

Original Research Article

Patients' Satisfaction with Dental Care Services Provided by Educational Dental Hospital

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ABSTRACT

The Aim: To investigate the level of patients' satisfaction with the services and dental care provided by the Educational Dental Hospital - College of Dentistry at Umm Al-Qura University (UQUEDENT). The second aim was to discover the points of strength/weakness of the services provided by UQUEDENT and assess the need for further improvements.

Materials and Methods: This is a questionnaire based cross-sectional analytical observational study conducted over two-months period and data collected from (150) patients at UQUEDENT. Twenty-two items concerning; personal data, satisfaction with appointments, facilities, staff, and perception of care received were included in the survey. SPSS software program version 22 was used for the data analysis.

Results: A total of 150 patients agreed to participate in this study, but only 148 completed the questionnaire (2 were excluded due to incomplete data). Of the participants 37.4% were Saudis and 62.6% were Non-Saudis.

Overall ranking of factors related to satisfaction revealed a mean percentage of (88.5%) agreement on the 4 main disciplines, denoting a high level of satisfaction. Areas identified as needing improvement included; appointments' system, long waiting time, and completing dental treatment in a timely manner.

Conclusion: The majority of the patients were satisfied with the dental care services provided by the educational dental hospital. After mapping points of strength and weakness, it was found that the quality of the delivered dental treatment, professionalism of dental students and staff, communication abilities and explanation of the proposed treatment were the areas of strength. While appointments' system, long waiting time and completing the dental treatment in a timely manner require attention and improvement as they present the areas of weakness.

Keywords: Patients' Satisfaction, Dental Care Services, Education.

INTRODUCTION

Patient's satisfaction can be explained as a person's feeling of pleasure or disappointment resulting from comparing a product's perceived outcome in relation to his or her expectations. Nowadays, the health care industry is adopting the customer-oriented approach in the delivery of care, so patients' satisfaction surveys became important tool in measuring the

quality of health services provided. [1] Information obtained through patients' surveys has been proved as a successful way of improving the quality of the provided health services. [2] Patients' perceptions, views, and satisfaction with dental health care services became recognized measures of quality assurance programs. [3]

However, dental schools worldwide are facing real challenge to balance between

the need to teach their students about professionalism and providing ultimate quality of dental treatment to their patients on one side and coping with the high volume of patients seeking dental treatment on the other side. Dental teaching hospitals are usually preferred by patients for comprehensive dental treatment due to their reputation, affordability and professional competence of their clinicians. [4,5]

There are several studies investigated the concerns, views and satisfaction of patients towards health care services provided in Saudi Arabia as well as other parts of the world. [2,6-8]

Because there is no reliable data regarding the satisfaction of patients with the dental care provided by the Educational Dental Hospital - College of Dentistry at Umm Al-Qura University (UQU) which represent one of three governmental educational dental hospitals at the western region of Saudi Arabia, the aim of our study was to investigate the level of patients' satisfaction with the services and dental care provided by UQU. The second aim was to discover the points of strength/weakness of the services provided and assess the need for further improvements.

MATERIALS AND METHODS

This cross sectional analytical observational study was conducted at the educational dental hospital at UQU over a period of two months. One hundred and eighty participants were randomly selected from the dental clinics using a simple random technique.

Written informed consent was obtained from patients who agreed to participate voluntarily, and ethical clearances were obtained from the institution's ethical committee.

Inclusion criteria included; Saudi and non-Saudi nationals, of both sexes (males and females) who are 16 years old and more, who have started their dental treatment at UQU.

Patients who did not receive any dental treatment at UQU or refused to participate in this study were excluded from the study. Pediatric patients were also excluded from the study.

The instrument used for data collection in this study was a self-administrated questionnaire that aimed to assess patients' satisfaction with the dental services provided at UQU.

In addition to the socio-demographic characteristics (age, gender, nationality...etc), the questionnaire also tested 4 main disciplines of the dental services:

- 1) Appointments (6 items) including:
 - If the screening process was done easily and quickly.
 - If the patient had an appointment in a short period of time.
 - If the patient received a reminder of each appointment.
 - If the patient was given the chance to choose the appointment that suits his/her schedule the most.
 - If the patient was seen on time for his/her appointment.
 - In case of delay, was the patient given a reason for the delay?
- 2) Facilities (5 items) including:
 - If the dental hospital's location and parking spaces were convenient to the patient.
 - If the patients' waiting areas were clean and comfortable.
 - If the dental equipments were available and clean.
 - If the temperature in the dental hospital was comfortable to the patient.
 - If the lighting in the dental hospital was sufficient.
- 3) Staff (5 items) including:
 - If the dentist was professional and courteous.
 - If the dental assistant (if present) was professional and courteous.

- If the dentist was considerate and sensitive to the patient's needs.
 - If the patient was given awareness about the importance of maintaining oral hygiene clearly.
 - If the reception staff were courteous and helpful.
- 4) Treatment (6 items) including:
- If the proposed dental treatment was clearly explained to the patient.
 - If any question he/she had were clearly answered by the dentist.
 - If the patient was given all the treatment alternatives.
 - If the dental treatment was completed efficiently in a timely manner.
 - If the patient was satisfied with the quality of the provided dental treatment.
 - If the patient ever seeks dental treatment in the future, will the educational dental hospital at UQDENT be his/her first choice.

The questionnaire was drafted in Arabic language with a 5-point scale ranging from: 1 (strongly disagree), 2 (disagree), 3 (not certain), 4 (agree) and 5 (strongly agree). It was pre-tested and validated before data collection. A pilot study was conducted (10 participants) to ensure that the research instrument can be used properly and the ideas behind the research are sound.

Statistical analysis:

The collected data have been tabulated and statistically analyzed using SPSS v.22 (Statistical Package for Social Sciences, SPSS Inc., Chicago, U.S.A.). Comparisons between qualitative data were done using chi square test. The continuous variables were described using mean \pm standard deviation (SD). When appropriate student *t-test*, One-way ANOVA and Tukey's *post hoc* test for multiple comparisons were used to test the association between various collected data. The level of significance was set at $p < 0.05$ with a 90% confidence interval.

RESULTS

One hundred and fifty participants agreed to participate in this study. Two participants were excluded due to incomplete data. The response rate was 82.2%.

Table 1 summarizes the demographic data of the participants. The largest age group of participants was (16-25 year) which counted for (40.5%) with females' majority (64.9%). Saudi and Non-Saudi Participants counted for (37.2 %) and (62.8 %) respectively. Minor variations of patients' satisfaction scores were recorded among different demographic characteristics of the study population. No statistically significant differences in overall patients' satisfaction scores.

Patients' satisfaction was measured according to four main disciplines; appointments, facilities, staff and treatment.

Table 1: Demographic data of the participants				
Variables	Frequency 148	Participants (%)	Patients' Satisfaction Score (Mean)	SD (\pm)
Age				
16-25	60	40.5	4.43	0.5187
26-40	51	34.5	4.32	0.6009
41-55	25	16.9	4.51	0.5427
≥ 55 year	12	8.1	4.42	0.6985
Gender				
Male	52	35.1	4.47	0.6225
Female	96	64.9	4.37	0.5378
Nationality				
Saudi	55	37.2	4.42	0.6210
Non-Saudi	93	62.8	4.39	0.5391

Table 2: Participants' satisfaction with the appointments

Item	Agree Number (%)	Neutral Number (%)	Disagree Number (%)
1. It was quick to open a dental file.	144 (97.2%)	2 (1.4%)	2 (1.4%)
2. I was given an appointment shortly after opening the file.	124 (83.7%)	6 (4.1%)	18 (12.2%)
3. I received a reminder of each of my appointments.	121 (81.7%)	13 (8.8%)	14 (9.5%)
4. Appointment time options were given to suite my schedule.	114 (77.1%)	11 (7.4%)	23 (15.5%)
5. I was seen on time for my appointment	123 (83.1%)	16 (10.8%)	9 (6.1%)
6. If the appointment was delayed, I was given a justification.	122 (82.4%)	12 (8.1%)	14 (9.5%)

Table 3: Participants' satisfaction with the facilities

Item	Agree Number (%)	Neutral Number (%)	Disagree Number (%)
1. The clinics' location and availability of parking spaces are convenient.	113 (76.3%)	13 (8.8%)	22 (14.9%)
2. Patients' waiting areas were clean and comfortable.	131 (88.5%)	8 (5.4%)	9 (6.1%)
3. The dental equipments were available and clean.	141 (95.3%)	3 (2.0%)	4 (2.7%)
4. The room temperature at the teaching hospital was comfortable.	133 (89.9%)	4 (2.7%)	11 (7.4%)
5. The lighting of the teaching hospital was sufficient.	144 (97.3%)	1 (0.6%)	3 (2.1%)

Table 4: Participants' satisfaction with the staff

Item	Agree Number (%)	Neutral Number (%)	Disagree Number (%)
1. The Dental specialists and consultants were professional.	144 (97.3%)	3 (2.0%)	1 (0.7%)
2. The dental assistants "if present" were professional.	127 (85.8%)	13 (8.8%)	8 (5.4%)
3. The treating dental student was considerate and sensitive to my needs.	141 (95.3%)	7 (4.7%)	0 (0.0%)
4. I have been given clear instructions about the oral health.	139 (93.9%)	2 (1.4%)	7 (4.7%)
5. The receptionists were courteous and helpful.	137 (92.6%)	8 (5.4%)	3 (2.0%)

Table 2 demonstrates patients' satisfaction with appointments processes. The prevalence of satisfaction with file opening procedure was the most satisfying factor over the other factors in this discipline which counted for (97.2%). The least satisfying factor was appointments' time options which counted for (77.1%).

Table 3 demonstrates patients' satisfaction with hospital facilities. Level of lighting in the clinics counted for (97.3%), clean and presentable equipment counted for (95.2%), while convenient location and availability of parking spaces were the least satisfying factors in this sector by (76.3%).

Table 4 demonstrates patients' satisfaction with the working staff. The prevalence of satisfaction with dentists' professionalism got the highest agreement

among all other factors of staff discipline which counted for (97.3%), while professionalism of dental assistant was the least satisfying factor in this discipline by (85.8%).

Table 5 demonstrates patients' satisfaction with the delivered dental treatment. Answering all patients' questions recorded the highest agreement by (97.3%). The proposed dental treatment was clearly explained counted for (95.2%).

While (91.2%) of our sample were pleased with the quality of the dental treatment they received only (90.5%) of the cases had all the treatment alternatives explained to them. The least satisfying factor in this discipline was having the treatment completed efficiently in a timely manner by (76.3%).

Table 5: Participants' satisfaction with the provided treatment

Item	Agree Number (%)	Neutral Number (%)	Disagree Number (%)
1. The proposed dental treatment was clearly explained to me.	141 (95.2%)	6 (4.1%)	1 (0.7%)
2. I was answered for any question I had.	144 (97.3%)	4 (2.7%)	0 (0.0%)
3. I was given all the treatment alternatives	134 (90.5%)	13 (8.8%)	1 (0.7%)
4. My dental treatment was completed efficiently and in a timely manner.	113 (76.3%)	25 (16.9%)	10 (6.8%)
5. I was pleased with the quality of my dental treatment.	135 (91.2%)	10 (6.8%)	3 (2.0%)
6. If I ever seek a dental treatment in the future, UQUDENT clinics will be my first choice.	130 (87.8%)	16 (10.8%)	2 (1.4%)

DISCUSSION

One of the goals of educational dental hospitals is to provide the patients

with the best possible quality of dental services to meet their needs. Numerous instruments have been developed to

measure healthcare service quality. One of them is measuring patient satisfaction. It provides useful information to evaluate the dental care providers and services.

This study implemented a self-administered questionnaire that required less than five minutes to be completed and which had been shown to be an efficient and effective tool for collecting information.

The results of our study revealed important information in regards to patients' satisfaction with the services provided by UQUDENT and the standard of dental treatment provided by the clinical years' dental students as well as the dental interns at the Educational Dental Hospital, Umm Al-Qura University.

It has been almost five years since the educational dental hospital at UQUDENT started operating and accepting patients. The patients' flow at the educational hospital is considered slow which explains the small sample size of this study.

Out of 180 randomly selected patients, 150 patients agreed to participate in this study and only 148 patients completed the questionnaire. The response rate (82.2%) is considered relatively high. However, it comes in agreement with the response rate obtained from other national studies. [8,9] and compatible with the response rate of other similar surveys. [10,11]

Patients' Satisfaction in Relation to demographic data:

Many previous studies looked at the relationships between patients' satisfaction and demographic data such as age, gender, race...etc. The results were controversy. Some studies reported that older patients were more satisfied with the standard of dental care provided than younger patients. [12] On the other hand, lahti *et al.* [13] found that elderly patients were less satisfied than younger patients. This was attributed to younger people having better oral health than elderly.

The results of our study revealed no significant difference between different age

groups in relation to satisfaction. This could be due to the narrow range of age of the study sample included in the study.

In regards to patients' satisfaction in relation to Gender; Gopalkrishna and Mummalaneni found that men showed lower levels of satisfaction with dental care than women. [14] This was attributed to women having greater exposure to dental services than men which makes them more moderate with their expectations when compared to men.

In our study the lowest prevalence of satisfaction among both males and females was in appointments' system which counted for (68.8%) in females and (77%) in males which showed significant difference, while there was no significant difference between males and females in relation to satisfaction with facilities, staff and treatment.

Regarding satisfaction in relation to patient nationality or ethnicity; some previous studies have reported a relationship between patient satisfaction and ethnicity. [15,16] Black patients tended to be the least satisfied; Hispanic patients were only moderately satisfied when compared to non-Hispanic patients. In our study, no association was found between nationality/ethnicity and level of patient's satisfaction.

Prevalence of Patients' Satisfaction

In addition to demographic data, the questionnaire also tested four main aspects of services (Appointments, Facilities, Staff and Treatment). The prevalence rate of the overall patients' satisfaction in the present study was (88.5%). This is higher than that reported in retrospective studies done at College of Dentistry at Taibah University (79.5%) and at the Dental College of King Saud University (84%). [8,9] The difference in prevalence may be attributed to the greater number of patients examined in their studies.

Satisfaction and Dissatisfaction Factors

Providing high quality of dental service is a multifactorial task. It requires

knowledge, clinical skills as well as the ability to communicate effectively with patients. [15,16]

While most of the dental schools worldwide concentrate on the importance of providing their dental students with the required level of dental knowledge and technical skills, yet the importance of patients' behaviour management and communication skills is underestimated.

The outcome of our study showed that the patients were highly satisfied with the communication abilities and professionalism of their treating dental students/ interns. Also, they were highly satisfied with the clear explanation of the proposed treatment and with the quality of the delivered dental care provided by their treating dentists.

Our results showed that the explanations given by a dentist about the treatment was an important aspect and received high satisfaction. This comes in agreement with the results of other studies where the mannerism of dental surgeons and explanation of the treatment received good score in patients' satisfaction. [17] In contrast, several studies indicated that dentists' explanation of the nature of the disease and the treatment options to their patient received a low satisfaction score by patients. [18-20]

On the other hand appointments' time and long waiting time before getting an appointment was the main reasons for patient dissatisfaction at UQUEDENT. This is in agreement with several studies reporting long waiting time as the least satisfactory issue, [17,19,21,22] dissatisfaction with appointments time reveals an important problem that needs to be solved to suit patients' schedules, but this is difficult to apply in educational hospitals, as the treatment time options usually depend on the students' clinical schedule.

Dissatisfaction with long waiting time needs to be solved, possibly through limiting the number of the new accepted patients to reduce the waiting time. This problem could be also managed by

increasing the number of available dental clinics. Yet this solution is costly and might not be financially feasible.

In regards to hospital facilities, patients were significantly dissatisfied with some items such as parking spaces and temperature of dental clinics. It is nearly the same with the Dental College of King Saud University that reported patients' dissatisfaction with parking areas, elevators and getting appointments by phone. [8]

The other reason for dissatisfaction, as seen from the results obtained, was completing dental treatment in a timely manner. Most of the treatment took longer time than what the patients expected. This is justifiable in educational dental hospitals as dental treatment provided in dental institutes is controlled by many factors such as dental students' clinical schedules, students' examination period, academic holidays...etc. For this, it is advisable that patients are given clear explanation regarding the predicted treatment time prior to commencing treatment.

Reinforcing patients' education about the importance of personal oral care, hygiene and maintenance was an important aspect that needs to be emphasized. Dental students should not only be focused on completing the dental treatment in the shortest possible time to shorten patients waiting lists, but also concentrate on educating patients on how to maintain good oral hygiene post treatment.

In the current study, although the overall patient satisfaction with the provided dental care by the educational dental hospital was (88.5%), it is recommended to establish a post treatment follow up system for patients. This would help in enhancing the quality of the delivered dental services.

CONCLUSION

The majority of the patients were satisfied with the dental care services provided by the educational dental hospital. After mapping points of strength and weakness, it was found that the quality of the delivered dental treatment,

professionalism of dental students and staff, communication abilities and explanation of the proposed treatment were the areas of strength. While appointments' system, long waiting time and completing the dental treatment in a timely manner require attention and improvement as they present the areas of weakness.

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