

# Patient Satisfaction at Dentist Clinic in Zagazig University Hospitals Egypt

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**Abstract:** Introduction: patient satisfaction is how much the individual regards the health care service. Measuring patient satisfaction became a method for obtaining patients' views about their care and adopted widely as an outcome indicator of quality of health care. Objectives: to assess the patient satisfaction regarding the dental health care services and study any patterns of association of socio-demographic variables on the patient satisfaction level. Methods: Across-section study was carried out at dentist clinic in Zagazig University Hospital from June to August 2014. One hundred ninety eight (198) patients attending the dentist clinic at Zagazig University Hospital were included in the study. A questionnaire was used to determine patient satisfaction levels upon completion of treatment in the dental clinic. Results: about half of the patients were satisfied with ease of getting care and health care providers. Also, most of them were satisfied with all items of time, condition and treatment provided except time in waiting area and explained fees only 22% and 9.1% respectively were satisfied. Regarding the outcome 72.2% of patients had improved dental health. 56.1% of patients were satisfied of the service, 59.6% will recommend this service to others. More than 60 percent of patients predict expected improvement in service (60.1%). Statistical significant difference was observed between level of patient satisfaction and age and number of visits Conclusions: Overall patient satisfaction was good. Although there were some points in different areas had poor satisfaction level.

**Keywords:** Patient Satisfaction, Dentist Clinic, University Hospital

## 1. Introduction

In health care, patient satisfaction is how much the individual regards the health care service or the manner in which it is delivered by the provider as useful, effective, beneficial [1] Patients' satisfaction is related to the degree to which general health care needs and condition-specific needs are met. Evaluating whatever degree patients are satisfied with health services is clinically significant, as satisfied patients are more likely to comply with treatment and be active in their own care [2].

Recent studies have shown that patient's compliance and success of treatment are associated with satisfaction levels [3]. Respect for patients' needs and wishes are central to any human health care system. Quality of health services was traditionally based on expert practice standards, however

over the last decade one of the most important indicator for measuring quality of health care is patients' perception about healthcare as it has been predominantly accepted as a critical component of performance improvement and clinical effectiveness [4].

Measuring patient satisfaction became a method for obtaining patients' views about their care and adopted widely as an outcome indicator of quality of care [5]. Patient satisfaction is a multidimensional concept as most researchers agree that; but, no consensus exists regarding which dimensions of care should be assessed to measure patient satisfaction [6].

There are four categories of variables affecting patient satisfaction namely: 1-emotional factors (incorporates patients perception towards providers communication and interpersonal skills), 2-system factor (includes physical or

technical aspects of service, like technical quality of care, comforts, office facilities, etc). 3-moderating factors (includes socio-demographic variables and health status).4-influencing factors (includes patients' family and friends) [7].

*The rationale for assessing patients' satisfaction was:*

1-Patient satisfaction with dental care is an important aspect of the quality of care and will influence the future utilization of the service

2-Although the university provides a good dental service for its patients and spend money and human resources, no sufficient information available on patient satisfaction.

3-Our results will be helpful for improvement of the care delivered to the patients and for any further researches concerning this topic.

*Objectives were:* to assess the patient satisfaction regarding the dental health care services and study any patterns of association of sociodemographic variables on the patient satisfaction level.

## 2. Methods

### 2.1. Study Design

A cross-section study was carried out from June to August 2014.

### 2.2. Study Setting

This study was conducted at dentist clinic in Zagazig University Hospital. There are three dentist clinics (one for refilling, one for teeth extraction and one for surgery). The total number of the health care workers in these clinics is 46 workers (doctors, nurses, administrative and cleaning workers).

### 2.3. Target Population and Sampling

Patients attending the dentist clinic at Zagazig University Hospital. The sample size was calculated by using computer software Epi-info version 6 assuming that the patient satisfaction in dentist clinic in Zagazig University Hospital is 30% (was calculated from pilot study on 20 patients), at 95% confidence level and 80% power, total number of patients attending the clinic in the previous year was 1500 patients the sample will be 195 patients adding 20% nonresponse the sample will be 234 patients. The total sample included in the study was 198 patients (36 patients refuse to participate in the research due to personal reasons or fear and some of them start to complete the questionnaire but refuse to continue). The sample was chosen by simple random method.

*Inclusion criteria:*

- 1) Patients aged 18 years and above.
- 2) Patients who agreed to participate in the study.
- 3) Those attending the clinic for more than one time.

*Exclusion criteria*

- 1) Patients less than 18 years old.
- 2) Patients who could not respond to the questions e. g. too sick to be interviewed or will have an operation.
- 3) Those attending the clinic for the first time.

### 2.4. Tools for Data Collection

A questionnaire was developed by researchers in Arabic language to assess the patient satisfaction in the dental clinic (prepared after examining patient satisfaction survey in previous researches) [8, 9]. The final form used was divided into two main sections:

*Section A:*

Demographic characteristics of the patients (age, gender, education, occupation, income and number of visits).

*Section B:*

Included six specific areas which are: Ease of getting care (four items), Time spent (two items), Health care providers (8 items), the physical environment of the clinic (four items), treatment provided (ten items) and the outcome (five items).

All patients were interviewed face to face in the reception area of the dental clinic in Zagazig university hospital (by the researchers). Males and females patients were asked all the items in the patient satisfaction questionnaire and asked to rate their satisfaction with the oral care in the dentist clinic using a Likert-item response with four categories (very dissatisfied=1, dissatisfied=2, satisfied=3, very satisfied=4). Questions concerning the outcome of the care were answered by yes=1 and no=0. The total score was calculated, cutoff point at 50% was taken and scores of patient satisfaction items  $\geq 50\%$  was considered satisfied of the service provided in the dentist clinic.

*Validity and reliability:* The all questionnaires were translated into Arabic; validity test to the questionnaires was done for language clarity, content, relevancy, ease of understanding and time needed to answer. Reliability test was done by using the reliability coefficients (Cronbach's alpha) which was high for all questionnaires, and suitable for scientific purposes.

*Pilot study:* For testing the study tools pilot study was conducted during May 2014. It was carried out on 20 patients who were excluded from the final analysis. Data obtained from the pilot study were analyzed and accordingly, unclear items were clarified and modified to be easily understood by the participants. Improvements of the questionnaire comprised fundamentally of simplifying the language and shortening sentences to facilitate its comprehension.

### 2.5. Ethical Consideration

The research protocol was approved by Ethics Committee of Faculty of Medicine, Zagazig University, Egypt. Written administrative permission from Zagazig hospital manager and another one from dental clinic manager to perform the study were obtained. The aim of the research was disclosed to the participants. After clarifying the procedures of the study, verbal consent was obtained from them to participate in the study. Participants were informed about their right to reject participation and to withdraw whenever they want without giving reasons and with no consequences. Total confidentiality of any given information assured.

### 2.6. Statistical Management

Collected data were entered and analyzed using SPSS (the

Statistical package for Social Sciences for Windows) version 20.0. Descriptive statistics as count, frequencies, mean and standard deviation were used. Chi square test was used. The results were considered significant at  $p$  value  $< 0.05$ .

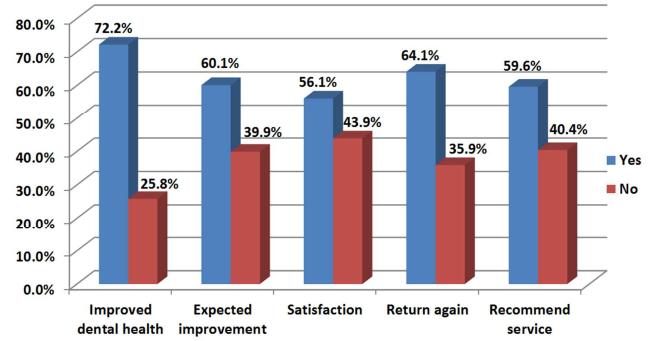
### 3. Results

Socio-demographic characteristics of the studied sample shows that about half of the studied sample (49.5) aged 26-40 years, most of them was female (82.8), not working (75.3) and have enough income (62.6). About 36 percent of patients were illiterate. Forty eight percent of patients report visiting the dental clinic at Zagazig hospital for the second time.

**Table 1.** Level of patient satisfaction in dentist clinic at Zagazig university hospital, 2014 (N=198).

Items	Satisfied N. (%)	Not satisfied N. (%)
Ease of getting care		
- Accessibility of clinic	114 (57.6)	84 (42.4)
- Number of hours the clinic is open	87 (43.9)	111 (56.1)
- Ability to have examination	108 (54.5)	90 (45.5)
- Quick return on request	107 (54.0)	91 (46.0)
Health care providers		
- Professional dentist	166 (83.8)	32 (16.2)
- Professional assistant dentist	155 (78.3)	43 (21.7)
- Considerate and sensitive dentist	164 (82.8)	34 (17.2)
- Other office personnel were helpful	129 (65.2)	69 (34.8)
- Dentist listen	198 (100.0)	0 (0.0)
- Enough time with patient	169 (85.4)	29 (14.6)
- Doctor provide good counseling	180 (90.9)	18 (9.1)
- Doctor respect the patient	198 (100.0)	0 (0.0)
Time and condition		
- Time in waiting area	44 (22.2)	154 (77.8)
- Time in examination room	133 (67.2)	65 (32.8)
- Clean reception area	89 (44.9)	109 (55.1)
- Clean and clear equipments	141 (71.2)	57 (28.8)
- Comfortable temperature	122 (61.6)	76 (38.4)
- Enough lighting	160 (80.8)	38 (19.2)
Treatment provided		
- Treatment was clearly explained	142 (71.7)	56 (28.3)
- Treatment price was good	188 (94.9)	10 (5.1)
- Any question was answered	134 (67.7)	64 (32.3)
- Alternative treatment	74 (37.4)	124 (62.6)
- Effective treatment	131 (66.2)	67 (33.8)
- Quality of treatment	112 (56.6)	86 (43.4)
- Treatment satisfaction	132 (66.7)	66 (33.3)
- Fair fees	128 (64.6)	70 (35.4)
- Explained fees	18 (9.1)	180 (90.9)
- Privacy during treatment	63 (31.8)	135 (68.2)
Total	87 (43.9)	111 (56.1)

Table 1: regarding the level of patients satisfaction about half of the patients were satisfied with ease of getting care and health care providers. Also, most of them were satisfied with all items of time, condition and treatment provided except time in waiting area and explained fees only 22% and 9.1% respectively were satisfied.



**Fig. 1.** Outcome of service provided in dental clinic at Zagazig University Hospital, 2014.

This figure represents that 72.2% of patients had improved dental health. 56.1% of patients were satisfied of the service, 59.6% will recommend this service to others. More than 60 percent of patients predict expected improvement in service (60.1%).

**Table 2.** Relationship between patient satisfaction and socio-demographic characteristics of the studied sample at Zagazig University Hospital, 2014 (n=198).

Variables	Total N. (%) (n=198)	Not satisfied N. (%) (n=87)	Satisfied N. (%) (n=111)	p
Age				
< 40 years	116 (58.6)	36 (41.4)	80 (72.1)	0.000
≥ 40 years	82 (41.4)	51 (58.6)	31 (27.9)	
Gender				
Male	34 (17.2)	13 (14.9)	21 (18.9)	0.462
Female	164 (82.8)	74 (85.1)	90 (81.1)	
Education				
Illiterate	71 (35.9)	22 (25.3)	49 (44.1)	0.006
Literate	127 (64.1)	65 (74.7)	62 (55.9)	
Occupation				
Not working	149 (75.3)	66 (75.9)	83 (74.8)	0.860
Working	49 (24.7)	21 (24.1)	28 (25.2)	
Income				
Not enough	74 (37.4)	32 (36.8)	42 (37.8)	0.879
enough	124 (62.6)	55 (63.2)	69 (62.2)	
Number of Visits				
≤ 3	132 (66.7)	46 (52.9)	86 (77.5)	0.000
> 3	66 (33.3)	41 (47.1)	25 (22.5)	

Statistical significant association between level of patient satisfaction and age and number of visits was demonstrated in Table 2.

### 4. Discussion

Measuring patient satisfaction with dental care provide useful information to understand, predict patient's behavior, and to evaluate the dental care providers and services.

As regards patient satisfaction to the ease of getting cares the highest level of satisfaction was to the accessibility of the clinic as more than half of the sample was satisfied with it. This is in line with Sowole [10] who reported that only one third of his respondents thought the health care centers were too far from them, While it is different to Thanveer et al [8] and Hashim [11] both mentioned that about half of

respondents were expressing strong dissatisfaction to the place of the facility, and the clinic is located too far from the city centre. This different finding may be due to that Zagazig hospital is close to the centre of the town and many methods of transportation reach it.

In the present study more than 50% of the participants were satisfied about the ability to have examination and quick return on request, matching with similar study carried in Japan by Tamaki [12] in which about 46.7% of their sample was obtaining appointment on desirable day.

Concerning the working hours of the clinic the results of the current study was in contrast to the result of Asghar et al [13] Kashinath et al [3] who reported that 92.9% and 88% of their samples were satisfied with working hours. This may be due to that our clinic is working only 6 hours in the time of the working of the employee and the patients have a trouble from getting off their work for the appointment. Mean score satisfaction of ease of getting care was  $10.2 \pm 1.4$  which markedly higher than  $3.89 \pm 1.03$  in a study carried out in U. S army dental treatment facilities Jaffry et al [14].

Regarding patient satisfaction to the health care providers most of the patients were satisfied with the behavior of the doctors, nurses and other office personnel, the highest satisfaction was for: 100% said that doctor respect the patient, listen to patients, 90.9% provide good counseling, 85, 4% had enough time with patients. The same results were found in Hashim [11] who reported that 83.7% of his sample mentioned that dentist treated patient with respect, and in Asghar et al [13] who reported that only 3.6% felt that staff showed apathy towards them. Also more than 70% in Thanveer et al [8] demonstrated that the staff was friendly and 50% were satisfied with the care

In Jaffry et al [14] the majority gave very good to excellent responses to satisfaction with interaction with dentists, 93.1% friendliness of doctor, 91.9% listen attentively to the patient, 92.6% to overall counseling and 88% to enough time with the patients which is approximately the same percents to ours. Also their mean score of satisfaction to overall quality of care of the dentist was  $4.64 \pm 0.65$  and in our study was  $28.4 \pm 3.8$ . In contrast to all previous finding, Kashinath et al [3] mentioned that 53% said they have communication problems when they were being treated. Sur et al [15] reported that several studies indicate that dentist-patient relationship is commonly significantly and positively correlated with dental patient satisfaction.

Concerning time and condition of the dental clinic the majority of our participants were satisfied with time in examination room, clean equipments, clear comfortable temperature and enough lighting while 77.8% dissatisfied with long time spent in the waiting rooms and 55.1% dissatisfied with clean reception area. Sixty percent (60%) of Kashinath et al [3] sample was dissatisfied with the waiting periods, while 41.8% in Sur et al [15] was expressing satisfaction with waiting time so, shortening of the waiting time may also increase satisfaction, Asghar et al [13] mentioned that one of the factors which affects the satisfaction level of patients is too long waiting time. On the

other hand, another study carried out in Japan Tamaki [12] showed marked different results as 72% of their participants was satisfied with the waiting time, 88.5% with cleanness of reception area and 94% was satisfied with clean working area and equipments' this different results can be explained by that this study was conducted in private dental clinics. In Hashim [11] 74.8% of the participants stated that they didn't wait long in waiting room and 91.9% agree that the dental clinic is clean and tidy. Also in contrast to our finding Awliya [16] reported that 87% was satisfied with cleanliness of waiting area and 25% only reported that they spent long periods in the waiting rooms, this represent that our facility need to be improved as Kashinath et al [3] stated that enhancing patient facilities improve overall perceptions. Also Boswell [17] mentioned that satisfaction with treatment could be affected by perception of cleanliness; Hence Changes will have to be made in this area to fulfill the needs of the patients. Mean score satisfaction of time was  $4.7 \pm 1.1$  approximately similar to  $4.48 \pm 0.76$  in Jaffry et al [14]. And the mean for satisfaction with the clinic was  $10.7 \pm 1.5$ .

Regarding the treatment provided in dental clinic about 90% of the participants was satisfied with the cost of care, 64.6% consider that it was fair but only 9% was satisfied with explanations of the fees. In Asghar et al [13] and Kashinath et al [3] 98.7% and 78% (respectively) mentioned that they don't have any problem with the payment. In Tamaki [12] more than 80% was satisfied with the cost especially those with financially older secure patients and with dental insurance but this is much higher than Sowole [10] who reported that only 50% of respondents was satisfied with the cost of care received and the cost of care has been observed as an important factor to the satisfied patient. These higher scores may be attributable to the fact that the fees had remained unchanged for some years due to government subsidy and patients had become accustomed to this. Another reason would be the great disparity which exists between private practice and public clinic fees, where the former is higher than the latter.

Butters and Willis [18] reported that most patients who dropped out of the care program in their study were due to high fees. Another study of patient satisfaction in a New Orleans dental school Lafont et al [19] reported that 67% of respondents attributed low costs for the reason of wanting to attend a dental school clinic. This finding has been corroborated by Chu and Lo [20].

As regards other aspects of treatment: 71.7% satisfied with explanations of treatment approximately similar to Sur et al [15] 72.1% satisfied but lower than Jaffry et al [14], Hashim [11] 90%, 94.1% respectively satisfied with explanation of treatment in their study this represents that the doctors in our facility need more courses on communications skills.

More than 60% satisfied with answering any question similar to Thanveer et al [8] in which 70% satisfied, only 56.6% in our study satisfied with quality of treatment which is lower than Sowole [10] their results showed that all the respondents satisfied with the quality of care received also in Jaffry et al [14]. More than 90% satisfied with quality of care, Awliya [16] mentioned 84% felt the care at the Dental

College compared favorably to care received elsewhere.

37, 3% satisfied with treatment alternatives the same percent reported by Hashim [11] also in Sowole [10] 45.5% said that doctors should offer different treatment. 31.8% of our participants satisfied with privacy during treatment, in contrast to Sur et al [15] "Privacy" was the most satisfactory attribute of dental services in their study group, with 82.1% of the patients expressing satisfaction. Mean satisfaction score with treatment was  $26.1 \pm 3.3$  higher than Jaffry et al [14]  $4.61 \pm 0.65$ .

About outcome of service provided in dental clinic: 72.2% of patients had improved dental health, 60.1% expect improvement in the service, 64.1% will return again and 59.6% will recommend this service to other this is markedly lower than Jaffry et al [14] in which 94.9% will recommend to others, our percentages matched with the overall level of satisfaction in our study 56.1%.

Regards the association between socio-demographic characteristics of the patients and the satisfaction: statistical significant association was observed between age and level of satisfaction this finding was similar to Newsome and Wright [21] who found that older patients is less satisfied and explained their findings by the fact that the oral health status of the younger patient is usually better than that of older people, which may lead to better experiences.

We observed that higher levels of satisfaction were expressed by females 81.1% with no statistical significant difference. With one exception Skarel et al [22] many studies reported that women generally express greater satisfaction with dental care than men Gopalakrishna and Munnaleneni [23], Bamise et al [24], Newsome and Wright [21] in their review suggested that such result could be due to their greater exposure to dental services, which would likely moderate their expectations, which in turn are more likely to be met. This may be explained in a number of ways: it is possible that the dentists or dental team members treat the female patients more cautiously also, our experience shows those in recent times, patients especially women were more concerned about esthetic rather than functional outcomes. Conversely to previous finding Hashim [11] shows no significant differences between the satisfaction score and background variables (Sex and age) of the patients.

Regarding education, the highest percentage of satisfaction was observed among literate with no significant differences in contrast to Handelman et al [25], Hashim [11] reported that the more highly educated patients were less satisfied with the care provided. It's possible that the more-educated patients had higher expectations of the service, while the less-educated patients might have appreciated getting any dental care.

Also highest satisfaction was among no workers (74.8%) and among those with enough income Bamise et al [24] mentioned the relationship between satisfaction and income, wealth, education, were less relevant in his study. statistical significant difference was observed between numbers of visits and satisfaction those with less than 3 times are more satisfied than those with more than 3 times this could be due to although they are not satisfied they need to receive their treatment in this facility due to its location or its fees.

Generalization of our results to the other facilities in the same governorate cannot take place as it is limited to our health facility and all its characters as place, staff, equipments'. But the result can be generalized to other university-based facilities as they have many similar characteristics.

## 5. Conclusion and Recommendation

Dental service is a dynamic process between the provider and the recipient, with the goal of improving health. Overall patient satisfaction of care provided was good. Although there were some points in different areas had poor satisfaction level. So we recommend:

1. Change the working hours of the clinic to allow patients to use it in their non working time.
2. Improve cleanness, comfort ability and temperature of reception area.
3. Increase number of staff to decrease waiting time.
4. Health care providers should ensure privacy during providing the dental health care.
5. Providing alternative treatment for the patients in case of high price or non availability of treatment.

## 6. Limitation of the Study

The sample size was calculated to be 234 patients but 36 patients refuse to participate in the research due to personal reasons or fear that they will not get the treatment and some of them start to complete the questionnaire but refuse to continue. Most of our sample was female not educated enough so they underestimate the value of the research.

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