

Analysis of The Quality of Health Services in Improving The Utilization of Health Services at Puskesmas Jaddih, Bangkalan Regency

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ABSTRACT

Background: *Puskesmas* (Primary Health Care) is the entry point or basic services accessible to all levels of society at the village level. However, the utilization of health services in Indonesia, including Madura, remains low.

Objectives: To analyze community perceptions of the quality of health services and their influence on the utilization of health services at Puskesmas Jaddih, Bangkalan Regency, Madura.

Methods: This was an explanatory research with a cross-sectional design. The population included all residents in the working area of Puskesmas Jaddih, with an average of 500 patient visits per month. A total of 149 patients who used health services at the Puskesmas Jaddih and met the inclusion criteria participated in the study. Data were analyzed using descriptive statistics and the Spearman test with a significance level of $p < 0.05$. This study was conducted from January to December 2024.

Results: Most patients had a primary education. More than half of the patients were not working. The majority rated the competence of health workers as very good. In terms of affordability, effectiveness, continuity, safety, convenience, and information, most rated it as excellent or good. In the SERVQUAL assessment, it was found that almost half of the total patients rated it as excellent (45.3%), just under half of the total patients rated it as good (44.1%), and a small proportion reported it as poor (10.6%). Most patients reported health care utilization in the order category (73.2%). A small proportion reported repeat orders (8.9%) and recommendations (17.9%). The results of statistical analysis showed that competence, affordability, effectiveness, continuity, safety, comfort, and information were related to health care utilization with $p < 0.05$. Overall, in the SERVQUAL assessment, it was found that the results of SERVQUAL analysis with health care utilization showed $p < 0.05$.

Conclusion: The quality of health services at Puskesmas Jaddih is perceived by the community, effectiveness, and convenience. However, service utilization remains limited to initial use, with low levels of repeat visits and recommendations. All quality dimensions showed a significant relationship with healthcare utilization, indicating that community perceptions of service quality strongly influence decisions to use, re-use, and recommend health services.

Keywords: Health Center, Health Service Utilization, Health System Access, Public Health, Quality of Health Services

INTRODUCTION

A country's national development can be achieved optimally if health development can be realized (Fitriyani, 2022). These two things are interconnected because a healthy society has better education, higher labor productivity, better income and savings, healthier living conditions, and more social stability (Irawan, 2022). Health development

is one of the main priorities in an effort to realize the welfare of the people in Indonesia. Health is seen as one of the main foundations in creating productive individuals through basic health services that are evenly distributed and have easy access to all levels of society (Zamzami and Hayat, 2023).

The Health Center, as one of the first-level health facilities, spearheads the implementation of health services, especially in rural areas (Rahman, 2023). Health Centers have an important role in the national health system by organizing health services at the first level, which focuses on improving the health status in their working area (Djuhriah, Affandi and Rusyani, 2025). The strategic role of the health center includes organizing public health efforts and first-level individual health services that prioritize promotive and preventive approaches. Although the existence of health centers, both auxiliary health centers, integrated health centers, village maternity posts, and village health posts, is increasing, the utilization of these services by the community is still considered not optimal (Luhur, Nugroho and Suroso, 2023). Some of the factors that can cause the low level of utilization of health services include the level of education, type of work, accessibility to health facilities, health worker behavior, and community perceptions of service quality (Rumengan, Umbah and Kandou, 2015).

Based on the 2019 Indonesian Health Profile, national health center service utilization reached only 29.8%, or around 79.5 million visits (Kementerian Kesehatan Republik Indonesia, 2020). In East Java Province, especially in the Madura region (Bangkalan, Sampang, Pamekasan, and Sumenep Districts) achievement of health service indicators, such as PURI Posyandu visits and neonatal visit coverage, remains low. In Bangkalan District, the average monthly patient visits to Puskesmas Jaddih for the last three months were only 673, showing the need to increase health service utilization in the area (Ridwanah, Nugraheni and Laksono, 2022). This high volume reflects community reliance on primary healthcare, yet only about 22.1% of these visits were recorded in this study, highlighting the need to further explore factors influencing service use. Jaddih Health Center was selected for its high patient volume, wide service coverage, and observed low use of available services. This location was considered representative and relevant for assessing community perceptions of service quality and its impact on healthcare utilization.

Based on this background, this study aims to analyze the quality of health services based on community perceptions in order to increase health care utilization at Puskesmas Jaddih, Bangkalan Regency. The purpose of this study is to answer questions related to community perceptions of service quality at Puskesmas Jaddih, to determine the level of utilization of health services at Puskesmas Jaddih, and to determine whether there is an effect of perceived service quality on health service utilization at the Puskesmas. This study is expected to provide useful insights for improving primary health care services in the region.

METHODS

This study employed a quantitative design using an explanatory research method and cross-sectional approach which aims to obtain data on community perceptions of the quality of health services and the utilization of health services by the community in the working area of Puskesmas Jaddih, Bangkalan Regency. The population in this study were all residents in the Puskesmas Jaddih working area who utilized health care services, with an average of 500 outpatient visits per month. The inclusion criteria in this study were patients who visited Puskesmas Jaddih during data collection period, at least 18 years old, able to communicate effectively, and willing to participate by providing written informed consent. The exclusion criteria included patients who declined to participate, those with health conditions that prevented them from completing the questionnaire, and respondents who submitted incomplete data. The sampling technique used quota sampling. A total of 149 patients met the inclusion criteria and did not fall under the exclusion criteria. This study was conducted from January to December 2024.

Data were collected by distributing questionnaires at Puskesmas Jaddih. The questionnaire instrument consisted of two main parts, namely the assessment of health service quality and healthcare utilization. Health service quality was defined as the community's evaluation of the range of health services provided by staff at the health center, which included eight quality dimensions: 1) technical skills, 2) affordability, 3) effectiveness, 4) continuity, 5) safety, 6) comfort, 7) information, and 8) communication. Ratings were conducted using a four-point Likert scale: always (score 4), often (score 3), sometimes (score 2), and never (score 1).

Utilization of health services by the community is measured through indicators of customer loyalty behavior, which includes: (1) service use, (2) repeated service requests, and (3) service recommendation to others. These indicators help assess how well health facilities meet the needs and expectations of users. A high level of service utilization often reflects community trust and satisfaction. Conversely, low utilization may indicate barriers such as limited access, poor service quality, or lack of awareness. Therefore, understanding these patterns is essential for improving the effectiveness and responsiveness of health care delivery. In the questionnaire, researchers asked whether patients were willing to recommend the Jaddih Community Health Center to others as the right place to get health services.

To measure the dimensions of Quality of Health Services, a questionnaire-based scoring method is used with a Likert scale and processed quantitatively. The most common and standardized

approach is to use the SERVQUAL Model (Service Quality). The Likert scale consists of 1 (strongly disagree), 2 (disagree), 3 (neutral), 4 (agree), and 5 (strongly agree). The final score can be classified as 4.21–5.00 as excellent, 3.41–4.20 as good and 2.61–3.40 as poor, and applies to sustainability, security, comfort, information, and SERVQUAL Total. Accessibility is divided into highly accessible, moderately accessible, and poorly accessible. Effectiveness is divided into very effective, effective, and less effective.

Data analysis used descriptive analysis and inferential statistical analysis. Descriptive analysis was conducted in the form of frequency distribution and percentage. Inferential analysis employed the Spearman correlation test to determine the relationship between healthcare quality and healthcare utilization, with the significance level set at $p < 0.05$. All analyses were conducted using SPSS version 25 software with a 95% confidence level. This study obtained ethical clearance from the Ethics Committee of Yayasan Ngudia Husada Madura, Noor Huda Mustofa University, under approval number 2636/KEPK/UNIV-NMH/EC/IV/2025. The ethical review ensured compliance with established standards for human subject protection. All procedures adhered to the ethical principles of the Declaration of Helsinki. Participants were informed about the study objectives and provided written informed consent before participation. To ensure data confidentiality, all collected information was anonymized. Names and personal identifiers were not recorded or linked to responses. Data were stored securely in password-protected digital files accessible only to the research team.

RESULTS AND DISCUSSION

This study involved 149 patients who utilized health services at the Puskesmas Jaddih, Bangkalan Regency. The mean age was 36.73 years ($SD=14.14$). Most respondents fell within the age range of 18 to 64 years. To facilitate analysis, age was grouped into two main categories: ≤ 44 years old (68.71%) and >45 years old (31.28%). The cut-off of >45 years was selected because the risk of chronic diseases (such as hypertension, diabetes, heart disease) begins to increase significantly and requires more comprehensive health services (Ojangba *et al.*, 2023). These findings suggest that most patients accessing services at Puskesmas Jaddih fall within the productive age group.

These categories correspond to the distribution of respondents' education, where the majority have an elementary to high school education level, which generally correlates with young adulthood and middle age. Based on the level of education, the majority of respondents had a primary to secondary education background, namely elementary school (40.2%), middle school (23.5%),

and high school (30.7%). Only one respondent (0.6%) reported not having received formal education. In terms of employment status, more than half of the respondents were recorded as unemployed or not working formally (54.74%). Most patients who utilize Puskesmas Jaddih were within the productive age group, but still dominated by low levels of education and limited socioeconomic status. Both factors have the potential to influence perceptions of and utilization of healthcare services. Patients with low socioeconomic status and education can affect perceptions and utilization of health workers (Arpey, Gaglioti and Rosenbaum, 2017).

For middle-aged and older individuals, hospitalizations are strongly predicted by educational attainment. Generally speaking, having a college degree or above was significantly associated with a lower chance of hospitalization than having less than a high school education, and having a high school or some college education was connected with a lower probability. After adjusting for wealth, the association somewhat weakened, but when health conditions were held constant, it drastically decreased. In particular, college graduates had a decreased risk of hospitalization than those with less than a high school degree, given the same health status and childhood environment factors; however, the connection for high school graduates was indistinguishable from zero (Yue *et al.*, 2021). Health needs also vary by age. Individual factors, including low mobility, low health literacy, and dependence on others for access to health services, influence how individuals access the services they need (van Boetzelaer *et al.*, 2025). Healthcare demand is further associated with occupational status. According to research, occupational health disparities exist. Compared to people higher in the professional hierarchy, those lower in the career ladder report worse health, are more likely to be disabled, and have shorter life expectancy (Ravesteijn, Van Kippersluis and Van Doorslaer, 2013). Healthcare utilization was substantially greater among patients whose employment required manual or physical labor (Kim *et al.*, 2017). Most patients in this study had national health insurance. Insured individuals increased their utilization of healthcare services, depending on the type of service (Shami, Tabrizi and Nosratnejad, 2019). Health insurance is not a luxury, but a necessity that improves overall health (Aziz *et al.*, 2022).

The data include variables such as age, gender, education, and occupation. Understanding these characteristics helps contextualize the patterns of healthcare utilization observed. By examining these characteristics, a clearer understanding of the respondents context can be obtained. The complete characteristics of the respondents are presented in Table 1 below:

Table 1. Characteristics of Respondents

Variable	n
Age, mean±SD	36.73±14.14
≤44 years old	123 (68.71%)
>45 years old	56 (31.28%)
Education	
Not attending school	1 (0.6 %)
Elementary school	72 (40.2 %)
Middle school	42 (23.5 %)
High school	55 (30.7 %)
Bachelor degree	8 (4.5 %)
Master degree	1 (0.6 %)
Occupation	
Employed	81 (45.26 %)
Not employed	98 (54.74 %)
Health insurance	
Yes	150 (83.79)
No	29 (16.21)

Table 2 shows an overview of the perceived quality of health services at Puskesmas Jaddih based on multiple key indicators: competency levels, accessibility, effectiveness, sustainability, security, comfort, information, and SERVQUAL total. The majority of respondents rated the health services providers as excellent (74.9%), These results indicate strong public trust in the professional abilities of health workers at Puskesmas Jaddih. In terms of accessibility, 43% of patients found the health services to be highly accessible, while 42.5% considered them moderately accessible. For effectiveness, 43% respondents reported the services as very effective, and 40.2% evaluated Puskesmas Jaddih provides excellent service in term of sustainability. The majority of respondent rated the security dimension as excellent (22.9%), while the comfort dimension was rated excellent (44.7%). For

information delivery, most respondent rated it as good (41.9%) while the others find it fair (16.8%). The overall service quality (SERVQUAL total) was perceived as excellent (45.3%). These findings indicate that the quality of health services at the Puskesmas Jaddih is considered quite satisfactory by the service user community, especially in aspects of health worker competence and dimensions of comfort and service accessibility.

Details of the assessment of the quality of health services based on patient perceptions can be seen in Table 2 below: The table summarizes key indicators that reflect patient satisfaction and trust. These findings provide important insights into areas that require improvement. Furthermore, the results highlight the relationship between perceived quality and service utilization.

Table 2. Quality of Health Services at Puskesmas Jaddih

Quality of Health Services	n	%
Competency Level		
Excellent	134	74.9
Good	42	23.5
Poor	3	1.7
Accessibility		
Highly accessible	77	43
Moderately accessible	76	42.5
Poorly accessible	26	14.5
Effectivity		
Very effective	77	43
Effective	75	41.9
Less effective	27	15.1
Sustainability		
Excellent	72	40.2
Good	79	44.1
Fair	28	15.6
Security		
Excellent	41	22.9
Good	104	58.1
Fair	34	19.0

Quality of Health Services	n	%
Comfortable		
Excellent	80	44.7
Good	70	39.1
Fair	29	16.2
Information		
Excellent	74	41.3
Good	75	41.9
Fair	30	16.8
SERVQUAL Total		
Excellent	81	45.3
Good	79	44.1
Fair	19	10.6

Based on further analysis, Table 3 presents the distribution of healthcare utilization by the community in the Puskesmas Jaddih working area. Most respondents (73.2%) were in the order category, which is utilizing health services at the Puskesmas Jaddih. A small proportion of respondents (8.9%) were in the recurring service requests category. Meanwhile, 17.9% of respondents

stated that they made recommendations or recommended services to other parties. These results indicate that the level of utilization of health services is still dominated by new users or those who only visit once, with a relatively low percentage of users who make repeat visits or recommending the service to other patients.

Table 3. Health Care Utilization at Puskesmas Jaddih

Health Care Utilization	n	%
Use the service	131	73.2
Recurring service requests	16	8.9
Giving recommendation to other patients	32	17.9

The results of the statistical analysis shown in Table 4 indicate that all dimensions of healthcare quality, including staff competence, affordability, effectiveness, continuity, safety, convenience, and information, have a significant relationship with healthcare utilization (p value < 0.05). Furthermore, analysis of the overall service quality assessment using the SERVQUAL method also showed a significant relationship with healthcare utilization (p value < 0.05). This indicates that the higher the community's perception of service quality, the higher the level of utilization of health services at Puskesmas Jaddih. The results of this study indicate that community perceptions of the quality of health services at Puskesmas Jaddih are quite high, especially in terms of the competence of health workers, affordability of services, and comfort and safety of facilities. Good service quality is one of the key factors in increasing utilization of health services at first-level facilities (Rumengan, Umboh and Kandou, 2015; Ariani, 2023; Zamzami and Hayat, 2023).

The dimension of health worker competence received the highest rating in the "very good" category (74.9%), indicating that the majority of patients believe in the professionalism and skills of health workers at Puskesmas Jaddih. Other aspects such as effectiveness, affordability, and convenience were also widely rated as "good" and "very good". This demonstrates that the fundamental

services provided adequately meet patient expectations across multiple service quality dimensions. Public trust in health workers is very important, because it can encourage the intention to use services repeatedly or suggest it to others (Sesrianty, Machmud and Yeni, 2019). People generally perceive quality healthcare as the ability of services to meet patients comprehensive needs. The needs in question include courtesy, timeliness, responsiveness, being able to restore patient complaints, and being able to prevent disease from developing (Paramesthi and Prayoga, 2023). Patients have the perception that good health services are services that can fulfill patient perceptions (Sesrianty, Machmud and Yeni, 2019). Despite the high perceived quality of services, the results show that most respondents are still at the initial utilization level (order), as many as 73.2%, while those who make repeat orders are only 8.9%, and those who make recommendations are 17.9%. This indicates that even though the service is considered good, the conversion into long-term utilization loyalty is still relatively low (Zahara, 2020). This phenomenon can be explained by considering external factors such as economic limitations, access to transportation, or other health service options in the region.

There was a significant association between all dimensions of health service quality and the level of service utilization ($p < 0.05$). This supports the hypothesis that service quality plays an important

role in encouraging health service utilization. The effectiveness dimension even showed a highly significant p value ($p=0.00$), which means that the community's perception that services at the health center are effective directly drives the decision to

reuse services or recommend them (Laila and Paramarta, 2024). When high-quality health services are provided, patient satisfaction tends to increase (Aribowo, Purwanda and Rahmi, 2024).

Table 4. Relationship between Quality of Health Services and Health Care Utilization at Puskesmas Jaddih

Quality of Health Services	Health Care Utilization						Total	P-value	Correlation Coefficient
	Use the service		Recurring Service Request		Giving recommendation to other patientsn				
	n	%	n	%	n	%			
Competency Level									
Excellent	104	58.10	14	7.82	16	8.94	134	0.007	0.200
Good	25	13.97	2	1.12	15	8.38	42		
Poor	2	1.12	0	0.00	1	0.56	3		
Accessibility									
Highly accessible	62	34.64	10	5.59	5	2.79	77	0.013	0.186
Moderately accessible	53	29.61	4	2.23	19	10.61	76		
Poorly accessible	16	8.94	2	1.12	8	4.47	26		
Effectivity									
Very effective	67	37.43	10	5.59	0	0.00	77	0.000	0.297
Effective	47	26.26	6	3.35	22	12.29	75		
Less effective	17	9.50	0	0.00	10	5.59	27		
Sustainability									
Excellent	62	34.64	7	3.91	3	1.68	72	0.003	0.221
Good	49	27.37	9	5.03	21	11.73	79		
Fair	20	11.17	0	0.00	8	4.47	28		
Security									
Excellent	36	20.11	3	1.68	2	1.12	41	0.028	0.164
Good	72	40.22	10	5.59	22	12.29	104		
Fair	23	12.85	3	1.68	8	4.47	34		
Comfortable									
Excellent	65	36.31	10	5.59	5	2.79	80	0.003	0.219
Good	49	27.37	5	2.79	16	8.94	70		
Fair	17	9.50	1	0.56	11	6.15	29		
Information									
Excellent	62	34.64	9	5.03	3	1.68	74	0.013	0.203
Good	47	26.26	6	3.35	22	12.29	75		
Fair	22	12.29	1	0.56	7	3.91	30		
SERVQUAL Total									
Excellent	68	37.99	9	5.03	4	2.23	81	0.006	0.203
Good	48	26.82	7	3.91	24	13.41	79		
Fair	15	8.38	0	0.00	4	2.23	19		

There was a significant association between all dimensions of health service quality and the level of service utilization ($p<0.05$). This supports the hypothesis that service quality plays an important role in encouraging health service utilization. The effectiveness dimension even showed a highly significant p value ($p=0.00$), indicating that community perceptions at the health center are effective directly influence their decisions to reuse

services or recommend them (Laila and Paramarta, 2024). When high-quality health services are provided, patient satisfaction tends to increase (Aribowo, Purwanda and Rahmi, 2024). Healthcare providers may enhance patient loyalty by consistently meeting or exceeding patient expectations (Zhou *et al.*, 2017).

The overall SERVQUAL assessment is also significantly related to health service utilization.

This is in line with other research findings which show that the higher the SERVQUAL assessment, the more likely people are to use and recommend services (Luhur, Nugroho and Suroso, 2023). The implementation of SERVQUAL provides healthcare managers with a systematic tool to identify weaknesses within clinic systems in clinic system and to strengthen the system. It is an essential component of the quality improvement process of the services provided (Al Fraihi, FAMCO and Latif, 2016).

These results have important implications for health service managers, especially in primary healthcare settings such as community health centers. Quality improvement needs to focus not only on technical aspects, but also on communication factors and service continuity to increase repeat orders and recommendations. Efforts such as increasing communication training for health workers, optimizing the referral system, and increasing service promotion can be strategies to increase utilization on an ongoing basis (Fadilla, 2021). Evaluating patient satisfaction is also essential since the improvement of healthcare service quality may need radical decisions when required (Pekkaya, Pulat İmamoğlu and Koca, 2019).

This study has limitations, including its geographically restricted setting (limited to a single community health center), as well as non-probabilistic sampling methods that limit the generalizability of the results. Nevertheless, the findings provide an important insight into the relationship between quality of care and health service utilization at the local level. Future research with a broader scope and more rigorous sampling techniques is recommended to strengthen the evidence.

CONCLUSION

This study demonstrates that the quality of health services at Puskesmas Jaddih, Bangkalan Regency, is generally perceived as good, particularly in the dimensions of health worker competence, service effectiveness, and convenience. The level of utilization of health services is still mostly in the initial utilization category (order), with a relatively low percentage of repeat visits (repeat order) and recommendations to others (recommendation). All dimensions of health service quality, including those measured using the SERVQUAL framework, showed a significant association with the level of healthcare utilization. These findings indicate that community perceptions play a critical role in influencing decisions to use, re-use, or recommend health services.

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Conflict of Interest and Funding Disclosure

None.

Author Contributions

RJ: Conceptualized the study, designed the methodology, and contributed to data collection and analysis. Drafted the initial manuscript and revised it critically for important intellectual content. ESD: Contributed to the study design, conducted data analysis, and interpreted the results. Assisted in drafting and revising the manuscript for important intellectual content. SS: Coordinated the research process, assisted with data collection, and provided valuable insights during the interpretation of the results. Contributed to the manuscript revisions and approved the final version.

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