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## **Evaluation of Patient Satisfaction: A Crucial Quality Metric in Dental Health Care Services**

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### **Abstract**

The main purpose of Health Care Policy in developing nations like India is providing oral health care services to the needy and promoting oral health in the society. Health-care systems are rapidly changing, as are the requirements for meeting new difficulties. Health-care organizations all throughout the World are concerned about quality. It is critical to receive feedback on dental care satisfaction in order to enhance the service delivery process and outcome. The purpose of this study was to evaluate patient satisfaction as a crucial quality metric in dental health care service. A cross-sectional questionnaire study was conducted in the Prosthodontics department. A pre-validated patient satisfaction questionnaire included socio-demographic information and a total of 23 questions, including 22 close-ended questions on the dimensions of Accessibility/Convenience/Facility, Communication/interpersonal relationships, Quality/Technical Competency and General/Overall Satisfaction with a 5-point Likert Scale and one open-ended question for patient's suggestions. 73.60% patients were satisfied with accessibility/convenience/facility available in hospital. 80.39% patients were satisfied with interpersonal communication of students and faculty. 81.03% patients were satisfied with quality and technical competency of students and faculty. 82.70% patients had general satisfaction. 79.43% patient's responded overall satisfaction for all above four domains. To encourage professional practices concerning quality systems as management tools, as well as to incorporate patients' opinions in hospital health care policy, because satisfied patients can improve a hospital's added value. The organisation or hospitals should conduct such surveys on a regular basis because the Patients are the key stakeholders for shaping tomorrow's healthcare system.

**Key Words:** Satisfaction, Quality, Patient, Healthcare, Dental

### **Introduction**

The main purpose of Health Care Policy in developing nations like India is providing oral health care services to the needy and promoting oral health in the society. Health-care systems are rapidly changing, as are the requirements for meeting new difficulties. Health-care organisations all

throughout the World are concerned about quality. It is critical to receive feedback on dental care satisfaction in order to enhance the service delivery process and outcome. <sup>[1,2]</sup>

The healthcare business is under tremendous pressure to provide patient services more efficiently, not just from national political forces but also from the competitive marketplace. The most pressing task for hospitals will be to deliver high-quality care in the most cost-effective and competent manner feasible. Three pillars of healthcare quality are patient's safety, clinical effectiveness and patient's experience; out of these patient's experience is highly acknowledged in contemporary era. <sup>[3]</sup>

As we enter the twenty-first century, we might expect and even desire changes in our attitudes and perspective. The healthcare sector is shifting predominantly from *a sellers' market to a buyers' market*. Many healthcare companies in India will strive to gain a large portion of the healthcare market in the future. In current era, awareness of the importance of marketing in hospitals is budding. The success of a hospital will also be determined by strategic planning based on timely and reliable data. <sup>[4]</sup> According to the concept of *Modern Management Science*, 'Customer satisfaction' is a standard of exceptional quality for every company organisation. <sup>[5]</sup> According to Kotler, "Satisfaction" is "a person's emotion of joy or disappointment as a result of comparing a product's perceived performance or outcome to his or her expectations." <sup>[6]</sup> As a result, the multidimensional idea of quality is commonly offered and defined.

As the concept of "Consumerism" has grown in importance, including patients' opinions in the appraisal of services has become more imperative. There is now widespread agreement that high quality care is considered when the patient is happy and satisfied with the treatment. <sup>[7]</sup> The patients' perspective has become important measure of evaluation of health-care quality. <sup>[8]</sup>

*Performance measurements* are important to healthcare providers and patients because they allow them to compare their service to industry norms. According to *Institute of Medicine (IOM)*, six aims of health care for the twenty-first century should be 'effective, safe, patient-centred, timely, efficient, and equitable.' As a result, effectiveness and safety are the keystones of high-quality treatment. "Quality of care" is defined by IOM as "the degree to which health services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge." <sup>[3]</sup>

The *International Organization for Standardization* defined *Quality* as, "a set of qualities of an entity that bear on its capacity to satisfy expressed and implied needs." <sup>[9]</sup> *Quality health care*, according to the providers, entails "doing the right thing for the right person at the right time and achieving the best possible outcomes." <sup>[10]</sup>

In 1997, The Indian Government and industry established an autonomous agency to plan and run a 'National Accreditation System for Conformity Assessment Agencies' named "*The Quality Council of India*" (QCI). To achieve the goal of increasing the quality competitiveness of Indian products and services, the QCI gives planned trend to the quality movement in the country by beginning international acknowledgement of *India's conformity assessment system*. Essentially, the goals are to establish and maintain an accreditation structure in the country, provide precise and equitable data on quality-related principles, promote excellence in the country through the *National Quality Campaign*, assist quality-related equipment and systems, and assist in the establishment of brand equity for Indian products and services. <sup>[11]</sup>

Promotion of professional standards in Dentist is important and serious matter. <sup>[12]</sup> According to the *Dental Council of India's Revised Dentists (Code of Ethics) Regulations, 2014 Notification on Code of Dental Ethics* in PART III—SEC. 4, 3.6 under the heading of '*Highest Quality Assurance in Patient Care*', "*Every Dental Practitioner should ensure quality treatment that does not compromise the treatment outcome.*" <sup>[13]</sup>

According to *Dental Quality Alliance* (DQA) in 2012, a good *quality measure* is one that involves, '*an essential clinical area, scientifically acceptable, usable, and feasible.*' <sup>[14]</sup> Dentistry is in a constant state of evolution. According to the literature, competent management of service quality is necessary for competitive advancement. Iterative measurement is critical for '*identifying, implementing, evaluating, monitoring, and sustaining quality improvement initiatives.*' <sup>[15]</sup>

The obligation of the dental healthcare practitioner to society includes dental health care satisfaction. A more imperative parameter of dental care quality is Patient's satisfaction. <sup>[16]</sup>

Patient satisfaction is a multifaceted term when it deals with the dental care delivered by dental students. During medical school training, medical students are primarily involved in disease diagnosis, whereas dental students involved in disease diagnosis along with provide treatment to their patient's during their clinical training. <sup>[17]</sup>

Instruments such as standardised surveys that measure patients' responses to dental treatment are useful in determining patient's satisfaction of oral care. <sup>[2,7]</sup> There have been substantial signs that less acceptable consumer care is less effective. The satisfaction of patients has been studied in a number of dental colleges across the world through structured questionnaires. <sup>[18]</sup>

Health care management research is more concerned with promoting quality service to the society. Improving the dental services quality and increasing satisfaction of each patient, willingness to use the service again and to refer it to their relatives and friends is the parameter of successful healthcare service. Dental clinics must have a quality assurance system in place that encompasses all aspects of

dentistry. Aim of this study was to evaluate patient satisfaction as a crucial quality metric in dental health care service.

### **Materials and Methods**

A cross-sectional questionnaire study was conducted at Prosthodontics department, VSPM's Dental College and Research Centre in Nagpur, Maharashtra, India, over a period of three-months. The Institutional Ethics Committee reviewed and approved the study protocol. Patients were chosen at random.

Inclusion Criteria: Patients aged 18 years and above and willing to participate in the study.

Exclusion criteria: Patients under 18 years of age, mentally ill patients, patients unable to complete the questionnaire due to time constraints, and unwilling patients.

*A patient satisfaction questionnaire* was developed in English and translated into the regional language (Marathi) for the benefit of patients who could only communicate in the local language, and it was validated by faculties. In the first section of a pre-validated questionnaire, socio-demographic information such as name, gender, age, marital status, address, educational background, and occupation was collected.

The second section included a total of 23 questions, including 22 *close-ended questions* on the dimensions of '*Accessibility/Convenience/Facility*' (6 questions), '*Communication/interpersonal relationships*' (5 questions), '*Quality/Technical Competency*' (9 questions), and '*General/Overall Satisfaction*' (2 questions), with a *5-point Likert Scale* (*Strongly Disagree; Disagree; Not Sure; Agree; Strongly Agree*) and one open-ended question for patient's suggestions. Only questionnaires that were completely filled out were considered for analysis. The questionnaire was created by incorporating some of the questions that had previously been used in other studies and were modified to fit the purpose of this study.

Patients were asked to response their experience with treatment for satisfaction questionnaires in the Prosthodontics department. The data was analysed by *SPSS version 16*.

### **Results**

The questionnaire was completed by 111 patients out of 150. This corresponds to a 74% response rate.

The socio-demographic details of the respondents are of 111 respondents [Table 1]. Among the 111 respondents, 62 (56%) were males and 49 (44%) females. The highest proportion of patients 35 (32 %) from >60 years age group, followed by the age group 50-59 years were 29 (26 %). 21 (19%) of patients were single, and 90 (81%) were married. 40 (36%) and 71 (64%) patients visited from rural

and urban areas respectively. The highest educational level is a university degree 40(36%), followed by illiteracy 27 (24%). Patients reported a wide range of occupations, the most common of which were in the business field 36 (32%), followed by the other group 31(28%), and students 26 (23%).

[Graph 1] - Displays participant's responses to accessibility/convenience/facility. 60.4 % of patients agreed that the hospital's location was convenient. The opening hours were deemed satisfactory by 66.7 % of patients. 77 % of patients prefer a convenient parking facility. Signage and directions were easy to follow for 60.4 % of patients. The waiting area was rated as comfortable by 60.4 % of those polled. 27 % of patients said they had to wait a long time, 27.9 % disagreed, and 32.4 % were neutral.

[Graph 2] - Provides a summary of communication/interpersonal relationships. 66.7 % of patients agreed that dentists treat patients with dignity. Assistants and nurses were rated as helpful by 66.7 % of patients. Dentist explains what they do, according to 67.6 % of patients. 72.1 % of patients agreed that the dentist should notify them of the number of appointments needed.

[Table 2] - Displays the results for quality/technical competency. Dentists examine the entire mouth and teeth, according to 72.1 % of patients. 70.3 % of patients agreed that the dentist should inquire about their medical history. 70.3 % of patients agreed that the dentist spent enough time on their treatment. 71.2 % of patients said their dentist was able to solve their dental problems. Dentists answer questions, according to 69.4 % of patients. Infection control measures were agreed upon by 66.7 % of patients. Dentists, according to 64% of patients, provide a variety of treatment options. Dentists, according to 62.2 % of patients, provide affordable treatment. 64.9 % of patients agreed that there is adequate follow-up care. 56.8 % of patients agreed that this Department has advanced dental care facilities, while 25.2 % were unsure.

[Graph 3] - Displays the results of a General Satisfaction survey. 72.1 % of patients said they were satisfied with the high quality of dental care they received. 70.3 % of patients said they would recommend this department to others.

The results of overall satisfaction for the four major disciplines are shown in [Table 3]. 73.60 % of patients were satisfied with the hospital's accessibility/convenience/facilities. 80.39 % of cases satisfied with interpersonal communication and 81.03 % respondents satisfied with the quality and technical competency of students and faculty.

Patients are generally satisfied in 82.70 % of cases. Overall satisfaction was reported by 79.43 % of patients across all four domains.

## **Discussion**

Previous research has been unable to determine the impact of patients' socio-demographic characteristics on their satisfaction with general dental care. According to some reports, sex and age

have a direct effect. <sup>[19]</sup> Others, however, did not show such associations. <sup>[20]</sup> The patients' satisfaction scores and their gender and age did not show association significantly in this study.

The satisfaction levels in male and female patients did not show statistically significant association. Patients aged 40-49 years were more satisfied than those of other ages. When compared to single people, married people were more satisfied with the available facilities in the department and interpersonal communication domain. Because the dental hospital is located on a hill, both rural (72.56 %) and urban (74.1 %) patients have difficulty getting there. The educational status has no significant association for patient's satisfaction. When compared to others, civil servants were less satisfied (66.40 %) with the facilities available in the waiting area.

Overall, unmarried participants were dissatisfied. This point is significant because it indicates that a patient's marital status should be taken into account during treatment: unmarried patients had higher pre-treatment expectations. <sup>[21]</sup>

There is one area where a dental treatment facility falls short in patient satisfaction, because many patients treated by single dentist. 27 % of patients agreed to the question about facility factors, such as waiting period is very time consuming as compared with patient's expectations. Our faculty's dental care delivery system is based on planned treatment schedules, and clinical work is performed by postgraduate students, undergraduate students, and interns under the supervision of teachers. Furthermore, as previously stated, dissatisfaction with treatment assignment may have had a negative impact on mean satisfaction scores. <sup>[8]</sup>

In this study, many patients were gratified with convenience and accessibility. In one study, 1/3<sup>rd</sup> of patients were not satisfied where the clinics are inaccessible and inconvenient. <sup>[22]</sup> Similarly, in another study, the success of reaching the location of the outreach dental programme was very high. <sup>[23]</sup> However, there was no association in patient satisfaction levels to reach the clinic in another study. <sup>[24]</sup>

In the current study, 67.6 % of people thought the treatment explanation was excellent. In a similar study, 94.1 % of people felt that the dentist adequately explained the treatment required. <sup>[25]</sup> Another study found that 80% of patients had a positive experience with their dentist, 12% had a fair experience, and 8% had a negative experience. The vast majority of patients 89 % experienced contented with the level of attention given by dentist. <sup>[26]</sup>

According to the findings of this study, dental students' knowledge of the patient's requirements and dentists' communication are main priorities for improving facility excellence. Interpersonal communication plays a very important role in developing a good rapport and keen interest in solving patient's main problem, as a result, providing the most appropriate treatment. Communication scores

80.39 % in this study. This is supported by other studies in which the dentist's behaviour was found to be the most important component of satisfaction. <sup>[16]</sup>

Overall satisfaction for convenience was 83.02 %, communication was 68.2 %, and technical quality was 93.06 %, according to the results of another study. <sup>[27]</sup>

The findings of this study were comparable to those of recent studies on satisfaction levels; the overall mean satisfaction levels of the adult patients in this study were high (79.43%), as were each of the subscales of access (73.60%), interpersonal communication (80.39%), quality (81.03 %), and general satisfaction (82.70%). This was consistent with other studies' satisfaction levels. <sup>[28]</sup>

The average overall satisfaction score in this study was 79.43 %, which was higher than the 61.7 % satisfaction response in another study. <sup>[2]</sup>

### **Conclusion**

The patients were mostly pleased with their dental care. Most of patients were pleased with the interaction, technical excellence, managerial efficacy, and hospital setting, according to the findings. To encourage professional practices concerning quality systems as management tools, as well as to incorporate patients' opinions in hospital health care policy, because satisfied patients can improve a hospital's added value.

A team with high emotional intelligence and job satisfaction will be best positioned to satisfy patients. These factors are so inextricably linked that measuring patient satisfaction can also effectively measure team satisfaction. All of these points of patient satisfaction surveys playing a critical role in determining success in practise.

Because patient satisfaction influences enrolment in the future plans, the patient is essential to the accomplishment of health care management strategies. The organisation or hospitals should conduct such surveys on a regular basis to evaluate patient satisfaction for the purpose of continuous improvement; as the Patients are the key stakeholders for shaping tomorrow's healthcare system.

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### **Ethical Statement**

“The author is accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.”

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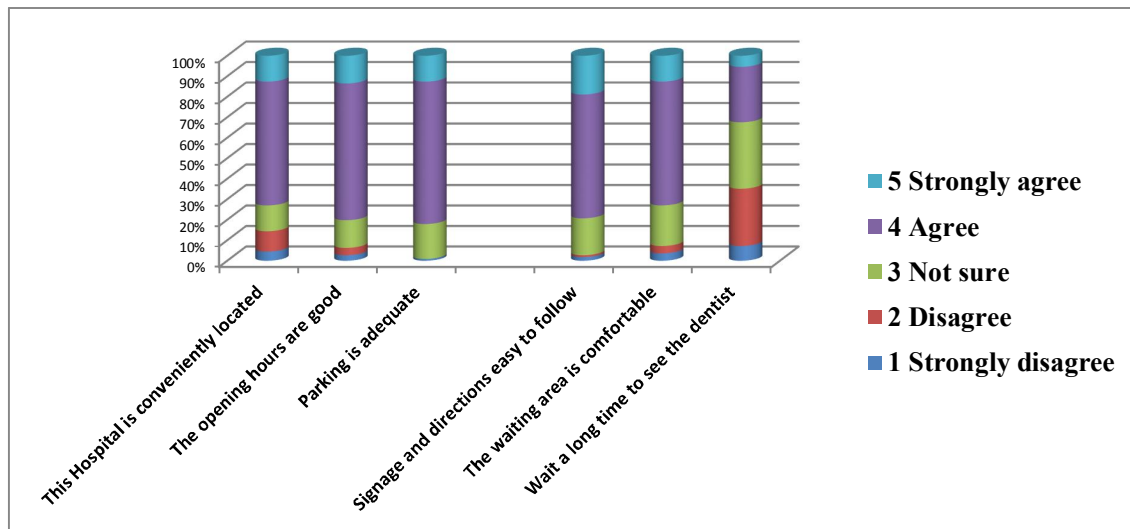


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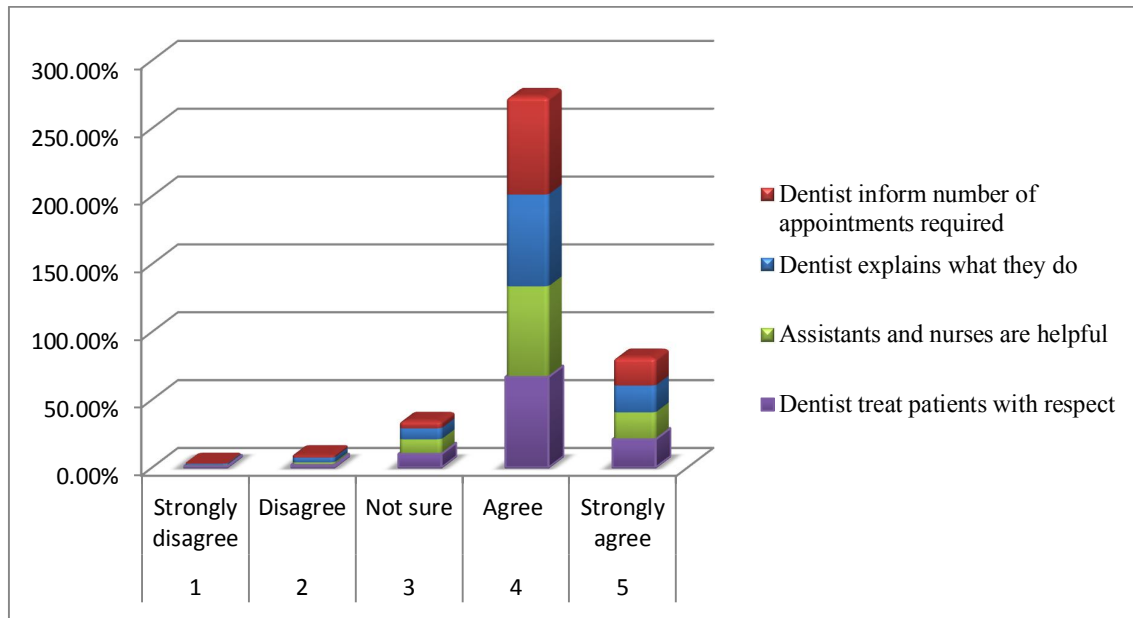
**Tables and Graphs**

**Table 1: Socio-demographic Details**

Sr. No.	Demographic Variables	Characteristics	n (Number)	%
1	Gender	Male	62	56%
		Female	49	44%
2	Age	18-29 Years	21	19%
		30-39 Years	11	10%
		40-49 Years	15	13%
		50-59 Years	29	26%
		>60 years	35	32%
3	Marital Status	Single	21	19%
		Married	90	81%
4	Location	Rural	40	36%
		Urban	70	64%
5	Educational Level	Illiterate	27	24%
		Primary	12	11%
		Secondary	13	12%
		College	19	17%
		University	40	36%
6	Occupation	Civil Servant	13	12%
		Business/Trading	36	32%
		Retired	5	5%
		Student	26	23%
		Other	31	28%



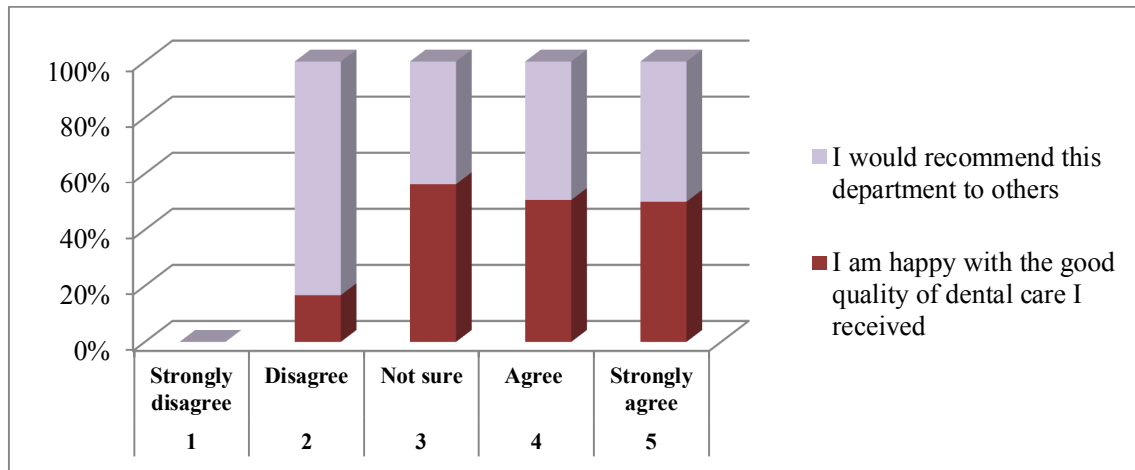
**Graph 1: Participant's responses to accessibility/convenience/facility**



**Graph 2: Participant's responses to communication/interpersonal relationships**

**Table 2: Participant's responses to quality/technical competency**

Sr. No	Questions	1 Strongly disagree	2 Disagree	3 Not sure	4 Agree	5 Strongly agree
11	Dentist examine whole mouth and teeth	0%	0.9%	8.1%	72.1%	18.9%
12	Dentist ask medical history	0%	4.5%	6.3%	70.3%	18.9%
13	Dentist spent enough time for treatment	0%	2.7%	6.3%	70.3%	20.7%
14	Dentist able to relieve my dental problems	0%	1.8%	7.2%	71.2%	19.8%
15	Dentist answer my questions	0%	1.8%	6.3%	69.4%	22.5%
16	Dentist take care of Infection control measures	0%	0.9%	13.5%	66.7%	18.9%
17	Dentist offer a different treatment options	0%	0.9%	11.7%	64%	23.4%
18	Dentist offer affordable treatment	0.9%	0.9%	15.3%	62.2%	20.7%
19	Good follow up care	0%	0.9%	14.4%	64.9%	19.8%
20	Department is having advanced dental care facility	0%	0.9%	25.2%	56.8%	17.1%



**Graph 3: Participant's responses to a General Satisfaction survey**

**Table 3: Participant's responses to overall satisfaction for the four major disciplines**

Sr. No.	Four major disciplines	Mean	SD	%
1	A-Accessibility/Convenience/Facility	22.08	3.12	73.60%
2	B-Communication/Interpersonal Relation	16.07	2.45	80.39%
3	C-Quality/Technical Competence	40.51	5.15	81.03%
4	D- General Satisfaction	8.27	1.14	82.70%