

Patient satisfaction level in outpatient department in a private dental hospital

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ABSTRACT

Background: In the dental field, patient satisfaction played a very important role, specifically finding the strength and weakness in the dental clinic. It also assists in improving the quality of treatment as well as better future planning of treatment. **Objective:** The present study was planned and conducted with an objective to assess the level of satisfaction among patients attending the outpatient department in a private dental hospital. **Materials and Methods:** A prospective, cross-sectional, and questionnaire-based study was undertaken in a private dental hospital. Patients of age more than 18 years and of both gender attending outdoor patient department were included in the study. For the purpose of this survey, consecutive sampling was carried out until a sample size of 200 was achieved. The patient satisfaction was assessed using dental satisfaction survey 2002 – questionnaire. **Results:** Among 31 items, none of the respondents indicated strong agreement or disagreement for 30 items, only for one item, item no. 14 regarding the explanation of cost, respondents indicated strong agreement (106, 53.00%). More than 40% of respondents indicated strong agreement (indicating satisfaction) with the statement for seven items. None of the items have <10% of respondents indicated strong agreement. The respondents expressing strong disagreement (indicating dissatisfaction) with any statement was <10% on 23 of the 31 items. The inter-item reliability of all 31 items of the questionnaire was tested, and the overall satisfaction scale (all items 1–31) produced a high Cronbach's alpha value of 0.92. **Conclusion:** Patients' satisfaction was observed not only for overall satisfaction but also in all sub-scales – context, content, outcome, cost, and facilities.

KEY WORDS: Patient Satisfaction; Outpatient Department; Private Hospital; Dental Clinic

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INTRODUCTION

Patient satisfaction is regarded as an important indicator of medical/dental care. It is also one of the major factors that improve patient compliance and consequently improved clinical outcomes.^[1] There is a gross change in health care in recent times. It has been transformed from care

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provider-centered approach to a patient-centered approach. Patients' satisfaction is now an integral part of quality medical/dental care.^[2] Patients' satisfaction can be regarded as an intermediate outcome of the health-care process. It reflects the extent to which the care given answers patients' needs, meets their expectations and provides an acceptable standard of service.^[3] There have been strong indications and associations have been found which suggest that less satisfactory care to the consumer is also less effective.^[3] Associations also has been found between patients' dissatisfaction with medical care and non-compliance with instructions, delay in seeking care, and poor understanding, and retention of instructions have been demonstrated. Each of these behaviors could be detrimental to improved health status.^[4] Hence, patient satisfaction is valued as a vibrant aspect of gauging the overall quality of health care.^[5]

In the dental field, patient satisfaction played a very important role, specifically finding the strength and weakness in the dental clinic. It also assists in improving the quality of treatment as well as better future planning of treatment.^[6] Patient satisfaction determined by multiple factors such as patient's educational level, lifestyle, previous medical experience, and expectations.^[7,8] Hence, by providing high-quality dental care service and to achieving patient satisfaction must be important for the dentist.^[9] For private dental clinics/hospitals, the dentist must constantly strive to find a balance between meeting the needs of the patient.^[10]

Patient satisfaction is a subjective assessment and by inviting patients to express their opinions on their health-care experience, studies of satisfaction may provide a measure of the success of dental treatment in terms of the perceived needs, the expectations and the health-care experience of the patients.

With this background, the present study was planned and conducted with an objective to assess the level of satisfaction among patients attending the outpatient department in a private dental hospital of Ahmedabad, Gujarat, India.

MATERIALS AND METHODS

A prospective, cross-sectional, and questionnaire-based study was undertaken in February 2019, in The Smile Gallery Dental Clinic, Ahmedabad, Gujarat, a private dental hospital. The study protocol was approved by the Sangini Hospital Ethics Committee (No SHEC/2019/210, dated: 09/02/2019).

Patient Selection

Patients of age more than 18 years and of both gender attending Outdoor Patient Department (OPD) of The Smile Gallery Dental Clinic during the study duration were included in the study. Patients of age <18 years and who denied to give consent were excluded from the study.

Sample Size

For the purpose of this survey, consecutive sampling was carried out until a sample size of 200 was achieved.

Method of Data Collection

All the patients participating in the study were explained clearly about the purpose and nature of the study in the language they can understand and written informed consent was obtained before including them in the study. All information to accomplish objectives was collected from the patients' treatment record and by personal interview of each of the study participants and recorded in a structured case record form (CRF). The CRF comprised details regarding socio-demographic profile; present history including symptoms; drug therapy; and other relevant information.

Study Tool

The patient satisfaction was assessed using dental satisfaction survey 2002 – questionnaire.^[11] The dental satisfaction questionnaire (DSQ) was developed with the objective of examining differences in satisfaction among participants of cross-sectional population surveys. The content and style of the DSQ reflect a conceptual approach that defines satisfaction as the reaction to salient aspects of the context, content (process), and outcome (result) of the health-care experience.^[12] Among these three broad dimensions, further sub-sets of satisfaction were present. These sub-sets were based on the various satisfaction scales in the health-care literature and were most closely aligned to the dimensions of satisfaction proposed by Pasco and Attkinsson in the evaluation ranking scale.^[13] The items within these sub-sets cover:

- Location, travel and appointments
- Waiting time
- For appointment and service
- Helpfulness of clinic staff
- Friendliness of the dental professional
- Thoroughness of procedures
- Concordance with services wanted
- Preferred dental professional seen
- Explanation and communication about services
- Success in terms of problems solved and improved oral health
- Speed of results
- Value of services
- Usefulness of advice received.

The statements used in this DSQ were based on the content of existing satisfaction scales: The patient satisfaction questionnaire III;^[3] the scale for the measurement of satisfaction with medical care;^[14] the client satisfaction questionnaire;^[15] and the dental satisfaction index.^[16] The items on the questionnaire were presented as statements

pertaining to the personal experience of the respondents at their ongoing visit. This direct or personalized approach was preferred over the indirect approach or generalized approach, which has been criticized as measuring more generalized attitudes and even life satisfaction.^[3] The dental statistics and research unit (DSRU) evaluates satisfaction using attitudinal scales. Thus, responses to the statements were captured on a continuum from negative to positive. The participants were asked to indicate the extent of their agreement or disagreement with the statements on a five-point Likert-type scale with one indicating strong disagreement and five indicating strong agreement. This approach to the scoring of satisfaction is the predominant approach within the health satisfaction literature.

Statistical Analysis

The data were subjected to statistical analysis using Microsoft Office Excel 2016. Data were expressed as absolute numbers with or without percentages, as means with standard deviation (SD) or as medians with ranges. $P < 0.05$ was considered to denote statistical significance. The individual items on the questionnaire, which were included in each of these subsets and their inter-item reliability was tested using Cronbach's alpha.

RESULTS

A total of 200 patients were included in the study. During the study period, males (113, 56.50%) had attended OPD of the dental clinic as compared females (87, 43.50%) with male: female ratio 1.3:1. Among the patients with different age groups, a maximum number (87, 43.50%) of patients belong to the age group of 45–64 years. Other age groups representation was as per the following: 18–24 years: 19 (9.50%) patients; 25–44 years: 57 (28.50%) patients; and ≥ 65 years: 37 (18.50%) patients. According to the residence of the study population, a majority of the population belong to urban areas (143, 71.50%) while 57 (28.50%) patients belong to rural areas [Table 1].

According to the literacy level of the study population, 4 (2.00%) patients were illiterate; 42 (21.00%) patients; 64 (32.00%) patients; and 90 (45.00%) patients had received primary; secondary; and graduate and above the level of education, respectively. 143 (71.50%) patients were employed while 57 (28.50%) patients were unemployed (including house-wives). For the present study to calculate the socio-economic class of the patient, we have used Prasad's socioeconomic scale for 2019.^[17] On categorizing the patients based on socio-economic class, maximum number (67, 33.50%) of patients belong to Class III while 29 (14.50%) patients; 45 (22.50%) patients; 39 (19.50%) patients; and 20 (10.00%) patients belong to Class I; Class II; Class IV; and Class V, respectively [Table 1].

According to Table 2, most of the patients (177, 88.50%) visited the dental clinic due to some dental problems. Very few patients (23, 11.50%) patients attended the dental clinic for a routine dental check-up.

In Table 3, scores of individual items of the DSQ have been recorded. Among 31 items, none of the respondents indicated strong agreement or disagreement for 30 items, only for one item, item no. 14 regarding the explanation of cost, respondents indicated strong agreement (106, 53.00%). More than 40% of respondents indicated strong agreement (indicating satisfaction) with the statement for 7 items – item no. 1, 2, 11, 12, 13, 16, and 22. Between 30% and 40% reported strong agreement on 15 items – item no. 5, 6, 7, 8, 9, 10, 15, 21, 23, 24, 25, 26, 28, 30, and 31. Only 5 items were 20–30% and three items were less 10–20% of respondents indicated strong agreement. None of the items have <10% of respondents indicated strong agreement. A maximum

Table 1: Socio-demographic characteristics of study population ($n=200$)

Characteristics	Frequency (%)
Gender	
Males	113 (56.5)
Females	87 (43.5)
Age groups (years)	
18–24	19 (9.5)
25–44	57 (28.5)
45–64	87 (43.5)
≥ 65	37 (18.5)
Residence	
Urban	143 (71.5)
Rural	57 (28.5)
Education level	
Illiterate	4 (2)
Primary	42 (21)
Secondary	64 (32)
Graduate and above	90 (45)
Employment	
Unemployed	57 (28.5)
Employed	143 (71.5)
Socio-economic class	
Class I	29 (14.5)
Class II	45 (22.5)
Class III	67 (33.5)
Class IV	39 (19.5)
Class V	20 (10)

Table 2: Purpose of dental visit ($n=200$)

Purpose	Frequency (%)
Check-up	23 (11.50)
Problem	177 (88.50)

Table 3: Scores of individual items of the DSQ ($n=200$)

Item No.	Items	Scores					Mean±SD
		1	2	3	4	5	
1	Distance to clinic (context)	12	15	34	43	96	3.98±1.56
2	Travel to clinic (context)	23	18	30	38	91	3.78±1.34
3	Arrange visit (context)	22	20	56	67	35	3.37±1.45
4	Prompt visit (context)	15	24	67	49	45	3.43±1.45
5	Attractive waiting room (facilities)	23	44	46	23	64	3.31±1.20
6	Waiting time (context)	14	23	56	35	72	3.64±1.14
7	Well-equipped surgery (facilities)	10	24	44	56	66	3.72±1.20
8	Modern surgery (facilities)	15	21	45	47	72	3.70±1.01
9	Friendly staff (context)	8	12	56	54	70	3.83±1.33
10	Impersonal professional	15	23	48	34	80	3.71±1.32
11	Preferred professional (context)	9	28	34	45	84	3.84±1.09
12	Same professional (context)	5	12	23	78	82	4.10±1.51
13	Explained need (content)	9	18	21	66	86	4.01±0.94
14	Explained cost	3	12	34	45	106	4.20±1.26
15	Through examination (content)	5	22	34	68	71	3.89±1.13
16	Answered questions (content)	7	19	43	47	84	3.91±1.11
17	Explained options (content)	15	34	54	57	40	3.37±1.41
18	Avoid unnecessary costs	17	31	51	49	52	3.44±1.04
19	Satisfied with care (content)	23	21	32	67	57	3.57±1.31
20	Appropriate care	22	30	43	56	49	3.40±1.37
21	No untreated problems (outcome)	15	29	31	58	67	3.67±1.25
22	No unexpected pain	12	13	26	64	85	3.99±1.45
23	Explained treatment (content)	5	23	35	61	76	3.90±0.88
24	Problems fixed (outcome)	9	17	29	82	63	3.87±1.40
25	Improved dental health (outcome)	14	19	23	77	67	3.82±1.33
26	Expected improvement (outcome)	20	22	25	65	68	3.70±1.23
27	Affordable cost (cost)	31	34	52	43	40	3.14±1.35
28	Confident of care (outcome)	21	12	34	56	77	3.78±1.04
29	No better care (outcome)	23	28	34	67	48	3.45±1.52
30	Good advice (content)	16	18	23	82	61	3.77±1.24
31	Financially protected (cost)	17	33	38	40	72	3.59±1.04

DSQ: Dental satisfaction questionnaire, SD: Standard deviation

number of patients (106, 53.00%) strongly agreed to item number item no. 14 regarding the explanation of cost.

The respondents expressing strong disagreement (indicating dissatisfaction) with any statement was <10% on 23 of the 31 items. The percentage is greater than 10% expressing strong disagreement (indicating dissatisfaction) on the remaining eight items were – item no. 2, 3, 5, 19, 20, 27, 28, and 29.

The mean scores and SD of individual items of the DSQ – 2002 are also given in Table 3. The mean scores ranged from 3.14 to 4.20. The lowest mean scores were recorded for: Item no. 27 regarding affordable cost (3.14 ± 1.35); item no. 5 regarding attractive waiting room (3.31 ± 1.20); item no. 3 regarding arrange visit (3.37 ± 1.45); and item no. 17

regarding explained options (3.37 ± 1.41). The highest mean scores were recorded for: Item no. 14 regarding explained cost (4.20 ± 1.26); item no. 12 regarding same professional (4.10 ± 1.51); and item no. 13 regarding explained need (4.01 ± 0.94).

Scores (in mean ± SD) and each component of the dental satisfaction sub-scales of all 31 items of the DSQ – 2002 and their inter-item reliability (Cronbach's alpha values) are given in Table 4. The inter-item reliability of all 31 items of the questionnaire was tested and the overall satisfaction scale (all items 1–31) produced a high Cronbach's alpha value of 0.92. Scores for each of the five sub-scales and a score for the overall (all 31-items) satisfaction scale were calculated by the summation of items. These scores were then scaled so that the range for each sub-scale and the overall scale was

one to five, with scale of one expressing strong disagreement (indicates dissatisfaction) with that dimension of dental satisfaction and scale of five expressing strong agreement (indicates satisfaction). Mean scores for "Context" was found the maximum (3.74 ± 1.23) with highest Cronbach's alpha value of 0.75 among all five sub-scales. Lowest mean score (3.36 ± 1.21) was found for "Cost" with lowest Cronbach's alpha value of 0.65.

Table 5 shows the differences in mean scores of the sub-scales and the dental visit satisfaction scale by age and gender. The females consistently recorded higher scores than males. The highest mean scores for all five sub-scales and overall (all 31-items) satisfaction scale were recorded with age group of 18–24 years.

DISCUSSION

The population targeted includes 200 patients who visited the clinic during the time frame of the survey. However, all patients under the age of 18 years were excluded from the survey. Each patient was allowed to complete the questionnaire once during the survey period. Patients in the target population were allowed to decline participation in the survey; however, persons were discouraged from doing so, to make the sample representative of the entire dental patient population.

Table 4: Scores and Cronbach's alpha values of components of the dental satisfaction sub-scales

Scale	Items	Mean±SD	Cronbach α
Context	1, 2, 3, 4, 6, 9, 11, 12	3.74±1.23	0.75
Content	13, 15, 16, 17, 19, 23, 30	3.73±1.45	0.69
Outcome	21, 24, 25, 26, 28, 29	3.71±1.34	0.73
Cost	27, 31	3.36±1.21	0.65
Facilities	5, 7, 8	3.58±1.09	0.77
Overall satisfaction	1–31	3.70±1.13	0.92

SD: Standard deviation

Table 5: Distribution of scores and Cronbach's alpha values of components of the dental satisfaction sub-scales according to age and gender of the study population

Variables	Context	Content	Outcome	Cost	Facilities	Overall
	Mean±SD	Mean±SD	Mean±SD	Mean±SD	Mean±SD	Mean±SD
Gender						
Female	3.76±0.67	3.80±0.7	3.65±0.77	3.45±0.85	3.56±0.88	3.82±0.65
Male	3.66±0.75	3.65±0.74	3.50±0.79	3.25±0.9	3.56±0.84	3.55±0.73
Age groups (years)						
18–24	3.83±0.56	3.82±0.69	3.70±0.88	3.76±0.98	3.69±0.69	3.96±0.75
25–44	3.50±0.57	3.65±0.73	3.50±0.75	3.54±0.93	3.78±0.78	3.87±0.74
45–64	3.62±0.67	3.67±0.72	3.62±0.74	3.45±0.89	3.44±0.45	3.78±0.69
≥65	3.45±0.87	3.56±0.7	3.45±0.67	3.33±0.94	3.67±0.67	3.67±0.66

SD: Standard deviation

In the present study, males (56.50%) had attended OPD of the dental clinic as compared females (43.50%) with male: female ratio 1.3:1. In a cross-sectional survey involving 427 patients in Udaipur in 2009 using a pre-tested questionnaire, male group had more dental visits, but females experienced higher dental fear.^[18] In another study carried out by Nagarjuna *et al.*, males (54%) visited the dentist more frequently than females (46%).^[19] In many studies, it has been found that female patients showed higher fear of dental procedures, which was seen in some studies.^[20–23] This may be one of the reasons for dental visit being lower in females in the present study in comparison with the male patients. Females are largely dependent on other family members, and decisions regarding matters such as visits to the dentists are made by others, also responsible for lower visits by females. There are other studies which also show the opposite finding.^[24–26]

A maximum no. (43.50%) of patients belong to the age group of 45–64 years in the present study. Other age groups representation was as per the following: 18–24 years: 9.50% of patients; 25–44 years: 28.50% of patients; and ≥65 years: 18.50% of patients. Age is considered as an important barrier to avail dental services even if services were given free of cost. As age advances, the utilization of dental services decreased.^[27] In Kadaluru *et al.* study, the patients with a younger age group visited the dentist more regularly in comparison to the older age group.^[28] The similar trends were observed in other studies as well.^[21,28] The reason behind that the younger age group had more knowledge and fewer barriers.

According to the residence of the study population in the present study, a majority of the population belong to urban areas (143, 71.50%) while 57 (28.50%) patients belong to rural areas. There is lack/inadequate of dental services in the rural areas as well as awareness regarding dental hygiene and care among the rural population. These both factors are responsible for lesser as well as delayed dental care. It is recommended that the health centers should have complete

oral health setup so that all the services could be provided to the rural people in their village and they do not have to travel long distances to get oral health care. Lack of time was also reported as a barrier for not visiting a dentist, also reported by other studies.^[28,29]

According to literacy level of the study population of the present study, 2.00% of patients were illiterate; 21.00% of patients; 32.00% of patients; and 45.00% of patients had received primary; secondary; and graduate and above the level of education, respectively. Maximum no. (33.50%) of patients belong to Class III followed by 22.50% of patients Class II. The utilization of dental services was found to be influenced by the socio-demographic characteristics of the population such as age, education, and occupation.^[27] Higher education group showed higher dental visits than the lower education group in the present study because the education may be correlated with high health awareness, which, in turn, stimulates preventive behavior such as regular visits for a checkup. In areas where adequate dental facilities and manpower is available, social economic classes may play an important role in lower utilization of oral health-care services.^[30] There are also other factors, such as demographic, behavioral, socio-economic, cultural, and epidemiological also contribute to people's decision to either forgo care or seek professional assistance for dental problems.^[31,32]

In this study, most of the patients (88.50%) visited the dental clinic due to some dental problems. Very few patients (11.50%) patients attended dental clinic for routine dental check-up. In the study by Nagarjuna *et al.*, the main reasons for the dental visits by the participants were to seek treatment for dental problems such as tooth extractions, treatment of acute symptoms, restorations, and other reasons.^[19] In other studies, the three most common treatments received in the participants during the last dental visits were extractions, restorations, and dental prosthesis. Very few patients seeking treatment for preventive oral health care.^[20,21,28] This supports the fact that dental visits are usually motivated by pain and the need for emergency treatment as reported by a study.^[33] Other studies have also reported that low level of dental awareness is a major factor for underutilization of dental services, and this may also be responsible for the delayed presentation of patients seeking dental treatment only when in pain, thereby increasing the likelihood of receiving treatment.^[34,35]

Among 31 items, none of the respondents indicated strong agreement or disagreement for 30 items, only for one item, item no. 14 regarding the explanation of cost, respondents indicated strong agreement (53.00%). More than 40% of respondents indicated strong agreement (indicating satisfaction) with the statement for seven items. Between 30% and 40% reported strong agreement on 15 items. Only five items were 20–30%, and 3 items were less 10–20% of

respondents indicated strong agreement. None of the items have <10% of respondents indicated strong agreement. The respondents expressing strong disagreement (indicating dissatisfaction) with any statement was <10% on 23 of the 31 items. A similar type of response trends were found in the study done by Thanveer *et al.* in Vadodara, Gujarat.^[36] The observations of the present study show that patient satisfaction levels are good among patients reporting for at a private dental clinic. The present study used a robust measure of patient satisfaction. Patients' satisfaction was observed not only for overall satisfaction but also in all sub-scales – context, content, outcome, cost, and facilities.

The lowest mean scores were recorded for: Item no. 27 regarding affordable cost (3.14 ± 1.35); item no. 5 regarding attractive waiting room. As the study carried out at a private dental clinic, the cost of treatment always been the point of discussion between patients and dentist.

The inter-item reliability of all 31 items of the questionnaire was tested and the overall satisfaction scale (all items 1–31) produced a high Cronbach's alpha value of 0.92 in the present study. Mean scores for "Context" was found the maximum (3.74 ± 1.23) with highest Cronbach's alpha value of 0.75 among all five sub-scales. Lowest mean score (3.36 ± 1.21) was found for "Cost" with lowest Cronbach's alpha value of 0.65. Lower mean scores were recorded for cost-satisfaction than any of the other satisfaction scales in 2002 dental satisfaction survey carried out by The Australian Institute of Health and Welfare - DSRU.^[11] This indicate a lower level of satisfaction with the affordability of dental care. Scores below 3.00, the neutral point of the scale, were regarded as open dissatisfaction with that aspect of the dental visit. The females consistently recorded higher scores than males. The highest mean scores for all five sub-scales and overall (all 31-items) satisfaction scale were recorded with the age group 18–24 years.

There are some limitations of the present study, like,

- The random sampling method was followed, it was a convenient sample of consecutive patients attending for dental care
- Single center study
- Small sample size
- The study carried out in the private institute, data from other type of institute were not included
- No record of the procedure undertaken was made. Patients who may have undergone simpler and less traumatic aspects of care are more satisfied.

Despite all these odds, the findings of the present study are of interest, and although patient satisfaction with care at the private dental clinic has not been previously researched. Patients may be more satisfied with care by private dental practitioners with their interpersonal skills, time availability, and comprehensive nature of care, but the

cost of therapy always remains a hindrance for patients' satisfaction.

CONCLUSION

The present study used a robust measure of patient satisfaction. Patients' satisfaction was observed not only for overall satisfaction but also in all sub-scales – context, content, outcome, cost, and facilities. The patients are willing to criticize, but not directly. Instead, they will use subtle changes in their item ratings to express possible reservations. Further work is required on whether adding a summative satisfaction item that is scalar rather than categorical will help patients make more explicit their reservations.

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