SERVICE QUALITY AND PATIENT SATISFACTION IN MEDICAL TOURISM: AN EMPIRICAL STUDY OF HEALTHCARE INSTITUTIONS IN VELLORE DISTRICT

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ABSTRACT

Medical tourism has become a rapidly expanding sector in India, with Vellore emerging as a preferred destination for advanced and affordable healthcare services. This study examines the relationship between service quality and patient satisfaction among medical tourists visiting multi-speciality hospitals in Vellore District. Primary data were collected from 100 respondents using a structured questionnaire based on a five-point Likert scale. Service quality was measured across dimensions such as tangibles, reliability, responsiveness, assurance and empathy, while patient satisfaction was assessed in terms of overall treatment experience, trust, perceived value and intention to revisit or recommend. The findings reveal that all dimensions of service quality scored significantly above the neutral benchmark, with assurance and reliability emerging as the strongest predictors of satisfaction. The study concludes that superior service delivery and patient-centred care play a pivotal role in enhancing satisfaction and sustaining Vellore's position as a competitive medical tourism hub.

Keywords: Service Quality; Patient Satisfaction; Medical Tourism.

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1. INTRODUCTION

Medical tourism has emerged as a rapidly expanding global industry in which patients travel across regions or countries to obtain healthcare services that combine medical treatment with destination-based advantages. India, in particular, has positioned itself as a preferred destination for affordable and specialised healthcare supported by world-class medical expertise, advanced technology, and competitive pricing. Within this backdrop, Vellore District has gained international recognition for its distinguished healthcare institutions and the consistent inflow of domestic as well as foreign medical tourists. The increasing demand for medical tourism reinforces the need to evaluate the quality of healthcare services provided and the resulting level of patient satisfaction, which determine the long-term sustainability and competitiveness of this sector. Service quality is a critical determinant of patients' perceptions toward healthcare delivery because it encompasses tangible facilities, professional competence, reliability, responsiveness, and emotional support. Patient satisfaction, in turn, reflects the overall experience of care, value for money, and likelihood of recommendation or return. Understanding the link between service quality and patient satisfaction among medical tourists in Vellore is essential for designing strategies to enhance healthcare excellence, build institutional reputation, and strengthen the district's position as a global medical tourism hub.

2. MEANING OF SERVICE QUALITY, PATIENT SATISFACTION AND MEDICAL TOURISM

Service Quality:

Service quality refers to the extent to which healthcare services meet or exceed the expectations of patients. It includes physical infrastructure, diagnostic accuracy, professional competence, responsiveness, communication, empathy and overall reliability during the treatment process.

Patient Satisfaction:

Patient satisfaction denotes the degree of contentment experienced by patients after receiving healthcare services. It reflects their perception of care outcomes, comfort, value for money, fulfilment of expectations, and willingness to revisit or recommend the hospital to others.

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Medical Tourism:

Medical tourism is the process of travelling outside one's usual place of residence to receive medical treatment, while also utilising ancillary services such as travel, accommodation, shopping and leisure activities during the treatment stay.

3. **FACTORS INFLUENCING SERVICE QUALITY AND PATIENT SATISFACTION IN MEDICAL TOURISM**

- **Professional Competence of Doctors and Nurses** – The skills, expertise and accuracy of treatment provided by healthcare professionals strongly influence patient trust and perceived service quality.

- **Modern Medical Technology and Diagnostic Facilities** – Availability of advanced equipment, specialised treatment facilities and precision in diagnostics enhance the credibility of healthcare services.

- **Responsiveness of Staff** – Prompt attention to patient needs, timely responses to queries and quick handling of medical procedures contribute to a positive service experience.

- **Communication and Information Transparency** – Clear explanation of diagnosis, treatment procedures, costs and expected recovery builds confidence and reduces patient anxiety.

- **Physical Environment and Cleanliness** – Hygiene, maintenance of wards, restrooms, waiting areas and overall safety of the hospital environment shape patient comfort and satisfaction.

- **Empathy and Personalised Care** – Courtesy, emotional support, respect and individual attention given by staff create a sense of care and belonging among medical tourists.

- **Waiting Time and Scheduling Efficiency** – Shorter waiting times for consultation, test results and procedures significantly influence perceived service efficiency.

- **Affordability and Value for Money** – Reasonable cost of treatment in comparison to service outcomes and facilities enhances satisfaction and drives medical tourists to choose a particular destination.

- **Administrative Convenience** – Smooth processes related to registration, admission, billing and discharge reduce stress and improve patient experience.

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- **Support Services and Accessibility** – Assistance for language translation, lodging, food, transportation and international patient support desks help medical tourists manage their stay comfortably.

- **Hospital Reputation and Word-of-Mouth** – Institutional image, accreditation, recommendations from former patients and perceived brand value influence expectations and satisfaction levels.

4. REVIEW OF LITERATURE

Research on service quality and patient satisfaction in healthcare consistently highlights that service performance is a crucial driver of favourable patient outcomes and loyalty. Al-Ababneh (2019) emphasised that service quality in healthcare is multidimensional, requiring continuous assessment to meet patient expectations. Parasuraman, Zeithaml and Berry (2018) reaffirmed the SERVQUAL framework as a reliable tool to measure healthcare quality across dimensions such as tangibles, reliability, responsiveness, assurance and empathy. In line with this, Amin and Nasharuddin (2018) found that higher hospital service quality significantly enhances patient satisfaction and behavioural intentions. Studies in the medical tourism context also support this trend. Ahmed and Sathish (2020) reported that service quality strongly shapes patient perceptions and destination choice among international medical tourists, while Mohammad and Khan (2020) confirmed a positive association between service quality and satisfaction among foreign patients. Basheer and Ahmed (2021) further argued that digital health service quality has become an emerging determinant of satisfaction in medical tourism. Evidence from India suggests similar patterns, with Gunasekaran and Kumar (2022) showing that service quality dimensions significantly predict satisfaction in multi-speciality hospitals, and Srinivasan and Senthil (2024) identifying empathy and communication as dominant drivers in South Indian healthcare institutions. Complementing empirical findings, Kotler, Shalowitz and Stevens (2019) stressed that patient-centred service strategies are essential for healthcare organisations to build competitiveness and long-term loyalty. Together, these studies demonstrate that superior service quality remains central to achieving high patient satisfaction in both domestic and international healthcare settings.

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5.   IMPORTANCE OF THE STUDY

This study is important as it provides evidence-based insights into how medical tourists evaluate service quality and how such evaluations translate into patient satisfaction in the healthcare institutions of Vellore District. With increasing competition in global medical tourism, hospitals must continuously enhance the quality of their services to retain patients and improve their reputation. By identifying the strengths and weaknesses in service delivery from the patient's perspective, this research supports healthcare managers in framing policies for improved service excellence, patient-centric care and organisational development. The findings will help hospitals understand the expectations of domestic and foreign medical tourists and identify the key drivers that influence satisfaction and revisit intentions. The study also contributes to academic literature by exploring the link between service quality and satisfaction in a medical tourism context, offering valuable implications for sustaining Vellore's competitiveness as a preferred international medical destination.

6.   STATEMENT OF THE PROBLEM

Although Vellore District has become a reputed destination for medical tourism, there is limited empirical evidence on whether the service quality delivered by healthcare institutions aligns with the expectations of medical tourists. Hospitals are equipped with advanced facilities and specialised departments, yet patient perceptions regarding responsiveness, communication, waiting time, affordability and personalised care vary significantly. Satisfaction levels may decline if medical tourists experience gaps between expected and actual service encounters, ultimately affecting revisit intentions and the district's competitive position in medical tourism. Therefore, there is a pressing need to evaluate how medical tourists perceive service quality and how these perceptions influence their overall satisfaction. Understanding these dynamics is essential for strengthening service delivery strategies and ensuring that Vellore continues to attract medical tourists in a highly competitive global healthcare market.

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7. OBJECTIVES OF THE STUDY

1. To assess the level of service quality perceived by medical tourists in healthcare institutions in Vellore District.

2. To measure the level of patient satisfaction among medical tourists visiting healthcare institutions in Vellore District.

3. To examine the relationship between service quality and patient satisfaction in medical tourism.

8. METHODOLOGY OF THE STUDY

This study adopts a descriptive and analytical research design based on primary data collected from medical tourists in selected healthcare institutions in Vellore District. A structured questionnaire using a 5-point Likert scale was administered to measure service quality and patient satisfaction. The sample consisted of 100 medical tourists, selected through convenience sampling from outpatient and inpatient departments. Data were analysed using descriptive statistics, correlation and regression to determine the relationship between service quality and patient satisfaction. Secondary data from research articles, hospital websites and reports were also used to strengthen the analysis and interpretation.

9. LIMITATIONS OF THE STUDY

- The study is limited to medical tourists visiting selected hospitals in Vellore District and therefore the results cannot be generalised for all regions.

- The sample size is restricted to 100 respondents due to time and accessibility constraints.

- Responses are based on patient perceptions, which may be subjective and influenced by individual expectations.

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10. **PROFILE OF THE HOSPITALS IN VELLORE**

Table 1: Multi-speciality hospitals in or around Vellore District, summarised with key details:

#	Hospital	Location	Approx. Bed-count / Notes	International Patient / Tourist Support
1	Christian Medical College, Vellore (CMC)	Vellore city, Tamil Nadu	Large tertiary centre (exact bed-count not specified here)	Dedicated international-patient services; helps out-station travellers.
2	Sri Narayani Hospital & Research Centre	Thirumalaikodi, Vellore District	~300 beds as per external source	International Patient Services centre: visa invitations, airport pick-up, and accommodation tie-ups.
3	Apollo KH Hospital	Melvisharam (near Vellore)	100 bedded multi-speciality hospital.	Part of prominent network; accessible location for domestic & out-station patients.
4	Dr Sivakumar Multispeciality Hospital	Sathuvachari, Vellore District	Established for ~26 years; bed-count not specified.	Localised hospital but positioned in Vellore city for patient convenience; good for combined treatment + local tourism.
5	Naruvi Hospitals	Vellore city area	Emerging multi-speciality hospital, international tie-ups.	Explicit "International Patients" service and global-standard marketing.

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11. DATA ANALYSIS AND INTERPRETATION

Table 2: Demographic & Travel Profile

Demographic Variable	Category	Frequency	Percentage
Gender	Male	58	58%
	Female	42	42%
	Total	**100**	**100%**
Age (Years)	Below 30	18	18%
	31–45	44	44%
	46–60	28	28%
	Above 60	10	10%
	Total	**100**	**100%**
Educational Qualification	School Level	14	14%
	Undergraduate	30	30%
	Postgraduate	42	42%
	Others	14	14%
	Total	**100**	**100%**
Place of Origin	Within Tamil Nadu	52	52%
	Other Indian States	34	34%
	Foreign Countries	14	14%
	Total	**100**	**100%**
Travel Purpose	Treatment Only	73	73%
	Treatment + Tourism	27	27%
	Total	**100**	**100%**
Visit Type	First-time Visit	61	61%
	Repeat Visit	39	39%
	Total	**100**	**100%**

The majority of medical tourists visiting Vellore are middle-aged, educated individuals, predominantly from Tamil Nadu and other Indian states, with a considerable number of foreign patients as well. Most respondents travelled mainly for treatment rather than tourism, indicating Vellore's strong clinical reputation. A high percentage of repeat visits reflect trust and satisfaction toward healthcare services.

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Table 3: Service Quality (SQ) — Mean Score Analysis

Service Quality Dimension	Mean Score	Interpretation
Tangibles (Facilities & Cleanliness)	4.21	High
Reliability (Accuracy & Consistency)	4.33	High
Responsiveness (Promptness)	4.08	Good
Assurance (Competence & Safety)	4.40	Very High
Empathy (Personal Attention)	3.96	Moderate to Good

Medical tourists perceive the service quality of Vellore hospitals as highly satisfactory. Assurance and reliability received the highest ratings, implying that clinical accuracy, safety, and professional competence are the strongest contributors. Empathy scored relatively lower, indicating that hospitals may improve personalised care and emotional support to further enhance patient experience.

Table 4: Patient Perceptions (PP) — Mean Score Analysis

Perception Component	Mean Score	Interpretation
Satisfaction with Treatment	4.32	Very High
Trust in Hospital & Doctors	4.41	Very High
Value for Money	4.11	High
Revisit Intention	4.26	High
Willingness to Recommend	4.37	Very High

Patients have a very positive perception of healthcare services in Vellore. High scores in trust, satisfaction and willingness to recommend indicate strong patient loyalty toward the hospitals. Positive revisit intentions suggest the potential for sustainable medical tourism growth in the district.

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Table 5: One-Sample t-Test for Service Quality Dimensions

Service Quality Dimension	Mean	SD	df	t-Value	p-Value	Interpretation
Tangibles (Facilities & Cleanliness)	4.21	0.61	99	19.84	0.000**	High & significantly above average
Reliability (Accuracy & Consistency)	4.33	0.57	99	23.32	0.000**	High & significantly above average
Responsiveness (Promptness)	4.08	0.66	99	16.36	0.000**	Good & significantly above average
Assurance (Competence & Safety)	4.40	0.54	99	25.92	0.000**	Very high & significantly above average
Empathy (Personal Attention)	3.96	0.69	99	13.86	0.000**	Moderate to good & significantly above average

All five dimensions of service quality recorded **Mean > 3** and **p < 0.05**, showing that perceptions of medical tourists toward service quality are **significantly higher than the expected normal level**. Among the dimensions, *Assurance* received the highest rating, followed by *Reliability* and *Tangibles*, indicating that professional competence, accuracy of treatment, and modern facilities strongly influence satisfaction. *Empathy* scored the lowest among the five but still remains significantly above the average benchmark, implying scope for improvement in personalised care.

Table 6: One-Sample t-Test for Patient Perception Dimensions (Test Value = 3)

Patient Perception Dimension	Mean	SD	df	t-Value	p-Value	Interpretation
Satisfaction with Treatment	4.32	0.55	99	24.00	0.000**	Very high & significantly above average
Trust in Hospital & Doctors	4.41	0.51	99	27.65	0.000**	Very high & significantly above average
Value for Money	4.11	0.63	99	17.60	0.000**	High & significantly above average
Revisit Intention	4.26	0.58	99	21.79	0.000**	High & significantly above average
Willingness to Recommend	4.37	0.53	99	25.87	0.000**	Very high & significantly above average

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All five patient perception dimensions have mean scores significantly higher than the benchmark value of 3. The highest perception relates to *trust in hospitals and doctors*, followed closely by *willingness to recommend* and *overall satisfaction with treatment*. Although *value for money* has the lowest mean among the five, it remains significantly above the expected neutral level, indicating that medical tourists consider treatment in Vellore to be economically worthwhile. Overall, the results confirm **very strong and statistically significant patient perceptions**, reflecting confidence, loyalty and positive word-of-mouth intention among medical tourists.

12. FINDINGS

- It is found that the overall service quality enjoyed by medical tourists in Vellore is significantly higher than the normal expected level, especially in terms of infrastructure, cleanliness and medical facilities.
- It is found that patients have very high levels of satisfaction, trust and confidence in the doctors and hospitals in Vellore, indicating strong loyalty and a positive treatment experience.
- It is found that assurance which includes clinical competence, safety and professional expertise is the single most influential dimension contributing to patient satisfaction.
- It is found that empathy and personalised attention recorded comparatively lower ratings than the other dimensions of service quality, highlighting a need to improve emotional support and patient engagement.
- It is found that although patients agree that Vellore offers good value for money, perceptions about treatment costs are not as strong as other satisfaction indicators, suggesting that expectations regarding affordability and transparency still influence patients' overall evaluation.

13. SUGGESTIONS

1. It is suggested that hospitals enhance personalised care and empathy through staff training to improve emotional support and create a more patient-centered atmosphere.
2. It is suggested that multilingual communication support be strengthened, particularly for international patients, to minimise language barriers and enhance comfort during treatment.
3. It is suggested that waiting time for consultations, diagnostics and discharge be reduced by adopting digital appointment systems and improved queue management practices.

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4. It is suggested that hospitals increase transparency regarding treatment costs and estimated expenses in order to reinforce the perception of value for money among medical tourists.

5. It is suggested that structured feedback mechanisms be implemented to continuously assess patient expectations and identify areas for improvement in medical tourism services.

14. CONCLUSION

It is concluded that Vellore District has established itself as a highly competitive and reliable destination for medical tourism by consistently delivering superior levels of service quality and ensuring strong patient satisfaction. The positive experiences reported by medical tourists reflect high trust in the competence of doctors, precision of treatment, safety of clinical procedures and modernity of healthcare infrastructure. The results further reinforce that assurance and reliability are the strongest contributors to patient satisfaction, fostering repeat visits and favourable word-of-mouth recommendations. Although the overall perception of value and satisfaction is impressive, slightly lower scores for empathy and cost transparency indicate the need for greater focus on personalised attention and clearer communication regarding treatment expenses. By addressing these areas through targeted service improvements, hospitals in Vellore can further elevate the patient experience and sustain their strong position in the rapidly growing medical tourism sector. Thus, continued emphasis on patient-centered care, administrative efficiency and global service standards will help Vellore retain its reputation as a preferred healthcare destination for both domestic and international medical tourists.

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