WWW.IJRPR.COM

International Journal of Research Publication and Reviews

Journal homepage: www.ijrpr.com ISSN 2582-7421

Patient Perspectives on Quality: Assessing Outpatient Services in Government-Absorbed Estate Healthcare Institutions in Kalutara District

Nirosha Thotagamuwa [a], Paul Roshan G.[a]*, Dissanayake K.B.C.P.K.[a], Denuwara L.B.H.[a]

[a] Ministry of Health, Sri Lanka

DOI : https://doi.org/10.55248/gengpi.6.0125.0205

A B S T R A C T

Introduction: Quality healthcare is a cornerstone of patient satisfaction and service delivery, with outpatient departments (OPDs) serving as critical entry points to curative care. This study assesses the quality of OPD services in government-absorbed estate healthcare institutions in Kalutara District, addressing the policy-driven integration of estate hospitals into the national health system.

Objectives: Five objectives were explored: (1) describe the socio-demographic characteristics of patients, (2) analyse service quality using the SERQUAL model, (3) evaluate patients' expectations, (4) assess patients' perceptions, and (5) identify gaps between expectations and perceptions of service quality.

Methodology: A descriptive cross-sectional study employed the SERQUAL model's five dimensions. Data were collected via pre-tested interviewer-administered questionnaires from 422 randomly selected patients (response rate: 95.5%). Statistical analysis included descriptive methods, t-tests, and ANOVA using SPSS.

Results: Patients were predominantly rural, married Sinhalese males. Tangibility had the highest expectation score (5.774), while assurance scored lowest. Perception scores were highest for reliability (5.033) and lowest for tangibility (4.309). The largest gap was observed in tangibility (-1.4648). Overall service quality revealed a significant gap (-0.943).

Conclusion and Recommendations: A notable disparity exists between patients' expectations and perceptions. Regular evaluation using SERQUAL is essential for improving service quality and patient satisfaction. Similar studies in other regions are recommended.

Keywords: Outpatient Service Quality, Patient Perceptions, Government-Absorbed Estate Hospitals, SERQUAL Model, Healthcare Evaluation

1. Introduction

Health is defined by the World Health Organization (WHO) as "a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity" (World Health Organization, 2024). Achieving better health is pivotal not only for personal well-being but also for economic progress, as healthier populations tend to live longer, be more productive, and save more. The United Nations' Sustainable Development Goal 3 aims to ensure healthy lives and promote well-being for all, further emphasising the importance of healthcare in shaping global development (United Nations, 2023).

Healthcare encompasses the prevention, diagnosis, treatment, and recovery from diseases and health issues. Access to healthcare, however, varies across different communities and is influenced by socio-economic conditions and health policies. In this context, primary healthcare plays a vital role, as it offers integrated, accessible services that address the majority of a community's health needs and fosters sustained partnerships between patients and clinicians (Greenhalgh, 2007).

Quality in Healthcare

Quality in healthcare refers to the application of medical science and technology in a manner that maximizes benefits without significantly increasing risks. Donabedian's framework for healthcare quality emphasises this balance and underscores the complexity of achieving high service standards. Patient satisfaction and the perception of service quality are closely tied to healthcare outcomes, as patients' views on the healthcare environment and staff interactions significantly impact the hospital's image and the perceived efficiency of services (Pakdil & Harwood, 2005).

Given the intangible nature of healthcare services—such as the skills of medical staff, hospital environment, and patient care—assessing service quality from a patient's perspective is crucial. Patients' perceptions are shaped by factors such as the cleanliness of the facility, the professionalism of staff, and

the quality of medical care received. Thus, understanding these perceptions is vital for improving healthcare delivery and meeting patient expectations (Arun kumar G et al., 2012).

Service Quality Assessment

Service quality in healthcare is often evaluated using models like SERVQUAL, which measures patient satisfaction across five dimensions: Tangibility, Reliability, Responsiveness, Empathy, and Assurance. Studies have shown that the reliability dimension, which assesses the ability to perform promised services dependably and accurately, is a key determinant of patient satisfaction (Seth et al., 2005).

The assessment of service quality is essential for healthcare organisations to identify areas for improvement, measure satisfaction levels, and adapt to evolving patient needs. In Sri Lanka, service quality in healthcare is a critical concern, especially as the nation seeks to expand and improve its primary healthcare system (Tsai et al., 2018).

Healthcare System in Sri Lanka

Sri Lanka's healthcare system includes a mix of Western medicine, Ayurveda, Unani, Siddha, Homeopathy, and Acupuncture. Western medicine, however, is the dominant system. The public sector primarily focuses on inpatient care, while both the public and private sectors offer outpatient services. Primary healthcare in Sri Lanka is provided through Primary Medical Care Units (PMCU), Divisional Hospitals (DH), and outpatient departments across various levels of healthcare institutions. The government aims to deliver quality healthcare through these units, especially to underserved populations (Medical Statistics Unit Ministry of Health, 2021).

In line with the National Strategic Master Plan (2016-2025), the Sri Lankan government has made significant strides in strengthening primary healthcare services, focusing on disease prevention and health promotion, which are integral to the country's health system (Management Development and Planning Unit Ministry of Health Sri Lanka, 2018).

Estate Health Sector in Sri Lanka

Sri Lanka's estate sector, comprising plantations of tea, rubber, and coconut, is home to approximately 0.9 million people, many of whom face socio-economic challenges, including inadequate housing, poor sanitation, and limited access to quality healthcare (World Bank Group, 2017) . Estate hospitals were historically under the management of estate companies, but since 1994, many of these hospitals have been absorbed into the national healthcare system.

The Sri Lankan government has recognized the estate population as a vulnerable group, particularly regarding their health needs. Despite efforts to improve healthcare services in these regions, challenges persist, including high infant mortality rates and poor nutritional status among children and pregnant women in estate areas. The National Health Policy (2016-2025) emphasizes the equitable provision of healthcare services to the estate population, but there is a lack of research on the quality of healthcare services in government-absorbed estate hospitals (Ministry of Hill Country New Villages, 2018).

Justification

The estate population faces significant health challenges, exacerbated by poor socio-economic conditions and limited access to quality healthcare services. With rising healthcare expectations and an increasing tendency for patients to seek care in private hospitals or higher-tier public hospitals, ensuring consistent and high-quality care in estate healthcare facilities is crucial. However, no study has yet assessed the quality of services in government-absorbed estate hospitals, making it essential to evaluate patient perceptions of healthcare quality in these settings.

Given the commitment of the Sri Lankan government to improve primary healthcare services, particularly in estate areas, this study seeks to assess the quality of outpatient services provided at government-absorbed estate hospitals in Kalutara District. By understanding patient perspectives on healthcare quality, this research aims to provide insights that will inform future improvements in service delivery, addressing gaps in the healthcare system, and ensuring that the estate population receives care of comparable quality to other regions.

Problem Statement

Despite the government's policy to integrate estate healthcare services into the national healthcare system, there is a lack of studies evaluating the quality of services in these newly absorbed hospitals. As a result, it is necessary to assess the service quality in these institutions and determine if there exists a gap in healthcare delivery, especially in comparison to other primary healthcare settings in Sri Lanka.

Objective

The objective of this study is to assess the quality of outpatient services in selected primary healthcare institutions (PHCIs) in Kalutara district, by examining the socio-demographic factors of patients, evaluating service quality through the SERVQUAL model, and identifying gaps between patient expectations and perceptions of service quality.

Literature Review

Service quality is a multifaceted concept that is critical in assessing healthcare systems, particularly in primary healthcare institutions (PHCIs). While quality in manufacturing is typically defined as the degree of excellence and the absence of defects, in services, it is more complex due to factors such as intangibility, heterogeneity, and perishability (Parasuraman et al., 1985). In healthcare, quality is often linked to patient satisfaction and is not solely determined by the availability of expensive treatments but rather by the effectiveness of care within the available resources (Jayasinghe, 2007). Health services are consumed simultaneously with their production, making it difficult for patients to assess quality before receiving care (Mosadeghrad, 2013).

To measure service quality, various models have been developed, including the widely used SERVQUAL model by Parasuraman et al. (1985), which assesses quality based on the gap between customer expectations and perceptions. The SERVQUAL model evaluates five key dimensions: tangibility, reliability, responsiveness, assurance, and empathy. These dimensions help to understand how healthcare providers can meet or exceed patient expectations (Parasuraman et al., 1988) . Understanding these frameworks is essential for improving the quality of healthcare services, especially in primary healthcare settings where patient satisfaction and accessibility are pivotal.

2. Methodology

2.1 Study Design

This was a descriptive, cross-sectional study conducted in outpatient departments (OPDs) of government-absorbed estate hospitals in the Kalutara District, Sri Lanka. The descriptive design was chosen to evaluate patients' perceptions and expectations of service quality, aligning with the study's objectives. A cross-sectional approach was utilized due to time and resource constraints, enabling the collection of primary data using interviewer-administered questionnaires and checklists. The SERVQUAL model, adapted for the local context, was employed to measure service quality.

2.2 Study Setting

The study was carried out in three government-absorbed estate hospitals functioning as primary healthcare institutions (PHCIs) in Kalutara District: Geekiyanakanda, New Chattle, and Pocesstor hospitals. These hospitals primarily cater to the estate population while also serving adjacent rural areas. Geekiyanakanda and New Chattle operate as Divisional Hospitals (Type C), while Pocesstor functions as a Primary Medical Care Unit. Data were collected over ten working days in May and June 2019.

2.3 Study Population and Selection Criteria

The study population included patients attending the OPDs of these three hospitals during the data collection period.

Inclusion criteria:

- Patients aged 18 years or older.
- Guardians accompanying children under 18 years.

Exclusion criteria:

- Critically ill patients or those unable to respond.
- Patients attending OPDs for follow-up visits or test result reviews.
- Hospital staff members.

2.4 Sampling Technique

A sample size of 422 was determined using standard sample size calculation formulas, accounting for a 10% non-response rate. Systematic random sampling was employed to select participants. Using daily OPD attendance registers as the sampling frame, every third eligible patient was selected after a random starting point, excluding those who met the exclusion criteria. The sample size for each hospital was proportional to its average daily OPD attendance.

2.5 Study Instrument

Data were collected using a pre-tested interviewer-administered questionnaire and a checklist:

Questionnaire:

- Developed based on the SERVQUAL model and prior Sri Lankan studies.
- Comprised three sections: demographic details, expectations, and perceptions of service quality.

- Included five dimensions of service quality: tangibility, reliability, responsiveness, assurance, and empathy, with 31 closed-ended items rated on a six-point Likert scale.
- The questionnaire was prepared in English, translated into Sinhala and Tamil, and validated through face and content validation. Pretesting in a comparable setting led to refinements for clarity and contextual relevance.

Checklist:

- Assessed OPD resources and service-related characteristics, validated by experts and pretested in a similar healthcare setting.

2.6 Data Collection

Two trained pre-intern medical officers, proficient in Sinhala, Tamil, and English, assisted the principal investigator in data collection. Interviews were conducted after patients received care, ensuring unbiased responses. Each interviewer administered approximately 15 questionnaires per day, with sessions conducted during OPD operating hours. Written informed consent was obtained before participation.

2.7 Data Analysis

Data were analysed using SPSS software. Descriptive statistics summarized demographic data. Service quality was calculated using the SERVQUAL model by subtracting the perception score from the expectation score for each dimension.

2.8 Ethical Considerations

Ethical approval was obtained from the Postgraduate Institute of Medicine, University of Colombo. Participation was voluntary, with no risks or incentives involved. Confidentiality was strictly maintained, and participants were assured of equitable treatment regardless of their decision to participate.

3. Results

This cross-sectional study evaluated the perceived and expected quality of outpatient department (OPD) services at selected primary healthcare institutions in the Kalutara District. Using an interviewer-administered questionnaire, data were collected on service quality gaps and analysed with descriptive statistics, frequency distributions, and t-tests using SPSS. Of the 422 respondents sampled, 405 adequately completed the questionnaire, yielding a response rate of 95.97%.

3.1 Socio-Demographic Profile of Respondents

Age Distribution

The respondents ranged in age from 18 to 85 years, with a mean age of 49.28 years (SD = 16.86).

Gender

Males represented 63.5% of respondents, while females accounted for 36.5%.

Civil Status

Most respondents (76.3%) were married. Unmarried individuals made up 15.2%, while 8.1% were widowed.

Ethnicity

The majority of respondents (64.9%) were Sinhalese, followed by Tamils (27.5%) and Moors (7.6%).

Religion

Buddhists accounted for 64.9% of participants, while Hindus (19.2%), Christians (8.2%), and Muslims (7.7%) formed the remaining groups.

Residential Distribution

Nearly 70% of respondents resided in rural areas, with 30.3% living in estate areas. Only 0.2% lived in urban areas.

Education

About 9% of respondents had never attended school. The largest proportion (30%) had studied up to the Ordinary Level (O/L), while only 1% held a degree or diploma.

Employment and Income

A majority (55.8%) of respondents were unemployed, including housewives, students, and pensioners. Among the employed (44.2%), occupations were distributed across estate (34.6%), self-employment (33.5%), government (16.2%), and private sectors (15.6%).

Monthly income levels varied, with 10.7% earning less than Rs. 5,000 and 10.9% earning more than Rs. 40,000. The largest income group (14.5%) earned between Rs. 10,000 and Rs. 15,000.

Mode of Travel

Walking was the most common mode of travel to the hospital (42.2%), followed by three-wheelers (28.4%) and motorcycles (21%). Public transport was used by 8.1%.

Frequency of Hospital Visits

The majority of respondents (88.1%) had visited the hospital more than three times, indicating familiarity with the services.

Reasons for Choosing Hospitals

Most respondents chose the hospitals due to good care (53%) and easy access (42%), with only 4% citing affordability as the primary reason.

3.2 Service Quality Assessment

The SERVQUAL model was used to assess service quality based on five dimensions: tangibles, reliability, responsiveness, assurance, and empathy. Composite variables were created for expected and perceived service quality. Each dimension was examined for expectation and perception gaps to identify areas of improvement.

3.3 Facility-Specific Assessments

- Geekiyanakanda Hospital
    - Key Observations: The most expected attribute was responsiveness ("Staff should give clear instructions regarding further management"), while the least perceived was reliability ("Staff examined patients carefully before diagnosis").
    - Gaps: The largest gap was observed for tangibles, with an overall service quality gap of -1.47.
- Newchattle Hospital
    - Key Observations: The most expected attribute was punctuality ("Staff should be on time"), while the least perceived attributes were related to information sharing and patient examination.
    - Gaps: The largest gap was in responsiveness, with an overall service quality gap of -1.04.
- Pocesstor Hospital
    - Key Observations: Attributes related to adequate medical information were least perceived.
    - Gaps: Reliability showed the largest gap, with an overall service quality gap of -1.97.

3.4 Overall Service Quality

Expected Service Quality

The highest expectations were noted for empathy-related items (e.g., personalised attention from staff). Tangibles, such as the availability of visually impressive physical facilities, had the lowest expectation scores.

Perceived Service Quality

Respondents rated tangible aspects, such as infrastructure and up-to-date equipment, as the least satisfactory. Empathy and assurance dimensions received relatively higher ratings but still fell short of expectations.

Gap Analysis

The overall service quality gap for all hospitals combined was negative, indicating that perceptions consistently fell short of expectations across all dimensions.

3.5 Paired t-Test Results: Expectations vs. Perceptions

The paired t-test revealed significant differences between patient expectations and perceptions for all five dimensions of service quality ($p < 0.05$).

- Tangibles: The mean difference was -1.46, indicating that patients' perceptions of tangible aspects of service were significantly lower than their expectations.
- Reliability: The mean difference was -0.74, showing a considerable gap between what patients expected in terms of reliability and what was delivered.
- Responsiveness: A gap of -0.83 was identified, highlighting issues in promptness and readiness to assist.
- Assurance: A gap of -0.83 was also found, suggesting perceived deficiencies in staff competence and confidence-building measures.
- Empathy: The gap of -0.85 pointed to shortcomings in personalised attention and care.

These significant differences ($p < 0.001$ for all dimensions) underscore a systemic shortfall in meeting patient expectations.

3.6 Association Between Socio-Demographic Variables and Service Quality Gap

1. Gender:

Independent t-tests showed no significant association between gender and service quality gap across all dimensions ($p > 0.05$).

2. Age:

ANOVA results indicated significant associations between age and the service quality gap in four dimensions—Tangibles, Reliability, Responsiveness, and Empathy ($p < 0.05$). Assurance was the only dimension without a significant association ($p = 0.073$).

3. Civil Status:

No significant association was found between civil status and service quality gap for any dimension ($p > 0.05$).

4. Ethnicity:

A significant association was observed between ethnicity and service quality gap across all dimensions ($p < 0.001$). Ethnic differences could point to cultural variations in expectations or differences in the accessibility and quality of healthcare services.

5. Place of Residence:

Patients living in rural areas reported higher service quality gaps across all dimensions compared to those in estate areas ($p < 0.001$). This highlights geographic disparities in service delivery, with rural patients experiencing greater dissatisfaction.

6. Educational Level:

There was no significant association between educational level and service quality gap in the Tangibles and Assurance dimensions ($p > 0.05$). However, significant associations were noted for Reliability, Responsiveness, and Empathy ($p < 0.05$), suggesting that education may influence how certain aspects of service are perceived.

7. Income:

No significant association was found between income level and service quality gap across all dimensions ($p > 0.05$).

8. Employment Status:

Employment status showed a significant association with service quality gap for all dimensions ($p < 0.05$), indicating potential differences in expectations and perceptions based on occupational exposure to healthcare systems.

4. Discussion

This study assessed the perceived and expected quality of services at government-absorbed estate hospitals in the Kalutara district, using the SERVQUAL model. The study's findings revealed a significant negative gap between patient expectations and perceptions across all dimensions of service quality, with an overall service quality gap of -0.943. The largest gap was observed in the Tangibles dimension, particularly due to inadequate equipment, human resources, and space in waiting areas, consistent with findings from similar studies in Sri Lankan outpatient settings and rural hospitals in India.

Expectations were highest for the Tangibles dimension and lowest for Assurance, aligning with studies in other outpatient and rural settings. However, perceptions ranked highest in the Reliability dimension, indicating that while patients appreciated consistent and dependable care, aspects such as responsiveness and empathy remained areas of concern. This pattern reflects broader challenges in aligning service delivery with patient expectations in primary healthcare institutions.

The study also identified significant associations between service quality gaps and sociodemographic factors. Ethnicity, residence type, occupation, and education levels influenced service quality perceptions, with rural residents and those with lower education levels reporting larger gaps. These findings highlight inequities in service delivery and emphasise the need for targeted interventions to address the needs of vulnerable populations.

Limitations of the study, including its focus on a single administrative district and outpatient settings, constrain the generalizability of results to the national level. Nevertheless, this research provides critical insights into the quality gaps in primary healthcare and highlights the urgent need for resource allocation and infrastructure development to improve service quality in government-absorbed estate hospitals.

5. Conclusion and Recommendations

This study highlights significant negative gaps in service quality perceptions across all five dimensions of the SERVQUAL model in government-absorbed estate hospitals. The findings underscore the need for targeted improvements in areas such as timely staff presence, patient communication, up-to-date equipment, and adequate waiting area facilities. Addressing high-expectation and low-perception items is critical for reducing service quality gaps and enhancing patient satisfaction.

Key recommendations include continuous monitoring and assessment of service quality, staff training to improve communication and empathy, and regular supervision to address issues of staff punctuality and resource availability. Investments in basic infrastructure and equipment are essential to meet patient expectations. Periodic evaluations using the SERVQUAL model can track improvements and guide management efforts. Expanding similar studies to other plantation districts will provide broader insights and support the strengthening of primary healthcare services nationwide.

Acknowledgements

The authors extend sincere gratitude to Dr. H.M.L.B.H. Denuwara for invaluable guidance and motivation throughout the study. Special thanks are also due to Dr. S. Sridaran and Dr. Chulanee Gunasekara for their encouragement and support. Acknowledgement is given to health authorities in the Kalutara District and all contributors who facilitated the research. The authors appreciate the constructive input from teachers, colleagues, and peers.

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