

Evaluation of Service Quality and Patient Satisfaction in Private Hospitals of the Puducherry Union Territory

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Abstract

This paper delves into the complexities of India's healthcare system, focusing specifically on the Puducherry Union. It sheds light on the challenges within the country's healthcare landscape, highlighting deficiencies in primary healthcare, limited access to essential services, and the persistent issues of maternal and child mortality. The study employed rigorous statistical analyses using SPSS software, including Univariate Analysis, Bivariate Analysis through Cross-tabulation with Chi-Square tests, Paired t-tests, and ANOVA one-way classification. These analyses provided valuable insights into various factors influencing hospital selection, such as doctors' qualifications, reputation, and proximity, while also considering the impact of demographics on healthcare choices. The findings emphasize the crucial link between patient satisfaction, loyalty, and the likelihood of patients returning to and recommending hospitals. Patients' contentment is closely tied to their willingness to revisit a healthcare facility and advocate for it, underlining the pivotal role of positive experiences in shaping healthcare preferences. In conclusion, the research underscores the imperative need for enhancing healthcare quality, ensuring accurate information dissemination, and improving patient satisfaction to foster loyalty. Addressing demographic and socioeconomic factors is essential in crafting effective healthcare service delivery strategies. These insights provide valuable guidance for both healthcare providers and policymakers, offering a pathway toward a more robust and patient-centric healthcare system.

Keywords: patient satisfaction, service quality, private hospital, hospital services.

1. Introduction

The delivery of healthcare services varies from one country to another and is greatly influenced by the socio-economic and political factors within a society. Broadly, there are three main models. In the first, some countries have a central role for the state in financing, providing, and administering healthcare services, while still allowing for private interests such as individual practitioners, hospitals, and supporting services to coexist. The second model consists of countries where the state is the exclusive provider of medical care, with no room for private involvement. The third model relies heavily on the market for healthcare service delivery.

Following the aftermath of World War II, there was a consensus in Europe, as well as in newly independent African and Asian states, in favor of planned economic development. In contrast, in developing countries, the level of state involvement in healthcare provision has varied, but there has been widespread support for achieving universal healthcare coverage. This trend is particularly evident in some South Asian countries like Sri Lanka and India, where the early years of independence saw a significant allocation of planned investments in the development of healthcare services.

1.1. Healthcare in India

Over the past five decades, the government has established several committees to assess various aspects of healthcare development in India. Notable among these were the National Planning (Sokhey) Sub-committee of the National Planning Committee in 1948 and the Health Survey and Development (Bhore) Committee in 1946, which laid the foundation for the development of healthcare services in independent India. India's healthcare system is primarily built on a primary healthcare network that is severely inadequate and falls short of providing even basic healthcare access for the population.

According to the Economic Survey of 2009-2010, just 13 percent of the rural population has access to primary healthcare centers, with 33 percent having access to sub-centers, 9.6 percent to hospitals, and 28.3 percent to dispensaries or clinics. India's public hospital infrastructure is rudimentary, marked by a shortage of 4,504 primary health centers and 2,135 community health centers in 2009. As of 2021, India's healthcare system continues to heavily rely on primary healthcare. However, it remains significantly inadequate, failing to meet the basic healthcare needs of its population. Recent data indicates that just 13 percent of the rural population has access to primary healthcare centers, with 33 percent having access to sub-centers, 9.6 percent to hospitals, and 28.3 percent to dispensaries or clinics. The public hospital infrastructure in India remains rudimentary, with persistent shortfalls. In 2021, the country faced a shortage of 4,504 primary health centers and 2,135 community health centers, reflecting the ongoing challenges in healthcare infrastructure development. Furthermore, India grapples with the world's highest burden of maternal, newborn, and child mortality. At the beginning of the new millennium in 2000, 189 countries and 23 international health agencies committed to reducing child under-5 mortality by two-thirds (as part of the Millennium Development Goals 4) and maternal mortality by three-fourths (as part of Millennium Development Goal 5) by 2015.

1.2. Puducherry Union's Health Profile

Puducherry, the capital and the most populous city of the Union Territory of Puducherry in India, is situated within the Puducherry district on the southeastern coast of the country. The city is bounded by the Bay of Bengal to the east and shares a significant portion of its culture, heritage, and language with the neighboring state of Tamil Nadu. Puducherry, possesses a distinctive healthcare profile defined by several significant attributes:

1.2.1. Healthcare Infrastructure

Puducherry boasts a relatively strong healthcare system, comprising a network of government and private healthcare facilities. These include well-distributed hospitals, primary health centers, and dispensaries, ensuring that medical services are easily accessible to the local population.

1.2.2. Health Indicators

Maternal and Child Health: Puducherry has made remarkable progress in improving maternal and child health. The territory reports comparatively lower maternal and infant mortality rates (MMR and IMR) compared to many other Indian states. These improvements indicate a concerted effort to safeguard the health of mothers and children. Life Expectancy: The average life expectancy in Puducherry exceeds the national average. This higher life expectancy reflects improved access to healthcare services and an overall higher standard of living for its residents.

1.2.3. Disease Profile

Non-Communicable Diseases (NCDs): Like the broader Indian context, Puducherry confronts the escalating burden of non-communicable diseases (NCDs). These include ailments such as diabetes, cardiovascular diseases, and cancer. The rise in NCDs is linked to changing lifestyle factors and urbanization, emphasizing the need for preventive and management measures.

1.2.4. Healthcare Services

Government Hospitals: Puducherry operates several government-run hospitals and healthcare centers, diligently providing cost-effective medical services to the local populace. These facilities play a pivotal role in delivering accessible healthcare. Private Healthcare: In addition to government healthcare services, Puducherry also offers a variety of private healthcare facilities. These institutions contribute to the diversity and availability of medical services, meeting diverse healthcare needs.

1.2.5. Healthcare Initiatives

Puducherry is actively involved in the implementation of diverse health programs and initiatives. These endeavors encompass vaccination campaigns, maternal and child health programs, and strategic measures for disease control.

Through these initiatives, the territory aims to enhance the overall health and well-being of its residents. Furthermore, it's essential to acknowledge that the healthcare landscape, including responses to public health challenges like the COVID-19 pandemic, continues to evolve, necessitating ongoing adaptation and enhancements to healthcare services and strategies.

2. Literature Review

The healthcare system in India is intricate, encompassing diverse types of providers who practice various medical systems and operate different types of facilities. These providers and facilities can be broadly categorized based on three key dimensions: ownership styles (including public, private not-for-profit, private for-profit, and private informal); medical systems (comprising allopathic, homeopathic, and traditional); and facility types (encompassing hospitals, dispensaries, and clinics). It's important to note that these dimensions are interconnected and often overlap, as outlined by Bhat in 1993. The growing significance of these factors has led to increased demands for healthcare marketing. As defined by the American Marketing Association, marketing is an organizational function involving a series of processes aimed at creating, communicating, and delivering value to customers while effectively managing customer relationships to benefit both the organization and its stakeholders (as explained by Kotler, Philip, Sholowitz, Joel, et al. in 2008).

In a study conducted by Kenneth E. Covinsky, Gary E. Rosenthal, and their colleagues in 1999, patients were interviewed both upon admission and at the time of discharge to assess their health status using two different measures. Additionally, upon discharge, these patients were administered a brief 5-item questionnaire to gauge their satisfaction levels. The primary objective was to examine the relationship between changes in health status and patient satisfaction. Through their analysis, the researchers conducted two distinct sets of assessments. One set controlled for the health status of patients at the time of admission, while the other considered their health status at discharge. Interestingly, their findings indicated that patients with similar health statuses at the time of discharge reported similar levels of satisfaction, regardless of whether their health had stabilized, improved, or deteriorated during their hospital stay. This led the researchers to suggest that the previously observed positive correlation between patient satisfaction and health status might be attributed to a tendency for healthier patients to express higher satisfaction with the healthcare they received. Moreover, their analysis suggested that changes in health status and patient satisfaction may be measuring different aspects of hospital outcomes and quality, highlighting the complexity of evaluating and improving healthcare services.

In 2008, Alaloola conducted a research survey to investigate patient satisfaction at a tertiary care center in Riyadh. The study revealed notable satisfaction among patients regarding factors such as room comfort, room temperature, the room call button system, room cleanliness, and the respectful behavior of the staff. On the flip side, patients expressed significant dissatisfaction with phlebotomists who didn't introduce themselves, failed to explain procedures, and physicians who didn't introduce themselves. In a separate study conducted by Seetharaman Hariharan and Prasanta Kumar Dey in 2010, they introduced a quality management framework. This framework combined a cause-and-effect diagram with a logical framework and was implemented in an intensive care unit. Their research indicated that patients perceived improvements in various aspects such as enhanced infrastructure, state-of-the-art equipment, well-maintained facilities, IT-based communication, motivated healthcare professionals including doctors and nurses, and a noticeable enhancement in patient care and the availability of medicines.

This proposed framework served as a continuous quality improvement tool, offering a structured approach for planning, implementation, monitoring, and evaluation of quality improvement measures in a sustainable manner.

In 2010, Sandip Anand conducted a follow-up survey across several Indian states, including Tamil Nadu, Maharashtra, Bihar, and Jharkhand. The survey assessed various dimensions related to healthcare services, encompassing aspects like proximity to service providers, the availability of doctors, waiting times, medication accessibility, the cleanliness of facilities, respectful and dignified treatment, privacy, service affordability, and treatment effectiveness.

The results of the study pointed out that the availability of doctors, reduced waiting times, cleaner facilities, increased privacy, and affordability were key factors that influenced the likelihood of individuals utilizing private healthcare facilities for their reproductive health needs. The findings suggested that these factors had a positive impact on the utilization of private reproductive health services across the four states examined. Furthermore, the research indicated that in the combined states, the availability of medicines and the effectiveness of treatment at public healthcare facilities played a significant role in encouraging their utilization. Notably, the findings implied that there was a need to establish clear and standardized service quality norms in both public and private healthcare systems in India, as these norms appeared to be lacking or inconsistent.

In 2010, HavvaÇaha conducted a study in Turkey, which revealed that patients tended to favor private hospitals. Their preference for private healthcare institutions was driven by the perception that these hospitals offered higher-quality healthcare services. However, this preference didn't necessarily translate into a flawless experience, as a significant number of patients expressed dissatisfaction with the services provided by private hospitals. The primary grievances raised by patients were related to the extended waiting times for treatment and the limited consultation time with healthcare professionals. Consequently, the study emphasized that patient satisfaction played a pivotal role in the realm of private healthcare providers. While patients leaned towards private hospitals for their perceived quality, addressing the issues of waiting times and consultation duration remained essential to enhance overall patient satisfaction. The literature review indicates the necessity of conducting a study that focuses on patients' perceptions of hospital service quality, with a particular emphasis on private healthcare institutions.

3. Objectives:

- To examine the factors influencing consumers' choice of hospitals.
- To assess how the perceived service quality influences consumer satisfaction.
- To establish a connection between patient satisfaction and their loyalty.

4. Hypotheses

Following hypotheses were inducted to empirically test this research:

- H_1 - There is a significant influence on loyalty of clients with Service quality and consumer satisfaction.
- H_{1-} - There is a significant influence in hospital selection with Reputation of doctor.
- H_0 -There is no difference between patients' expectation and perceptions of hospital performance.
- H_0 -There is no significant difference between the hospital performance perception of with reference to gender of patients.
- H_0 - There is nosignificant relationshipbetween the patients' expectation and their education.

5. Research Methodology

5.1. Population of the study

The study's target population encompasses all individuals within the Puducherry Union who have either been admitted to private hospitals or sought medical treatment at these healthcare facilities. The sample was carefully chosen from Puducherry, with a deliberate focus on individuals possessing widely acknowledged characteristics.

5.2. Sample size

A total of one hundred (100) respondents were chosen from the Puducherry Union through a method known as "non-probability convenience sampling," and interviews were conducted with them.

5.3. Data Collection Method

The present research employed Personal survey Method for collecting primary data.

5.4. Data Collection Instrument

A structured, closed-ended questionnaire served as the primary data collection tool for this study. The questionnaire included inquiries designed to assess the quality of service in private hospitals. Some slight adjustments were made to the phrasing of the 23 SERVQUAL items, and an additional four items related to access and credibility were incorporated from Parasuraman, Zeithmal, and Berry's work (1985). Respondents were presented with twenty-three statements, first to gauge their expectations and then to gauge their perceptions.

These statements were categorized into five dimensions of service quality: "Tangibility," "Reliability," "Responsiveness," "Assurance," and "Empathy."

5.5. Tools and Procedure for Analysis

The SERVQUAL model, developed by Parasuraman, is a widely used framework for assessing service quality. The data collected from the chosen respondents were analysed using SPSS. The study employed several statistical tests and techniques, including Univariate Analysis presented as frequency tables, Bivariate analysis through Cross-tabulation with Chi-Square test, Paired t-test, and ANOVA for one-way classification.

6. Data analysis and findings

The primary measure of healthcare quality is Consumer's perception. Healthcare quality is achieved when cost-effective and efficient professional health services result in the best possible health outcomes. This study aims to concentrate on how consumers perceive the quality of services provided by healthcare providers. The study collected primary data from selected private hospitals in Puducherry city.

In terms of gender distribution, 71 percent of the respondents were male, while 29 percent were female. Among those surveyed, 72 percent were married, and 28 percent were unmarried. When it comes to educational qualifications, the majority, accounting for 59 percent, were graduates, 39 percent held postgraduate degrees, 9 percent had completed their higher secondary education, and 1 percent had professional degrees. Regarding occupations within the sample, 20 percent were employed in private firms or companies, 19 percent worked as farmers, 15 percent were involved in business, and the remaining 12 percent of female respondents were homemakers.

Identifying the key individuals responsible for making decisions about hospital services is crucial. Respondents were inquired about the primary influencers in their hospital selection decisions. The findings revealed that 37 percent of respondents considered their family to be significant decision-makers, followed closely by 33 percent who indicated that they themselves played a substantial role. In contrast, 22 percent mentioned that the decision was made jointly between various family members for hospital selection.

In order to determine the primary sources of information used by healthcare service seekers to learn about hospitals, respondents were queried regarding their information channels. The results showed that a significant 41 percent of respondents relied on their families as the primary information source, closely followed by 37 percent who cited friends. Additionally, 13 percent of respondents reported that they became aware of hospitals through advertisements (see Appendix Table 2).

To gain insight into the factors influencing the selection of hospitals, respondents from Puducherry city were tasked with ranking these criteria on a five-point scale, ranging from least preferred to highly preferred. The analysis revealed that an overwhelming 92 percent of respondents accorded the highest priority to the qualification of doctors, closely followed by the experience of doctors (91 percent). Hospital reputation, as well as the availability of additional facilities (both at 89 percent), also emerged as significant influencing factors. Furthermore, respondents expressed a preference for hospitals located in close proximity to their area or residence (88 percent). Healthcare service providers are grappling with issues related to patient loyalty, influenced by heightened competition and increased access to information technology, among other factors.

Respondents were surveyed regarding their future choices of private hospitals, and the results showed that 61 percent expressed their intention to return to the same hospital in the future. In contrast, 30 percent indicated they would not choose the same hospital again, with 9 percent remaining neutral on the matter. A significant 60 percent of the respondents stated that they would not consider switching to another hospital, while 31 percent remained indifferent, and 13 percent did not provide a response. When respondents were asked about their willingness to recommend the hospital to others, 59 percent expressed a positive intent to do so, while 28 percent expressed a negative opinion, and 13 percent did not respond to the question.

To determine the most preferred hospital services, respondents were requested to assign weightage to different services. A Chi-square test was employed to examine the association between the desire for the best treatment and gender. The analysis revealed that there was no significant difference between males and females regarding their desire for the best treatment. Notably, respondents between the ages of 31 to 40 years assigned the highest importance to cleanliness and hygiene. It was observed that younger patients exhibited a greater degree of quality consciousness compared to their older counterparts. An ANOVA one-way test was used to assess the age-wise gap between expectations and perceptions, indicating no significant differences among different age groups in terms of patients' expectations and perceptions, as the p-value exceeded 0.001.

The researcher also sought to establish a relationship between education and expectations and perceptions. The analysis revealed that there were no significant differences in the gap between expectations and perceptions among respondents with different educational qualifications, as the p-value was less than 0.001. Moreover, it was found that 26 percent of the total respondents expressed satisfaction with hospital services, while the remaining 76 percent conveyed dissatisfaction with these services. To establish relationship between patients' satisfaction and loyalty, chi square test was applied, it was found that there is significant association between the feelings of satisfaction / dissatisfaction and willingness to come again to the hospital (p-value < 0.05). The study also revealed that there is significant association between the satisfaction/dissatisfaction levels and their tendency to recommend the hospital to others (p-value < 0.05).

7. Conclusions and Recommendations

To gain insights into the healthcare service needs and satisfaction of consumers, the researcher conducted an empirical study. This investigation on service quality and customer satisfaction relied on primary data collected from patients, both inpatient and outpatient, in private hospitals within Puducherry, Puducherry Union. Patients from various medical disciplines, including general medicine, pediatrics, general surgery, gynecology, orthopedics, and more, were surveyed through a well-structured questionnaire. In the realm of healthcare services, word-of-mouth recommendations, primarily from family members, continue to hold significant influence. The findings underscored that respondent placed high importance on the qualifications and experience of doctors. Additionally, the reputation of hospitals and the availability of supplementary facilities played a pivotal role in decision-making. The geographical proximity of hospitals was also a key consideration for respondents.

The study unveiled a noticeable impact of respondents' education and income levels on their loyalty to healthcare service providers. It emphasized the importance of healthcare providers ensuring the timely dissemination of accurate information, as greater access to quality information enhances patient awareness and satisfaction. Furthermore, healthcare facilities should offer convenient operating hours, and nurses should provide personalized attention to patients. This concern was particularly prevalent in privately managed and trust-run hospitals.

In conclusion, the research highlighted the significance of quality improvement strategies for healthcare service providers aiming to enhance patient satisfaction.

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Appendix

Table No. 1- Frequency distribution for factors influencing hospital selection			
Decision making	Frequency	Percentage	Cumulative Percentage
Self	33	33.0	33.0
Spouse	8	8.0	41.0
Both	22	22.0	63.0
Family	37	37.0	100.0
Total	100	100	

***Source- Data analysis, 2023**

Table No. 2- Frequency distribution for Source of information about hospital selection

Decision making	Frequency	Percentage	Cumulative Percentage
Advertisement	13	13.0	13.0
Family	41	41.0	54.0
Friend	37	37.0	91.0
Doctor	5	5.0	96.0
Others	4	4.0	100.0
Total	100	100	

***Source- Data analysis, 2023**

Table No. 3- Descriptive statistics for gap score between EXP-PER with reference to Agegroup

Age	N	Mean	Sd.	Std.Error	95% confidence for mean		Minimum	Maximum
					Lower	Upper		
21-30	47	5.766	8.233	1.199	3.351	8.180	-5.00	23.00
31-40	35	4.028	7.402	1.251	1.485	6.571	-4.00	22.00
41-50	13	3.076	7.005	1.942	-1.156	7.310	-7.00	15.00
51-60	5	4.600	4.449	1.989	-9.251	10.125	.00	10.00
Total	10	4.750	7.617	0.761	3.238	6.261	-7.00	23.00

***Source- Data analysis, 2023**

ANOVA Test

	Sum of Squares	df	Mean Square	F	Sig.
Between Group	103.230	3	34.410	0.586	0.626
Within Group	5641.520	96	58.766		
Total	5744.750	99			

***Source- Data analysis, 2023**

Table No. 4- Descriptive statistics for gap score between EXP-PER with reference to Education								
Age	N	Mean	Sd.	Std.Err or	95% confidence for mean		Mini mum	Maxi mum
					Lower	Upper		
HSC	9	3.777	8.628	2.876	2.854	10.499	-7.00	16.00
UG	59	4.813	7.328	0.954	2.903	6.723	-3.00	23.00
PG	31	4.967	8.207	1.474	1.957	7.978	-5.00	22.00
Prof essional Degree	1	3.000	-	-	-	-	3.00	3.00
Total	100	4.750	7.617	0.761	3.238	6.261	-7.00	23.00
*Source- Data analysis, 2023								

ANOVA Test					
	Sum of Squares	df	Mean Square	F	Sig.
Between Group	13.278	3	4.426	0.074	0.974
Within Group	5731.472	96	59.703		
Total	5744.750	99			
*Source- Data analysis, 2023					

Table No. 5- Frequency distribution for Level of Satisfaction			
Decision making	Frequency	Percentage	Cumulative Percentage
Dissatisfied	76	76.0	76.0
Satisfied	24	24.0	24.0
Total	100	100	
*Source- Data analysis, 2023			