IOSR Journal of Nursing and Health Science (IOSR-JNHS)
e-ISSN: 2320–1959.p- ISSN: 2320–1940 Volume 15, Issue 2 Ser. 1 (Mar. – Apr. 2026), PP 44-49
www.iosrjournals.org

Assessment Of Patient Satisfaction With The Quality Of Healthcare Services At Kajiado County Referral Hospital, Kenya

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Abstract:
Background: *Patient satisfaction is a pivotal indicator of healthcare quality and health system performance. In Kenya's devolved public hospitals, resource constraints and high patient volumes, and cultural diversity continue to affect service delivery. This study assessed patient satisfaction with healthcare services at Kajiado County Referral Hospital using the SERVQUAL model to identify quality gaps and predictors of satisfaction.*
Materials and Methods: *A mixed-methods cross-sectional design was employed from March to August 2025. Quantitative data were collected from 390 adult patients (98.2% response rate) using stratified systematic sampling and a structured SERVQUAL-based questionnaire. Qualitative data were obtained through six focus group discussions (48 participants) and 45 key informant interviews. SERVQUAL gap analysis, logistic regression, and thematic analysis were performed using SPSS version 26.*
Results: *Overall patient satisfaction was 67% (mean score 3.68 ± 0.98). Empathy recorded a positive gap (+0.21), while responsiveness (−1.79) and reliability (−1.59) showed the largest negative gaps ($p<0.001$). Significant predictors of satisfaction were rural residence (AOR = 3.12, 95% CI 2.20–4.40), first-time visit (AOR = 4.12, 95% CI 3.00–5.65), medicine availability (AOR = 2.10, 95% CI 1.50–2.95), and assurance of privacy (AOR = 2.03, 95% CI 1.45–2.85). Qualitative findings highlighted cultural sensitivity issues among the Maasai community and policy-related barriers in supply chains and staffing.*
Conclusion: *Patient satisfaction at Kajiado County Referral Hospital is moderate. While empathy and staff courtesy are strengths, reliability, responsiveness, medicine availability, and privacy require urgent improvement. Targeted interventions in staff training, supply chain management, and culturally sensitive care are recommended to advance universal health coverage goals under devolution.*
Key Words: *Patient satisfaction; SERVQUAL; Healthcare quality; Kajiado County Referral Hospital; Universal Health Coverage; Kenya*

Date of Submission: 05-03-2026 Date of Acceptance: 15-03-2026

I. Introduction

Patient satisfaction is a globally recognized indicator of healthcare quality and a critical driver of treatment adherence, loyalty, and health outcomes[4, 22]. In Kenya, devolution since 2013 transferred healthcare delivery to county governments, yet public facilities continue to face inadequate infrastructure, staffing shortages, and erratic medical supplies[3]. Kajiado County Referral Hospital (KCRH), a Level 5 facility serving a predominantly rural and Maasai population, experiences high patient volumes and resource constraints that affect service quality[7].

Despite national efforts toward Universal Health Coverage (UHC), context-specific evidence on patient satisfaction in peri-urban county referral hospitals remains limited. This study applied the SERVQUAL model[18] to measure service quality gaps and identify socio-demographic and health system predictors of satisfaction at KCRH, providing actionable evidence for quality improvement under Kenya's devolved health system.

II. Materials And Methods

This cross-sectional mixed-methods study was carried out at Kajiado County Referral Hospital (KCRH), Kajiado County, Kenya, between March 2025 and August 2025. A total of 390 adult patients (≥18 years) seeking outpatient, inpatient, and special clinic services were recruited into the study using stratified systematic sampling. Ethical approval was granted by the Kenyatta University Ethical Review Committee, the National Commission for Science, Technology and Innovation (NACOSTI), and the Kajiado County Health Department.

Study Design: A cross-sectional mixed-methods design was employed. Quantitative data constituted structured patient interviews based on the SERVQUAL model, while qualitative data were obtained through focus group discussions and key informant interviews with healthcare workers and administrators.

Study Location: The study was conducted at Kajiado County Referral Hospital, a Level 5 devolved public referral facility serving peri-urban and predominantly Maasai rural populations within Kajiado County. The hospital provides outpatient, inpatient, maternal, emergency, and specialized services.

Study Duration: The study was conducted over a period of six months, from March 2025 to August 2025.

Sample Size: A sample size of 390 respondents was used. The sample size was computed using Yamane's formula for finite populations with a 5% margin of error, 95% confidence level, and finite population correction factor of 0.968. The target monthly patient attendance was approximately 6,000.

Sample Size Calculation: Using the single proportion formula for a finite population (N = 6,042 per month) with e = 0.05, the minimum required sample was 375. To accommodate non-response, 390 respondents were finally recruited.

Subjects & Selection Method: The study population consisted of adult patients (≥18 years) attending outpatient, inpatient, and special clinics during the study period. Stratified systematic sampling was applied across service departments, followed by interval sampling proportional to departmental patient volumes. For the qualitative strand, six (6) focus group discussions involving 48 participants and 45 key informant interviews with nurses, clinical officers, medical officers, administrators, and patient representatives were conducted.

Inclusion Criteria

1. Adult patients aged 18 years and above.
2. Patients receiving services at outpatient, inpatient, or special clinics.
3. Patients who provided informed consent.
4. Patients able to communicate in English, Kiswahili, or Maa.
5. Patients who had completed a service encounter during the data collection period.

Exclusion Criteria

1. Patients in critical condition unable to participate.
2. Patients below 18 years.
3. Patients with cognitive impairment limiting ability to respond.
4. Visitors or caregivers who were not direct recipients of care.
5. Patients who declined consent.

Data Collection Tools

A modified SERVQUAL questionnaire was used containing:

- 22 expectation items and 22 perception items,
- 5-point Likert scale (1 = strongly disagree, 5 = strongly agree),
- sections on socio-demographics, health system factors, service experience, and overall satisfaction.

The tool demonstrated strong internal reliability (Cronbach's $\alpha = 0.89–0.94$).
A FGD guide and KII guide were used for qualitative data collection.

Procedure Methodology

After obtaining informed consent, patients completed interviewer-administered questionnaires immediately after receiving services. The SERVQUAL instrument assessed tangibility, reliability, responsiveness, assurance, and empathy by capturing both expected and perceived service levels.

FGDs lasted 45–60 minutes and were conducted in Kiswahili or English by trained facilitators. KIIs targeted key administrative and clinical staff involved in service delivery, triage, pharmacy, laboratory, nursing, and outpatient care.
Data quality was ensured through daily verification, pretesting, and field supervision.

Data Analysis

Quantitative data were entered into SPSS version 26. Analysis included:

- Descriptive statistics (means, SD, frequencies, percentages);
- Paired t-tests comparing perceptions vs expectations for SERVQUAL gap scores;

- Binary logistic regression to assess predictors of satisfaction (dichotomized into satisfied/very satisfied vs neutral/dissatisfied);
- 95% confidence intervals and $p < 0.05$ as significance level.

Qualitative data were transcribed, translated, and analyzed thematically following Braun and Clarke's framework. Triangulation was applied to validate findings.

III. Results

As shown in Table 1, most respondents were female (69.2%) and aged 26–45 years (50.6%), with 15.9% above 55 years. In terms of education, 36.4% had secondary, 32.1% college/university, 20.0% no formal, and 11.5% primary education. The majority were married (83.3%), while 13.3% were single, 2.3% divorced, and 1.0% widowed. Nearly half were self-employed (45.8%), with others unemployed (25.0%), employed (14.6%), or in other occupations (14.6%). Most earned Ksh. 5,000–25,000 (40.8%), while only 4.1% earned above Ksh. 65,000. A majority lived in rural areas (64.9%) and mainly sought outpatient services (84.1%). Religiously, 52.3% were Protestants, 31.5% other Christian denominations, 15.1% Muslims, and 1.0% Orthodox.

Table 1: Socio-demographic Characteristics (n=390)

Characteristic	Category	Frequency (n=390	Percent (%)
Sex	Male	120	30.8
	Female	270	69.2
Age (years)	18-25	51	13.1
	26-35	102	26.2
	36-45	95	24.4
	46-55	80	20.5
	Over 55 years	62	15.9
Level of education	No formal Education	78	20.0
	Primary	45	11.5
	Secondary	142	36.4
	College/ University	125	32.1
Marital Status	Married	325	83.3
	Single	52	13.3
	Divorced	9	2.3
	Widowed	4	1.0
Occupation	Employed	56	14.6
	Self-employed	176	45.8
	Unemployed	96	25.0
	Other (Student, daily laborer, housemaid)	48	14.6
Average monthly income	< Ksh.5000	58	14.9
	Ksh.5000 - 25,000	159	40.8
	Ksh.25,000 - 45,000	100	25.6
	Ksh.45,000 – 65,000	57	14.6
	> Ksh.65,000	16	4.1
Residence	Rural	253	64.9
	Urban	137	35.1
Department/ Unit attended	Outpatient	328	84.1
	Special Clinics	31	7.9
	Inpatient	31	7.9
Religion	Muslim	59	15.1
	Protestant	204	52.3
	Orthodox	4	1.0
	Other (Catholic, SDA, ACK)	123	31.5

Overall Patient Satisfaction

As shown in Table 2, most respondents reported being satisfied (47.7%) or very satisfied (19.5%), giving an overall satisfaction of 67%, with a mean satisfaction score of 3.68 ± 0.98. Only 3.1% were very dissatisfied, while 12.3% were dissatisfied.

Table 2: Overall Patient Satisfaction

Indicator	Frequency	%
Very dissatisfied	12	3.1
Dissatisfied	48	12.3
Neutral	68	17.4
Satisfied	186	47.7

Indicator	Frequency	%
Very satisfied	76	19.5
Total	**390**	**100**
Mean score ± SD	3.68 ± 0.98	

Overall satisfaction = 67%.

SERVQUAL Gap Scores

Table 3 summarizes the SERVQUAL gaps. Empathy recorded a positive gap (+0.21), indicating that perceptions exceeded expectations. Tangibility (−1.27), reliability (−1.59), and responsiveness (−1.79) showed the largest negative gaps, all statistically significant ($p < 0.001$).

Table 3: SERVQUAL Gap Scores Summary

Dimension	Perception	Expectation	Gap	p-value
Tangibility	3.41	4.68	–1.27	<0.001
Reliability	3.22	4.81	–1.59	<0.001
Responsiveness	3.01	4.80	–1.79	<0.001
Assurance	3.68	4.72	–1.04	<0.001
Empathy	3.92	3.71	+0.21	<0.001
Overall	**3.45**	**4.54**	**–1.09**	

Predictors of Patient Satisfaction (Binary Logistic Regression)

Tables 4 and 5 present the logistic regression results. Among patient-related factors, rural residence (AOR 3.12), first-time visit (AOR 4.12), and attendance at special clinics (AOR 2.45) significantly increased the likelihood of satisfaction.

Regarding health system factors, medicine availability (AOR 2.10), assurance of privacy (AOR 2.03), and staff competence (AOR 1.88) were significant predictors.

Table 4: Logistic Regression – Patient Factors

Variable	AOR	95% CI	p-value
Rural residence	3.12	2.20–4.40	0.022
First-time visit	4.12	3.00–5.65	<0.001
Special clinic	2.45	1.68–3.58	0.015

Table 5: Logistic Regression – Health System Factors

Variable	AOR	95% CI	p-value
Medicine availability	2.10	1.50–2.95	<0.001
Privacy assured	2.03	1.45–2.85	<0.001
Staff competence	1.88	1.22–2.67	0.003

IV. Discussion

The overall patient satisfaction of 67% observed at Kajiado County Referral Hospital reflects moderate performance in a resource-constrained, devolved public health system. This figure is broadly consistent with satisfaction levels reported in other East African public hospitals (60–75%)[11,20,5] and aligns closely with the 68% reported in Korean public facilities [15], but falls short of the 76% achieved at Nakuru Level 5 Hospital in Kenya [7]. The relatively lower score in Kajiado is partly explained by its predominantly rural and Maasai patient population (63.6%), who face longer travel distances and higher opportunity costs, yet paradoxically report higher satisfaction owing to lower prior expectations and gratitude for any access to secondary-level care[4]. These findings lend empirical support to Oliver's (1980) Expectations–Perceptions Theory: when expectations are modest, even modest service delivery can generate positive disconfirmation and higher perceived satisfaction[16].

The SERVQUAL gap analysis revealed empathy as the only dimension exceeding patient expectations (+0.21), while responsiveness (−1.79) and reliability (−1.59) recorded the largest negative gaps. These patterns mirror those documented in Kenyan national referral hospitals [12] and across sub-Saharan Africa[23]. Empathy and assurance—both rooted in interpersonal interactions—emerged as clear strengths, corroborating Relationship Marketing Theory[6], which posits that courteous, individualized care fosters trust and loyalty even when structural deficiencies exist. In contrast, persistent negative gaps in responsiveness and reliability reflect systemic

bottlenecks: chronic understaffing, erratic drug supplies, and inefficient triage and queue systems. These process failures erode trust and directly undermine Kenya's Universal Health Coverage aspirations articulated in the Health Sector Strategic Plan (2023–2028) and the Primary Care Networks framework.

Patient-related factors further modulated satisfaction. First-time visitors (AOR 4.12–5.76) and rural residents (AOR 3.12–3.49) were significantly more satisfied than repeat and urban patients. This paradox has been consistently reported in low- and middle-income settings [4,20] and is attributable to lower baseline expectations among rural and first-time patients, coupled with relief at finally accessing referral-level care. Repeat visitors, having experienced previous delays and stock-outs, exhibit expectation escalation and greater disappointment when services fall short again. These findings underscore the need for targeted orientation programs for first-time patients and deliberate outreach and referral feedback loops to sustain satisfaction among rural communities.

Among health system factors, medicine availability (AOR 2.10–2.72) and assurance of privacy (AOR 2.03–1.94) emerged as the strongest independent predictors of satisfaction, outperforming waiting time and laboratory access. Drug stock-outs remain one of the most visible failures of Kenya's devolved supply-chain system and directly contravene patients' core expectations of receiving prescribed treatment[13]. Similarly, breaches of privacy—frequently cited in focus groups, especially during consultations and examinations—violate cultural norms among the Maasai and erode trust. These results align closely with Donabedian's process and outcome constructs and reinforce evidence from Ethiopia, Ghana, and Nigeria that structural inputs (drugs, confidentiality) often outweigh interpersonal domains in resource-limited settings[2,23,10,9].

Qualitative insights enriched the quantitative findings by highlighting contextual nuances: participants repeatedly praised staff courtesy despite heavy workloads, yet expressed frustration over prolonged waiting times, frequent drug shortages, and perceived neglect of cultural practices (e.g., gender preferences in examination, traditional birth attendants). These themes illustrate how national policies and local cultural norms act as powerful intervening variables in the conceptual framework, moderating the relationship between service delivery and satisfaction.

In summary, while interpersonal care at Kajiado County Referral Hospital remains a notable strength, systemic deficiencies in responsiveness, reliability, medicine availability, and privacy constitute the primary barriers to achieving higher satisfaction levels. Addressing these gaps through strengthened supply-chain governance, queue management systems, privacy-enhancing infrastructure, continuous staff training in responsiveness and cultural competence, and community engagement initiatives targeting the Maasai population will be critical to raising satisfaction toward the 80% benchmark required for sustainable progress toward Universal Health Coverage under Kenya's devolved health system.

V. Conclusion

Patient satisfaction at Kajiado County Referral Hospital stands at 67%, with empathy and staff courtesy as clear strengths and responsiveness, reliability, medicine availability, and privacy as major weaknesses. Addressing these gaps through strengthened supply-chain governance, queue management systems, privacy-enhancing infrastructure, continuous staff training in responsiveness and cultural competence, and community engagement initiatives targeting the local population will be critical to raising satisfaction toward the 80% benchmark required for sustainable progress toward Universal Health Coverage under Kenya's devolved health system.

To operationalize these, we recommend: (1) improving medicine availability through efficient supply chain systems; (2) reducing waiting times via queue optimization and triaging; (3) strengthening communication and staff responsiveness; and (4) enhancing privacy measures across service points.

Acknowledgements

The authors wish to thank the management and staff of Kajiado County Referral Hospital for facilitating data collection, the patients who participated in the study, and Prof. George O. Otieno and Prof. Mohamed Karama for their academic supervision and guidance throughout the research.

Conflict of Interest

The authors declare no conflict of interest.

Funding

This study was self-funded.

Limitations

The study relied on self-reported data, which may introduce social desirability and recall bias. Additionally, being a single-site study at a Level-5 referral hospital, the findings may not be fully generalizable to lower-level facilities or private hospitals in Kenya.

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