcare services. Public perception of healthcare service quality is influenced by access to services, which depends on where one lives.(Msacky, 2024). According toMcBride & Moucheraud (2022)Rural communities have limited choices of primary healthcare facilities compared to urban communities. Furthermore, beliefs about the ease of obtaining medical services and levels of satisfaction with outpatient care play a role in determining access to healthcare services.(Yilmaz et al., 2025). Study da Luz Mendonça et al. (2025)The quality of healthcare services can be significantly improved by expanding access and increasing accessibility to healthcare services. Thus, increased access can improve the quality of healthcare services.

Barriers to accessing healthcare services pose a challenge to equitable medical services. The availability and affordability of healthcare services are the most frequently encountered obstacles.(Bychkovska et al., 2023). StudySouza et al. (2024)identified that 64% of respondents rated the quality of care as very poor or poor, while 34.9% considered access to services inadequate, particularly among respondents who rarely or only occasionally used public services.Golestani et al. (2025)Communities in rural and remote areas face various access barriers, ranging from individual limitations and institutional constraints to structural factors

such as limited facilities and geographic distance from healthcare providers. Furthermore, the digital divide further exacerbates inequalities in access, hindering equitable healthcare delivery.

Unequal access to health services due to the digital divide further exacerbates disparities in health care.(Cuadros et al., 2023)The use of digital technology in healthcare services must be designed with an inclusive approach so as not to further exacerbate the gap in access to healthcare services.(Badr et al., 2024). The adoption of digital healthcare services is driven by a diversity of service features, optimized resource allocation, ongoing support for users, a structured service system, and continuous innovation and development. (Härkönen et al., 2024). Ease of access to health services makes a positive contribution to health services.

The quality of healthcare services is an integral component of access. It reflects the level of compliance with professional standards, patient safety, effectiveness of interventions, and user satisfaction.Hannawa et al. (2022)Identify key aspects of quality healthcare services, namely effective communication between staff, patients, and care providers; staff motivation to provide the best possible service; minimizing errors due to lack of knowledge; aligning service priorities with patient preferences; strengthening a culture of quality within the institutional environment; and implementing flexible and well-organized system procedures.Karume et al. (2025), health workers can strive to improve the quality of care, especially regarding reliability such as timeliness of service and empathy.

The relationship between access and quality of service is a strategic issue in realizing an equitable health system. An equitable and sustainable health system aims to ensure that all health communities, including those in remote areas, have access to adequate health services, towards a more equitable and sustainable future.(Reid & Katz, 2025)Widespread access without adequate service quality can undermine public trust and potentially increase health disparities. Conversely, high-quality services that are not equally accessible will reinforce social inequities in the health sector. Therefore, striking a balance between expanding access and improving service quality is a key prerequisite for building a sustainable health system.

Based on a preliminary study in Southeast Aceh Regency, access to and quality of healthcare services in rural areas still face significant challenges. The limited number of medical personnel, particularly doctors, has left nurses at the forefront of healthcare services. However, the lack of digital system support hampers the expansion of service coverage, efficiency, and referral coordination. Limited internet access and a lack of training for healthcare workers in digital technology have also slowed down the transformation of the healthcare system in the region. Therefore, research is needed to analyze the relationship between healthcare access and quality of care to achieve an equitable and sustainable healthcare system.

2. Method

This is a descriptive, analytical, correlational study using a cross-sectional approach. It aims to analyze the relationship between access to healthcare services and service quality in realizing an equitable and sustainable healthcare system. The study was conducted from December 2025 to January 2026 in rural areas of Southeast Aceh Regency, Aceh Province, Indonesia. A cross-sectional approach was used because the independent and dependent variables were measured simultaneously to examine the relationship between them.

The population in this study was all people aged 18 years and above who resided in rural areas of Southeast Aceh Regency and had used health services in the past six months. The sampling technique used was proportional random sampling. The sample size was determined using the Slovin formula with a 5% error rate, resulting in a sample size of approximately 150 respondents. Inclusion criteria included respondents who had accessed health services, were able to communicate well, and were willing to participate.

The research instrument used a structured questionnaire consisting of two main variables. The independent variable is access to health services, which includes the dimensions of service availability, geographic accessibility, cost affordability, service acceptance, and digital access. This instrument consists of 20 items using a 4-point Likert scale, ranging from strongly disagree to strongly agree. The dependent variable is health service quality, which is measured based on five dimensions of service quality (tangibles, reliability, responsiveness, assurance, and empathy) with 22 items using a 4-point Likert scale. A higher score indicates a better perception of service quality.

Researchers have conducted instrument validity and reliability tests on 30 respondents in areas with similar characteristics to the research location. The validity test used Pearson Product Moment correlation with a significance level of 5%, where the item is declared valid if the calculated r value ≥ r table. The reliability test used Cronbach's Alpha with a reliable criterion if the valueα ≥0.70. The test results show that all statement items are valid and reliable, making them suitable for use in research.

Data collection procedures were carried out after obtaining research permits from the relevant agencies. The researcher explained the purpose, benefits, and procedures of the study to respondents before completing the questionnaire. Respondents who agreed to participate were asked to sign an informed consent. Throughout the study, the researcher guaranteed the confidentiality of respondents' identities by using a code and ensured that all respondents were treated fairly and without discrimination.

Data analysis was conducted using the SPSS program, which includes univariate, bivariate, and multivariate analysis. Univariate analysis was used to describe the frequency distribution, percentage, mean value, and standard deviation of each variable. Bivariate analysis used the Chi-Square test, appropriate to the data type, to determine the relationship between access to health services and service quality, with a significance level set atα= 0.05.

3. Results and Discussion

Result

Based on research conducted on 150 respondents from the rural community in Southeast Aceh Regency, the following results were obtained:

Table 1. Frequency Distribution of Respondent Characteristics

No	Characteristics	Category	Frequency	Percentage %
1	Age	18 – 25 years old	62	41.3
		26 – 45 years old	58	38.7
		> 45 years	30	20.0
2	Gender	Man	64	42.7
		Woman	86	57.3
3	Education	Elementary/Middle School	48	32.0
		SENIOR HIGH SCHOOL	67	44.7
		PT	35	23.3
		Total	150	100

Table 1 shows the characteristics of the respondents, namely that most of the respondents were aged 18–25 years, female and the highest level of education was high school.

Table 2. Distribution of Frequency of Access to Health Services

No	Characteristics	Category	Frequency	Percentage %

In particular:

No	Characteristics	Category	Frequency	Percentage %
1.	Service availability	Good	72	48.0
		Not enough	78	52.0
2	Geographical accessibility	Good	65	43.3
		Not enough	85	56.7
3	Cost affordability	Good	89	59.3
		Not enough	61	40.7
4	Service acceptance	Good	94	62.7
		Not enough	56	37.3
5	Digital Access	Good	58	38.7
		Not enough	92	61.3
	In general:			
	Service access	Good	68	45.3
		Not enough	82	54.7
Total			150	100

Table 2 shows that overall access to healthcare services is in the poor category (54.7%). The lowest dimensions are digital access and geographic accessibility.

Table 3. Frequency Distribution of Health Service Quality

No	Characteristics	Category	Frequency	Percentage %
	In particular:			
1.	Tangibles	Good	70	46.7
		Not enough	80	53.3
2	Reliability	Good	75	50.0
		Not enough	75	50.0
3	Responsiveness	Good	83	55.3
		Not enough	67	44.7
4	Assurance	Good	91	60.7
		Not enough	59	39.3
5	Empathy	Good	88	58.7
		Not enough	62	41.3
	In general:			
	Quality of service	Good	76	50.7
		Not enough	74	49.3
Total			150	100

Table 3 shows that in general the quality of health services is in the good category (50.7%), although almost half of the respondents still consider the quality of services to be poor, especially in the tangibles dimension.

Table 4. Relationship between Access to Health Services and Quality of Service

Variables	Quality of Service				Total		*P-value*
	Good		Not enough				
	f	%	f	%	f	%	
Service Access							
Good	52	76.5	16	23.5	68	100	0.001
Not enough	24	29.3	58	70.7	82	100	
Total	76		74		150		

Table 4 shows that respondents with good access to healthcare services mostly perceived good service quality (76.5%). Conversely, respondents with poor access to healthcare services tended to perceive poor service quality (70.7%). The chi-square test results showed a p-value of 0.001 ($p < 0.05$), indicating a significant relationship between access to healthcare services and healthcare quality.

Discussion

The results of the study showed a significant relationship between access to healthcare services and the quality of healthcare services in rural areas of Southeast Aceh Regency, with a p-value of 0.001. This indicates that the better the community's access to healthcare services, the better the perceived quality of care. This finding aligns with studiesBychkovska et al. (2024), expanding access and increasing accessibility of health services directly contribute to improving the quality of service and patient satisfaction. StudiesDebnath et al. (2023), the perception of poor service quality is related to limited access to health services.

Access to healthcare services is a fundamental factor in a healthcare system, encompassing facility availability, geographic accessibility, cost affordability, service acceptability, and digital access support.Hussain et al. (2024), rural communities have limited choices of primary health care facilities compared to urban communities, thus affecting the service experience they receive.(Muhumuza Kananura, 2024)Geographical barriers, limited facilities, and structural constraints are the main causes of poor access to health services in remote areas. This condition results in poor service quality because people do not receive timely and continuous care.

The quality of health services in this study was generally good, but weaknesses remained in the tangibles dimension, or physical evidence of services. This indicates that health facilities and infrastructure in rural areas still need improvement.Mustafa & Shekhar (2021)The availability of facilities and resources is a critical component in determining service quality, particularly in primary healthcare. Service quality is determined not only by the competence of healthcare workers but also by adequate system support and facilities.

According to the researchers' analysis, the relationship between access to healthcare services and service quality indicates that access is a key prerequisite for realizing an equitable and sustainable healthcare system. Communities with good access tend to receive faster, more responsive, and more sustainable services, thereby increasing satisfaction and trust in the healthcare system. Conversely, limited access leads to delays in services, poor continuity of care, and a decline in perceived service quality. This indicates that efforts to improve service quality cannot be separated from strategies to increase access.

4. Conclusion

The conclusion of this study is that access to healthcare services in rural areas of Southeast Aceh Regency is largely inadequate, particularly in terms of geographic accessibility and digital access. Meanwhile, the quality of healthcare services is generally considered adequate, although there are still weaknesses in the tangibles aspect. The analysis shows a significant relationship between access to healthcare services and quality. Respondents with good access to healthcare services tend to rate the quality of healthcare services as good. Thus, access to healthcare services is a factor significantly related to service quality in realizing an equitable and sustainable healthcare system.

Based on the results of this study, it is hoped that local governments and healthcare facility managers can improve access to healthcare services, particularly in terms of geographic accessibility and strengthening digital infrastructure. This increased access needs to be supported by equitable distribution of healthcare workers, strengthening primary healthcare services, and developing integrated digital systems. Thus,

increasing equitable access will support the realization of a more equitable, inclusive, and sustainable healthcare system.

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