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Research Article

ASSESSMENT OF PATIENT'S SATISFACTION TOWARDS DENTAL CARE PROVIDED AT A DENTAL HOSPITAL IN BENGALURU, INDIA

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ABSTRACT

In order to increase patient compliance, cooperation and improvement in the treatment quality, information regarding patient satisfaction, perception and expectations is of paramount importance. Present study is to assess the factors influencing patient's perception and satisfaction regarding quality of dental care they receive at a Dental Hospital located in the city of Bengaluru. A cross-sectional questionnaire study was conducted among 400 adult patients aged between 20-65 years visiting the Dental Hospital. A structured closed ended interviewer guided questionnaire was used to collect data on personal details of the patients and information regarding their perception and satisfaction of Dental care was gathered. The 400 adult patients consisting of 58% (235 males) and 42% (165 females) of mean age 31.5 years. The perception of Dental service reflected high level of 78% (312 patients) satisfaction. Patients aged above 50 years and those belonging to higher socio-economic class expressed significantly higher level of dissatisfaction with regards to the professional service received at the hospital. The study suggests that patient's satisfaction regarding the physical condition of the hospital, doctor-patient interpersonal relationship, services delivered and cost factor is satisfactory. The satisfaction level is less with regard to the access to the hospital premises and patients convenience factors. Dental service is a dynamic process; periodic follow-up evaluation with adequate enhancement in the dental service provided in the hospital should be implemented.

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INTRODUCTION

One of the recent significant trends in the development of modern dental health care is the involvement of patient in the management of their care and treatment (Rad M et al., 2009). Patient satisfaction is increasingly being seen as an important component of quality care. Increasing the quality of the services can raise the satisfaction level which may lead to better compliance and consequently improvement in the level

of oral health of the patients under treatment (Karydis A., 2001).

The quality of health care services should be periodically evaluated with the objective of continuously improving service quality (R. Hashim, 2005). Measuring patient satisfaction allows for evaluation of health systems, particularly comparisons between different models of care delivery. Patient satisfaction is a multidimensional concept. Some determinants of dental health care satisfaction that have been identified with the treatment are the technical aspects; interpersonal

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relationship between the patient and the doctor; accessibility to the health care center; availability of health care facilities; affordability to care; physical infrastructure of the hospital; strictly abiding by the appointment schedule; hospitality and recreational facilities, patient expectations and attitude towards overall care (Donabedian A, 1987).

Although the dental hospital aims at providing a good dental service for its patients and spends a considerable amount of money and human resources, little information regarding patient's satisfaction is available. The Present study is aimed to evaluate patient's satisfaction and perception including expectations regarding dental care provided at AECS Maaruti College of dental science and research center, Bengaluru, India.

MATERIAL AND METHODS

The present study was conducted to evaluate patient's satisfaction, perception and expectation regarding dental care provided at AECS Maaruti College of dental sciences and research Centre, Bengaluru, India. The dental care provided to the patients at the hospital is at highly subsidized rates. The care is chiefly provided by the under graduate and post graduate students under the direct supervision of qualified dental professionals.

The study is a cross sectional analytical questionnaire based study. The sample size was determined to be 400 based on the results obtained after pilot testing. The study was conducted on 400 adult patients visiting the outpatient department of the dental college. The participants were randomly selected by simple random sampling method using the OPD register at the central registration counter of the hospital. A written informed consent was obtained from each participant prior to administration of the questionnaire.

The questionnaire consisted of 30 questions, the questions were based on the chief domains considered in the study such as access, infrastructure, doctor- patient interpersonal relationship, technical aspects, professional service received and cost factor. The validity of the questionnaire was assessed by conducting a pilot study among 25 patients visiting the hospital. The questionnaire originally constructed in English was further translated into Kannada language as it being the local language in this area. Linguistic validity was checked in both the languages. The questionnaire consisted of informed consent, demographic details of the participants which included age, sex, education, family income, Kuppaswami socioeconomic scale for the year 2011 and 30 questions concerning the various domains of patient satisfaction, perception and expectations. The duration of the study was three months.

The study was conducted within the college hours from 9am to 3pm. All adult patients aged between 18-70 years were included in the study, only those patients were included who had received treatment at least once in the dental hospital in the past six months. Patients unable to comprehend in any one of the languages; English, Hindi, Marathi and Kannada were excluded from the study.

The data were coded and keyed into IBM SPSS Statistics used in Windows 7, Version 19.0. Mean and standard deviation are derived, frequency and percentage of categorical variables are determined. Chi square and Mann Whitney test are used to

compare the demographic characteristics of the patient and the patient's perception, expectations and satisfaction regarding various domains. Significant difference was assessed using Kruskal Wallis test. A P-value of 0.01 was considered.

RESULT

The questionnaire were distributed to 430 patients, responses were received from 400 patients (the response rate being 97.5%) of whom 227 were males (56.7%) and 173 females (43.3%). Kuppaswami socioeconomic scale for the year 2011 was used to assess the socioeconomic class of the participants. The patients belonging to the upper and the upper middle class were 130 (32.5%)

Among these patients the mean satisfaction score is higher among patients with low education level (up to primary school), whereas the most highly educated patients were the least satisfied with the treatment provided (Table.1). Statistically higher satisfaction rate was obtained among participants belonging to the lower income groups (<Indian Rupees 7323 per month) and among the age group of 20 to 40 years, significance derived from Kruskal Wallis test (Table.2).

Table 1 Mean satisfaction score comparison for specific patient subgroup

Parameter	No. of patients		Mean Satisfaction score	P-Value
	N	%		
Female Male	174	44%	2.17	0.096
	226	57%	2.56	
Primary School and High school Graduate and Post Graduate	270	67.5%	2.18	0.249
	130	32.5%	2.10	
<9788 Rupees >9788 Rupees	211	52.75%	2.25	0.547
	189	47.25%	2.16	
<40 yrs >40 yrs	265	66%	2.52	<0.001*
	145	34%	1.82	

Note: *denotes significant difference (Kruskal-Wallis test) *P value from Mann Whitney test

Table 2 Comparison of Patient's satisfaction and dissatisfaction in accordance with the various demographic characteristics

Demographic characteristics	Satisfied		Dissatisfied		χ^2	P-Value
	n	%	n	%		
Female Male	126	74%	47	26%	7.253	0.007*
	136	78%	91	22%		
Primary School and High school Graduate and Post graduate	190	76%	80	24%	9.413	0.024*
	72	64%	58	36%		
<9787 Rupees >9787 Rupees	143	67%	68	33%	4.167	0.654
	119	59.5%	70	40.5%		
<40 yrs. >40 yrs.	158	76.25%	107	23.75%	18.937	<0.001*
	104	60.25%	31	39.75%		

*P value = <0.001 indicates statistical significance

Among the chief domains considered the satisfaction was less with regard to access, 39.55% of the patients are satisfied with the access, and only 58.55% are satisfied with the patient's convenience factors including basic amenities, the number of visits made to the hospital and long waiting time. Whereas the satisfaction level was high (87.75%) with reference to professional service, 85.25% are satisfied with the doctor-patient interpersonal relationships, 78% are satisfied with the technical aspect and 93.5% with the cost factor (Table.3).

Table 3 Comparison of Patient's satisfaction and dissatisfaction in accordance with the various health care domains

Health care domains	Satisfaction		Dissatisfaction		χ^2	P-Value
	n	%	n	%		
Access and physical condition	270	67.5%	130	32.5%	7.43	<0.001*
Professional service	309	77.25%	91	22.75%	6.45	0.074
Patient-doctor (interpersonal) relationship	351	87.75%	49	12.25%	8.74	<0.001*
Patient convenience	341	85.25%	59	14.75%	6.34	0.073
Technical aspects	284	71%	116	29%	7.89	<0.001*
Cost factors	374	93.5%	26	6.5%	4.34	<0.001*

*P value = <0.001 indicates statistical significance

The level of patients expectations was significantly higher among highly educated patients (graduates and post graduates), 60% of them demanded for recreation facility in the waiting area such as LCD screens and children's play area, 78% of them expected improvement in the basic amenities of the hospital, 72% of the participants preferred extension of the hospital working hours in the evening and on general holidays (fig. 1).

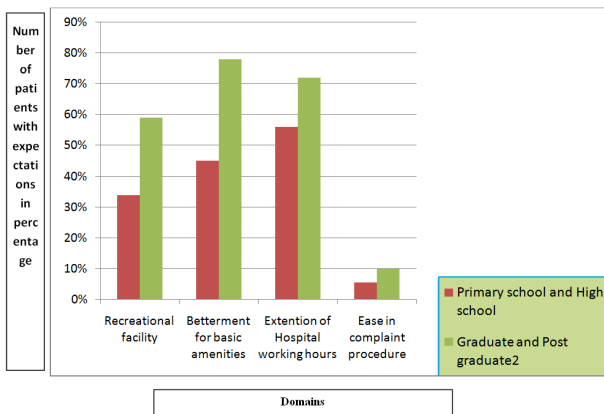


Fig 1 Comparing patient's preferences and expectations regarding various domains with respect to education level

Among the chief domains considered 59.55% of patients are satisfied with the access, 87.75% are satisfied with the professional service, 82.25% are satisfied with the interpersonal relationships, 78% are satisfied with the technical aspect and 93.5% with the cost factor (fig. 2).

Comparison between patient's satisfaction and dissatisfaction is done using chi square test. Significant difference is observed in satisfaction regarding access, cost factor and doctor-patient interpersonal relationships among the various patient groups which were considered. (p value <0.001).

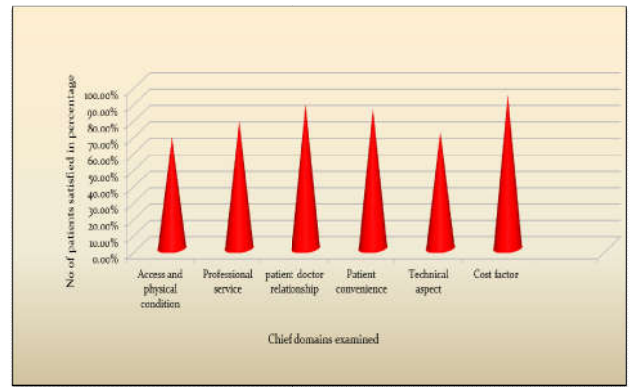


Fig 2 Satisfaction among patients pertaining to the chief domains examined regarding dental care.

DISCUSSION

Evaluation of Dental care satisfaction is an integral part of the dental health care professional's obligations to the society at large (Gopalkrishna P and Munnalene V, 1993). Against the background of cut throat competition and commercialization of health care services, satisfying patients by gathering knowledge about their perceptions and expectations, has become a key task for all health care providers. The present study was conducted to assess the patient's satisfaction at Maaruti dental college.

This study has shown that patients belonging to lower socio-economic class and patients with lower income showed greater satisfaction regarding dental services, Golletz *et al* observed similar findings in reviewing satisfaction with dental care among a low income population (Golletz *et al*, 1995). Our study further indicated patients with less education were more satisfied with dental care, than those attending higher education similar results were obtained in a study conducted by HandelmanSLand R Hashim, it is possible that the more educated patients had higher expectations of the service due to greater exposure and attention to detail, whereas the less educated might have appreciated getting any dental care of mediocre level due to lack of awareness (Hadelman SL *et al*, 1995). This study indicates higher satisfaction among younger patients as compared to older patients; these results were similar to those obtained in a study (Lahti S, Tuutti H, 1996). Whereas in a few studies performed in the past suggest no difference when age is considered (Williams SJ and Calnan M, 1991).

Satisfaction regarding access was least in our current study, dissatisfaction rate being relatively high at 32.5%. This could be explained by the fact that dental hospital is situated 2 Kilometers away from the main road, with no adequate transport facility, hence travel is a significant problem among patients, and multiple recall appointments are difficult to cope up for the patients especially the elderlies. There is an immense need for a shuttle service from the main road, which would largely influence the patients' convenience thereby further improving the satisfaction level. As reported in the literature shortening of the waiting time and providing better transport facilities may also increase satisfaction, as was confirmed in other studies (Berg A *et al.*, 2001).

In this study patient-doctor interpersonal relationship depicted satisfaction level at 87.75%. Privacy and dentist attitude are

important factors which may affect the quality of dentist patient relationship and consequently patient satisfaction. Studies conducted by Corah NL *et al*, indicate that dentist patient relationship is always significantly and positively correlated with greater dental patient satisfaction (Corah NL, 1988).

The high percentage of satisfaction with privacy and dentist's attitudes is the major cause of overall patient satisfaction in our study group (Chakraborty G *et al.*, 1993). Problem mentioned by a number of patients was that their treatment felt impersonal and lacking in continuity, often because they were treated by different students during the course of their treatment (Bregette R. *et al.*, 2008). Patients do experience difficulty in evaluating technical aspects of dentistry; hence they judge the dentist using 'softer' less tangible characteristics (Carolina A *et al.*, 2008).

When the convenience factor was considered 84.5% of the participants had given a positive response. Holt and McHugh, for example found that three of the four least important decision forming factors for patients were opening hours, waiting time and time spent with the dentist (Holt VP and McHugh K, 1997).

In the present study the satisfaction regarding the technical aspect of the study was 71%. Technical competence of the dentist is often cited in being the key determinant for dental satisfaction with many studies placing it at, or near the top of contributory factors. However the assessment is often made from a number of other cues that may not be easily predicted by the dentist. The satisfaction regarding the cost factor in the college was 93.5% which has a considerable impact on the overall patient satisfaction.

Follow-up evaluation is needed to determine patient satisfaction with dental work in the hospital at a six month or one year interval, while further investigating the validity and reliability of the study. At that time, it would be of interest for dental faculty members to perform more comprehensive qualitative studies for detailed assessment of the patient satisfaction and understating the lacunae in the services provided by the hospital. Further it may be noted that even after providing the best possible facilities and services, blame is apportioned if things do go wrong, and the attribution theory may be able to help explain this apparent contradiction. (Vallittu P *et al.*, 1996).

It should be noted, however that the results might have varied if the responses had been collected at the end rather than during the treatment. In addition the assistance provided by the principal investigator to illiterate patients could have biased the results, but those patients were included in this study to get comprehensive responses from the randomly selected patients. For a significant number of patients, the ultimate goal of the treatment is "the cure". The rest of the steps in the process contributing to this result appear to be disregarded by these patients (Goedhart H *et al.*, 1996). As long as our patients are happy about the explanation of treatment options, the importance of establishing social relationship and verbal communication should be strongly emphasized to all the students and doctors working in the hospital.

CONCLUSIONS

The results indicated that the majority of patients were satisfied with the patient-dentist interaction, technical competency, administrative efficiency and facilities provided including the cost factor. But there has been dissatisfaction expressed regarding certain domains such as accessibility and long waiting time which has to be addressed and necessary improvements are to be made in this area. There is a need to process in built evaluation system in every dental institution to keep up high standards of patients care.

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