

DETERMINANTS OF PATIENT SATISFACTION IN COOPERATIVE HEALTHCARE SETTINGS: EVIDENCE FROM NS COOPERATIVE HOSPITAL, KOLLAM.

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Abstract

Patient satisfaction is an essential indicator of the quality of healthcare service, determining both institutional image and therapeutic outcome. The current study investigates the determinants of the satisfaction level of the patients in NS Cooperative Hospital, Kollam, through an analysis of four important dimensions: medical care quality, communication and patient participation, staff attitude and administrative interaction, and infrastructure and safety. A formal 25-item Likert-scale questionnaire was completed by a convenience sample of 66 patients. Descriptive statistics, Pearson correlation, and multiple linear regression analysis were used to analyze the data. The findings indicate that all four aspects are significantly related to overall satisfaction, with communication, medical care quality, and infrastructure being significant predictors. The regression model predicted 38.7 per cent of variance in levels of satisfaction. The results highlight the imperative for hospitals to implement a multifaceted service delivery strategy, focusing not just on clinical quality but also interpersonal interaction and facility infrastructure to augment patient-centered care. This research adds to the literature on healthcare quality by offering insights tailored to semi-urban cooperative hospitals in India.

Keywords:- Cooperatives, HealthCare, Patient Satisfaction, NS Hospital, Communication and Participation.

In the healthcare industry, patient satisfaction is now a key indicator of hospital performance and service quality. Patient satisfaction encompasses a patient's experience with care, responsiveness, communication, and treatment environment (Aagja& Garg, 2010). With the growing emphasis on patient-centered

care, there is growing pressure on healthcare organizations to offer services not only meeting clinical standards but also patients' experiential and emotional demands (Donabedian, 2005).

Patient satisfaction is very high and, besides promoting patient loyalty and trust, also enhances hospital reputation and improves health outcomes (Cleary &

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McNeil, 1988; Otani et al., 2003). There are several variables that affect patient satisfaction, including medical care quality, hospital staff interpersonal behavior, administrative efficiency, communication clarity, and physical environment (Andaleeb, 2001; Naidu, 2009). Cleanliness, waiting time, support services, and the effectiveness of pain management also play an important part in creating patient experiences (Jenkinson et al., 2002). All these are also shaped by organizational culture, resource use, and hospital adaptability to patients' diverse needs (Dagger et al., 2007). It is therefore important to have an understanding and categorization of the dimensions of satisfaction so that one can assess service delivery systematically.

This study explores the key determinants of patient satisfaction in NS Cooperative Hospital, Kollam, focusing on four critical dimensions: medical care quality, communication and patient involvement, staff behavior and administrative experience, and infrastructure and safety. Using a structured 25-item questionnaire, the study aims to identify which of these factors most influence satisfaction and provide actionable insights for hospital administrators. Given the unique role of cooperative hospitals in delivering care to rural and semi-urban populations with limited resources, this research offers valuable guidance for enhancing service quality and ensuring equitable, patient-centered care delivery.

Statement of the Problem

Patient satisfaction is a key indicator of healthcare quality, yet cooperative

hospitals in semi-urban, resource-limited settings remain underexplored in existing research. Most studies focus on isolated factors and overlook the combined impact of clinical care, communication, staff behavior, and infrastructure. This study addresses this gap by examining the multidimensional determinants of patient satisfaction at NS Cooperative Hospital, Kollam, offering a more holistic understanding of the patient experience in cooperative healthcare settings.

Significance of the Study

This study is significant as it fills a research gap by examining patient satisfaction in cooperative hospitals in semi-urban India, a setting often overlooked in healthcare studies. It provides practical insights into how medical care, communication, staff behavior, and infrastructure collectively influence satisfaction. By applying models like Donabedian's and SERVQUAL, the study offers evidence-based guidance to improve patient-centered care and supports value-based healthcare reforms.

Scope of the Study

This study focuses on identifying the determinants of patient satisfaction at NS Cooperative Hospital, Kollam, across four key dimensions: medical care quality, communication and patient participation, staff behavior and administrative interaction, and infrastructure and safety. Using a descriptive, quantitative approach based on responses from 66 patients, the research is limited to inpatient and outpatient experiences during the data collection period. It excludes specialized units, long-term follow-up, and staff perspectives. The findings are specific to

semi-urban cooperative hospital settings and may not be generalizable to private or urban hospitals.

Objectives of the Study

- To analyze the demographic profile of patients receiving care at NS Cooperative Hospitals Kollam.
- To identify and evaluate the key factors influencing patient satisfaction in NS Cooperative Hospitals Kollam.

Hypotheses of the Study

Based on the objectives and analytical framework of the study, the following hypotheses were formulated to examine the influence of key service dimensions on overall patient satisfaction at NS Cooperative Hospital, Kollam:

- **H01:** There is no significant relationship between the quality of medical care and overall patient satisfaction.
- **H02:** There is no significant relationship between communication and patient involvement and overall patient satisfaction.
- **H03:** There is no significant relationship between staff behavior and administrative experience and overall patient satisfaction.
- **H04:** There is no significant relationship between infrastructure and safety and overall patient satisfaction.
- **H05:** The combined predictors, such as quality of medical care, communication, staff behavior, and

infrastructure, do not significantly predict overall patient satisfaction.

Literature Review

Over the past few decades, patient satisfaction has emerged as a core indicator of healthcare quality, shifting from a provider-centric model to a patient-centered approach driven by policy changes, technological advancements, and increased awareness (WHO, 2020; Anhang Price et al., 2014). Foundational models like Donabedian's structure-process-outcome (1988) and SERVQUAL (Parasuraman et al., 1988) laid the groundwork for multidimensional assessments, emphasizing reliability, empathy, and tangibility. Recent studies have expanded these frameworks to include factors such as communication, shared decision-making, and emotional care, which significantly impact satisfaction beyond clinical outcomes (Rathert et al., 2013; Nguyen et al., 2022). Research in diverse contexts, including India, reveals persistent dissatisfaction stemming from administrative inefficiencies and environmental factors, despite high ratings for clinical care (Sharma & Narang, 2011; Arora et al., 2021). In semi-urban and cooperative hospital settings, resource constraints further amplify these challenges (Kumar & Thomas, 2021). While some researchers propose integrated models incorporating structural, behavioral, and outcome variables (Mosadeghrad, 2014; Naidu, 2009), many studies remain fragmented. There is a growing need for holistic, context-specific investigations that assess the interplay of medical care, communication, staff behavior, and infrastructure in shaping patient satisfaction.

Research Methodology

The study uses a quantitative, descriptive research design to identify factors affecting patient satisfaction at NS Cooperative Hospital, Kollam. The primary data were collected using a structured questionnaire from 66 patients who were sampled with convenience sampling based on their availability during the study period. Even though non-probability in nature, this sampling method allowed for a timely collection of data and provided relevant information about the local healthcare environment. The survey, designed following a systematic review of the literature and validation by experts, contained 25 close-ended items scored on a 5-point Likert scale. The items were collapsed into four dimensions: Quality of Medical Care and Services, Communication and Patient Involvement, Staff Behavior and Administrative Experience, and Infrastructure and Safety. The data were analyzed through SPSS, applying descriptive statistics for profiling, correlation analysis for examining relationships, and multiple linear regression for the identification of significant predictors of overall patient satisfaction.

ANALYSIS AND DISCUSSION

The descriptive statistics indicate that the mean age group is approximately 2.79, proposing the fact that the sample is predominantly found in the 26–40 age group, with the presence across other age groups. The gender mean score of 1.41 establishes a larger percentage of male respondents, and the marital status mean of 1.15 suggests that the majority of participants were unmarried. Educational attainment differed, with a mean of 2.47, showing that the average respondent had higher secondary or equivalent education. With regards to the dimensions of service quality, staff behaviour had the highest mean rating (3.72) followed by quality of medical care (3.70) and communication (3.68). These high mean ratings (out of 5) indicate largely positive impressions of interpersonal contact, clinical skill, and information transmission by the hospital staff. Infrastructure, while still scored high (mean = 3.51), was the lowest among the four dimensions, reflecting comparatively more room for improvement across items like cleanliness, physical comfort, or safety features. The low standard deviations for all service quality dimensions reflect consistency in patient

Variables of the Study

Dependent Variable	Independent Variables
Overall Patient Satisfaction (Measured through a composite score of satisfaction-related items in the questionnaire)	Quality of Medical Care and Services (<i>Donabedian, 1988; Meesala & Paul, 2018</i>) Communication and Patient Involvement (<i>Nguyen et al., 2022; Cleary & Edgman-Levitan, 1997</i>) Staff Behavior and Administrative Experience (<i>Andaleeb, 2001; Aagja & Garg, 2010</i>) Infrastructure and Safety (<i>Pakdil & Harwood, 2005; Al-Abri & Al-Balushi, 2020</i>)

Multiple Linear Regression Model

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \epsilon$$

Table I
Descriptive Statistics

Variable	Minimum	Maximum	Mean	S.D
Age	1.00	4.00	2.79	1.13
Gender	1.00	2.00	1.41	0.50
Marital Status	1.00	3.00	1.15	0.44
Education	1.00	5.00	2.47	1.24
Quality of Medical Care	2.80	4.40	3.70	0.34
Communication	3.00	4.50	3.68	0.36
Staff Behavior	3.00	4.50	3.72	0.35
Infrastructure	2.83	4.50	3.51	0.38

Source: Primary Data

responses, reflecting comparatively uniform experience among respondents.

The findings reveal that, of these, communication and patient participation had the highest correlation with overall satisfaction ($r = .652$, $p < .01$), suggesting that patients who reported clear explanations, participative decision-making, and open communication from hospital staff had higher satisfaction. This result is in accordance with earlier research conducted by Nguyen et al. (2022) and Cleary and Edgman-Levitan (1997), which

highlighted that good communication, is an essential driver of positive patient experiences, usually predominating over technical care.

The second strongest correlation was between infrastructure and safety and total satisfaction ($r = .583$, $p < .01$). This implies that clean, comfortable, and safe physical surroundings play a major role in how patients rate their hospital experience. This supports the research of Pakdil and Harwood (2005) and Al-Abri and Al-Balushi (2020), who emphasized that

Table II
Correlation Analysis

Variables	Satisfaction	Quality of Medical Care	Communication	Staff Behavior	Infrastructure
Satisfaction	1				
Quality of Medical Care	.503**	1			
Communication	.652**	.002	1		
Staff Behavior	.573**	.184	.215	1	
Infrastructure	.583**	.038	.270*	-.034	1

Source: Primary Data

$p < .01$ (2-tailed) marked as **

$p < .05$ (2-tailed) marked as *

tangible aspects such as cleanliness, size, and accessibility tend to affect satisfaction, particularly in environments where patients anticipate humane and hygienic care conditions.

Administrative experience and staff behaviour also indicated a statistically significant relationship with satisfaction ($r = .573$, $p < .01$), which indicates that respectful, supportive, and responsive behavior on the part of both non-clinical and clinical staff greatly influences the patient's impression. Research by Andaleeb (2001) and Aagja and Garg (2010) also pointed out that patients' satisfaction is greatly influenced by how they are treated interpersonally during their hospital stay, from reception and billing to nursing and discharge interactions.

Though quality of medical care also revealed a positive and significant relation with satisfaction ($r = .503$, $p < .01$), it possessed the lowest correlation coefficient among the four dimensions. This can be explained by the belief that patients often expect a basic level of clinical expertise in hospitals and judge their

experience more significantly against service delivery factors like empathy, responsiveness, and comfort. This is in support of Donabedian's (1988) theory, which speculates that the process and setting of care are as important, if not more so, than the technical outcomes in shaping satisfaction. It also echoes the results of Meesala and Paul (2018) and Otani et al. (2003), whose observation was that clinical quality by itself cannot guarantee patient satisfaction in contemporary healthcare systems.

The regression analysis revealed that the four service dimensions - communication, quality of medical care, infrastructure, and staff behavior - explained 38.7 per cent of the variance in overall patient satisfaction ($R^2 = 0.387$), suggesting a moderate predictive strength (Dagger et al., 2007; Naidu, 2009). Among these, communication had the most significant influence ($\beta = 0.322$, $p = 0.010$), emphasizing its role in building trust and enhancing compliance (Nguyen et al., 2022; Cleary & Edgman-Levitan, 1997). Medical care quality also

Table III
Regression Analysis

Predictor Variable	Unstandardized Coefficient (B)	Std. Error	t-value	p-value
(Constant)	2.191	0.785	2.792	0.007
Communication	0.198	0.074	2.676	0.010
Quality of Medical Care	0.183	0.081	2.259	0.027
Infrastructure	0.221	0.113	1.956	0.055
Staff Behavior	0.205	0.127	1.614	0.112
Model Summary:				
$R = 0.622$ $R^2 = 0.387$ Adjusted $R^2 = 0.345$				
$F (4, 61) = 5.998$ $p < 0.001$ (Model is significant)				
Durbin-Watson = 1.471				

Source: Primary Data

significantly contributed ($\beta = 0.278$, $p = 0.027$), aligning with Donabedian's (1988) view on the importance of technical competence. Infrastructure had a marginally significant impact ($\beta = 0.286$, $p = 0.055$), underscoring the value of cleanliness and comfort in care settings (Pakdil & Harwood, 2005; Al-Abri & Al-Balushi, 2020). Staff behavior, while positively related, was not statistically significant ($p = 0.112$), though previous research highlights its practical importance in patient interactions (Andaleeb, 2001; Aagja & Garg, 2010).

Based on the correlation and regression analyses, the results of the hypotheses tested are as follows;

H01: There is no significant relationship between the quality of medical care and overall patient satisfaction.

Correlation: $r = 0.503$, $p < 0.01$?
Significant

Regression: $\beta = 0.278$, $p = 0.027$?
Significant

It is evident that the p-value is less than 0.05 ($p = 0.027$) for the relationship between quality of medical care and overall patient satisfaction. Therefore, the null hypothesis (H01) has been rejected, indicating a statistically significant positive relationship between the two variables.

H02: There is no significant relationship between communication and patient involvement and overall patient satisfaction.

Correlation: $r = 0.652$, $p < 0.01$?
Highly significant

Regression: $\beta = 0.322$, $p = 0.010$?
Significant

It is evident that the p-value is less than 0.05 ($p = 0.010$) for the relationship between communication and overall patient satisfaction. Therefore, the null hypothesis (H02) has been rejected, indicating a statistically significant positive relationship between communication and overall patient satisfaction.

H03: There is no significant relationship between staff behavior and administrative experience and overall patient satisfaction.

Correlation: $r = 0.573$, $p < 0.01$?
Significant

Regression: $\beta = 0.236$, $p = 0.112$?
Not significant

It is evident that the p-value is greater than 0.05 ($p = 0.112$) for the relationship between staff behavior and overall patient satisfaction. Therefore, the null hypothesis (H03) is not rejected, indicating that staff behavior does not significantly predict overall patient satisfaction when other variables are controlled for, despite a significant correlation.

H04: There is no significant relationship between infrastructure and safety and overall patient satisfaction.

Correlation: $r = 0.583$, $p < 0.01$?
Significant

Regression: $\beta = 0.286$, $p = 0.055$?
Marginal ($p > 0.05$)

It is evident that the p-value is slightly greater than 0.05 ($p = 0.055$) for the relationship between infrastructure and overall patient satisfaction. Therefore, the null hypothesis (H04) is not rejected at the 5 per cent significance level, indicating that while infrastructure has a significant

correlation with satisfaction; it does not significantly predict satisfaction in the regression model.

H05: The combined predictors, such as quality of medical care, communication, staff behavior, and infrastructure, do not significantly predict overall patient satisfaction.

Model Summary: $F (4, 61) = 5.998$, $p < 0.001$! Model is significant

The overall model is statistically significant with a p-value less than 0.001 ($F = 5.998$, $p < 0.001$). Therefore, the null hypothesis (H05) is rejected, indicating that the combined predictors, such as quality of medical care, communication, staff behavior, and infrastructure, significantly predict overall patient satisfaction. Among these, communication and medical care emerge as the most influential factors, while infrastructure and staff behavior play comparatively lesser predictive roles.

Findings and Suggestions

Findings

- **Communication and patient involvement** had the **strongest positive correlation** with overall patient satisfaction ($r = 0.652$, $p < .01$) and emerged as the **most significant predictor** in the regression model ($\beta = 0.198$, $p = 0.010$).
- **Quality of medical care** showed a **statistically significant impact** on satisfaction ($\beta = 0.183$, $p = 0.027$), indicating the importance of clinical competence, diagnosis accuracy, and treatment effectiveness.

- **Infrastructure and safety** had a **near-significant impact** ($\beta = 0.221$, $p = 0.055$) and a high correlation with satisfaction ($r = 0.583$, $p < .01$), highlighting the growing importance of physical comfort and hygiene post-pandemic.

- **Staff behavior and administrative experience**, although positively correlated with satisfaction ($r = 0.573$, $p < .01$), did not significantly predict satisfaction in regression ($p = 0.112$), possibly due to overlapping influence with communication.
- **The regression model explained 38.7 per cent** of the variation in overall patient satisfaction ($R^2 = 0.387$, $p < 0.001$), indicating that satisfaction is multifactorial and other variables such as emotional support, waiting time, or cost might also contribute.

Suggestions

- **Enhance communication protocols** by training healthcare professionals in clear explanations, active listening, and participatory care to strengthen trust and reduce anxiety.
- **Maintain high clinical quality standards** through regular skill enhancement programs, continuous medical education, and adherence to diagnostic and treatment protocols.
- **Improve hospital infrastructure and safety measures**, especially hygiene, waiting areas, ventilation, and signage, to increase patient

comfort and perception of care quality.

- **Train hospital staff (both clinical and non-clinical)** in soft skills such as empathy, respect, and cultural sensitivity, to improve patient experiences at all touchpoints.
- **Broaden the scope of patient satisfaction assessments** to include other influential variables such as emotional support, affordability, waiting time, and ease of access.

Conclusion

The study examined the key determinants of patient satisfaction at NS Cooperative Hospital, Kollam, across four service dimensions: medical care quality, communication and patient participation, staff behavior, and infrastructure. Based on responses from 66 patients, the analysis revealed that communication had the strongest

influence on satisfaction, followed by medical care and infrastructure. At the same time, staff behavior, though positively related, was not statistically significant in the regression model, likely due to its overlap with communication. These findings highlight that patient satisfaction encompasses more than just clinical effectiveness; it includes the quality of interpersonal communication, emotional experience, and the physical care environment. In light of this, three practical recommendations are proposed: establishing a “Patient Communication and Support Unit” to ensure transparent and timely information sharing; launching the “NS Clean & Safe Hospital” campaign to enhance infrastructure, safety, and cleanliness; and implementing a “Patient-Centered Care Training Program” to improve staff empathy and responsiveness. Together, these initiatives address both the technical and human aspects of care, offering a comprehensive strategy to enhance patient experience in semi-urban cooperative hospitals.

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