



# Level of Satisfaction of Patients With Dental Care Services Provided by Dental Clinic of Shahrekord University

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## Abstract

**Background and aims:** Level of satisfaction and opinion of patients are important factors that might be considered in assessing the quality of health care services. This study aimed to assess the level of satisfaction of patients who visited dental clinic of School of Dentistry, Shahrekord University of Medical Sciences, Shahrekord, Iran.

**Methods:** This descriptive, analytical, cross-sectional study was conducted in 2015 on 400 randomly-selected patients visiting Endodontics, Periodontics and Implant, Pediatric Dentistry and Operative Dentistry Departments of Dental Clinic of School of Dentistry, Shahrekord University of Medical Sciences. A questionnaire encompassing demographic information and perspectives on dental care, some clinic-related factors, quality of received services, waiting time, and behavior of dental clinicians and personnel was filled out by the patients. Data were analyzed using SPSS version 22.0.

**Results:** Of all the patients, 77% (n=310) reported improvement in their conditions and were completely satisfied with the received services; 12% reported worsening conditions and so they were dissatisfied with the treatments; and 19.5% (n=78) reported no change in their conditions. The highest level of satisfaction was related to quick presence of dental clinicians and their behavior. Patients were mainly dissatisfied with the treatment costs and welfare services.

**Conclusion:** Satisfaction of patients with the services provided by the dental clinic of School of Dentistry, Shahrekord University of Medical Sciences was at an acceptable level. Items causing dissatisfaction in the patients should be properly addressed in order to maximize the satisfaction rate of patients with the services provided in this clinic.

**Keywords:** Patient satisfaction, Dental services, Dental clinic

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Received: 21 July 2018

Accepted: 26 September 2018

ePublished: 25 December 2018



## Introduction

The quality of health care services is an important subject worldwide.<sup>1</sup> An efficient health care system can achieve its goals only by providing high-quality services to the public.<sup>2</sup> Patient satisfaction with health care services is an important tool in assessing the efficiency of health care systems. It is also used to guarantee the quality of care.<sup>3</sup> Information about the opinion of patients regarding the quality of care they receive can help in evaluation of the quality of services and in strategy planning.<sup>4</sup>

Patient satisfaction has been linked to the outcome of care; satisfied patients are compliant with the advice of their dental practitioner, which leads to better effects of treatment).<sup>5,6</sup> The outcome of dental treatment impacts patients' attendance to dental treatment, whereas a poor outcome may delay future visits to the dental practitioner.<sup>7</sup>

A satisfactory communication between a patient and a physician depends on appropriate behavior of the clinician and correct therapeutic procedures according to the physical

and psychological status of the patient.<sup>8</sup> It is also imperative to provide the patients with thorough information regarding their conditions and the available treatment options. When the patients are well informed about their treatment plan, their level of anxiety decreases and they develop more trust in their clinician. It is important to communicate with the patients using simple and understandable language and avoid using complex scientific terms.<sup>9</sup>

Satisfaction is a complex, multi-dimensional concept affected by individual, psychological, social, cultural, and economic factors.<sup>10</sup> Patient satisfaction is a fundamental parameter to improve the quality of care in educational-medical centers and attract more patients. Patient satisfaction depends not only on promotion of technology but also on appropriate behavior and performance of the clinician and the personnel. Knowledge about the level of satisfaction of patients with services provided in medical centers is imperative to eliminate the shortcomings and problems.<sup>8</sup> No previous study has evaluated the level of satisfaction

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of patients visiting dental clinic of Shahrekord University of Medical Sciences. Thus, this study aimed to assess the level of satisfaction of patients with services provided in the dental clinic of Shahrekord University of Medical Sciences. Information was collected using a questionnaire that may form a framework for further development of questionnaires in this area. Eventually, administrators could apply these questionnaires to get the perspectives of patients in order to improve the quality of care provided in their clinics.

### Methods

This descriptive, analytical, cross-sectional study was conducted on 400 patients visiting Endodontics, Periodontics and Implant, Pediatric Dentistry and Operative Dentistry Departments of Resalat Dental Clinic, affiliated to School of Dentistry, Shahrekord University of Medical Sciences, Shahrekord, Iran, in 2015.

Minimum sample size was calculated to be 384 patients according to the Cochrane's formula as well as previous studies. Thus, a total of 400 patients (n=100 from each department) were randomly chosen and enrolled to account for possible dropouts. According to estimates, the mean number of patients visiting the 4 aforementioned departments was 1500. Thus, one out of every 4 patients was randomly chosen and questioned (regular randomization). Patients were randomly chosen from the list of patients visiting each department and after provision of services, they were questioned either through face-to-face or phone interviews. For departments such as endodontics, where the satisfaction of patients should be evaluated a couple of days after the treatment, patients were contacted on the phone. For pediatric patients, the questionnaire was filled out by interviewing the parents or patient companions. The reliability of the questionnaire used in this study was previously confirmed.<sup>11</sup> Patients were ensured about the confidentiality of their information and reassured that their responses would not affect their treatment course or quality of services. They were requested to honestly answer the questions.

The questionnaire included 2 sections with descriptive and analytical questions. Patients visiting the abovementioned departments were questioned about their age, gender, marital status, level of education, occupation, number of visits to this clinic, frequency of visits to private sector, and outcome of treatment. To gain knowledge about the level of satisfaction of patients, questions were classified into 11 sections. The answer choices to questions about general satisfaction were "not satisfied at all", "not satisfied", "no opinion", "satisfied", and "completely satisfied" and scored from 1 to 5, respectively. The sum of scores of each patient was used as a criterion of satisfaction with the quality of services provided. Thus, level of satisfaction of each patient was minimally 5 and maximally 55. After completion, the questionnaires were analyzed. Data were analyzed using SPSS version 22.0 via *t* test and one-way ANOVA.

### Results

The opinions of 400 patients between the ages of 3 and

70 years (mean age of  $24.97 \pm 14.73$  years) visiting the 4 aforementioned departments were collected using a questionnaire. Table 1 shows the demographic characteristics of the patients.

It should be noted that 296 patients (74%) had a history of visiting private sector while 104 (26%) were not visited in private sector for dental services.

Considering the data collected through the questionnaires, 77.5% (n=310) stated that their conditions improved and they were completely satisfied with the services provided; 12% reported that their conditions worsened and they were dissatisfied; and 19.5% (n=78) reported no change in their conditions.

Significant correlations were noted between the level of satisfaction of patients and frequency of visits, waiting time for admission, waiting time for dental clinician visit, behavior of the personnel, providing patients with adequate information, and costs of services ( $P < 0.05$ ); however, the age, sex, marital status, and history of dental visits to private sector did not significantly affect the level of satisfaction of patients ( $P > 0.05$ ).

The highest level of satisfaction of patients was related to short waiting time, behavior of dental clinicians and personnel and infection control precautions. Patients with bachelor's degree and lower level of education were more satisfied with dental services than others. The highest and the lowest level of satisfaction of patients was related to services provided in endodontics and periodontics departments, respectively.

**Table 1.** Demographic Characteristics of Patients

Variable	No. (%)
<b>Gender</b>	
Female	271 (55.34)
Male	179 (44.8)
<b>Marital status</b>	
Single	226 (56.5)
Married	174 (43.5)
<b>Level of education</b>	
Illiterate	73 (18.3)
Elementary school	57 (14.3)
Middle school	37 (9.3)
High-school diploma	90 (22.5)
College education	52 (13)
Bachelor's degree or higher	91 (22.8)
<b>Occupation</b>	
Unemployed	181 (45.3)
Retired	3 (0.8)
Working for public sector officially	61 (15.3)
Working for public sector with contract	28 (7)
Working for private sector officially	9 (2.2)
Working for private sector with contract	118 (29.5)

**Discussion**

According to the data collected via the questionnaire, 77.5% (n = 310) of patients reported that their conditions improved and they were completely satisfied with the received services; 12% reported that their conditions worsened and they were dissatisfied; and 19.5% (n = 78) reported no change. This study showed that 12% of patients visiting the dental clinic of Shahrekord University of Medical Sciences were not satisfied with the services. Moreover, according to the results, significant correlations were found between the level of satisfaction of patients and frequency of visits, waiting time for admission, waiting time for dental clinician visit, behavior of the personnel, providing the adequate information, and costs of services ( $P < 0.05$ ); however, the age, sex, marital status, and history of dental visits to private sector did not significantly affect the level of satisfaction of patients ( $P > 0.05$ ). The highest level of satisfaction of patients was related to short waiting time, behavior of dental clinicians and personnel, and infection control precautions. Patients were mostly satisfied with the behavior of dental clinicians and personnel, short waiting time for dental clinician visit, and infection control precautions. Furthermore, patients were mainly dissatisfied with the costs, welfare services, and waiting time for admission to initiation of treatment. Patients with Bachelor's degree or lower level of education were more satisfied with dental services than others. However, the difference between the groups with different levels of education was not significant. Moreover, the retired patients and public sector employees were more satisfied with the services than others and the private sector official employees had the least satisfaction with the services. No significant difference was observed in the number of male and female patients. The highest and the lowest level of satisfaction of patients was related to the services provided in endodontics and periodontics departments, respectively. However, this difference was not significant and the patients were generally satisfied with the services provided by all four departments.

Several studies have evaluated different aspects of patient satisfaction with dental care services.<sup>1,4,12</sup> However, only a few studies have clearly reported the percentage of dissatisfied patients. Razmi and Talary reported that 42% of patients visiting School of Dentistry of Tehran University of Medical Sciences were not satisfied with the received services.<sup>9</sup> Considering the high number of patients visiting School of Dentistry of Tehran University of Medical Sciences, the number of patients (550) evaluated in that study seemed to be a small sample size. Additionally, the questionnaires were not filled out in the same manner by all the patients, since some of the questionnaires were filled out by the patients themselves while some others were filled out by the researcher over the phone and some others were completed by the patient companions. Another study reported that 61.4% of patients visiting dental clinic of Izmir Dental School, Turkey, were dissatisfied with the services.<sup>13</sup> This study was conducted on 1000 patients; however, there were 33% dropouts and only 674 out of 1000 questionnaires were returned. Moreover, the questionnaires were collected

immediately after completion of primary examination and radiography and before the completion of treatment; thus, it was not clear whether the opinion of patients changed after completion of treatment or not.

A study conducted in Guilan Dental School stated that infection control was an important factor affecting the level of satisfaction of patients.<sup>11</sup> In a study by Razmi and Talary, patients were mostly dissatisfied with the costs of treatment.<sup>9</sup> Klingenberg and Stahlacke also emphasized the significance of the costs of treatment when it comes to patient satisfaction<sup>14</sup> similar to Shiraz study.<sup>15</sup>

Bayat and Heidarzadeh also stated that by an increase in the educational level of patients, the level of satisfaction with the services decreased.<sup>16</sup> In most similar studies, the frequency of female dental patients was higher than that of male dental patients.<sup>17</sup> In some studies, patients had the least satisfaction with the endodontics department, probably due to multiple treatment sessions.<sup>18</sup> Dissatisfaction with dental care services has been reported to be the main reason for not showing the inclination to continue the treatment and to change the dentist and go to a different dentist.<sup>19</sup> Therefore, it is highly important to achieve patient satisfaction.

Higher percentage of satisfaction in our study compared to the aforementioned 2 studies<sup>11,12</sup> may be related to different methodologies in terms of data collection tools, factors evaluated and dissimilarity of questions and answer choices. However, the results indicated that the level of satisfaction of patients with this clinic was relatively optimal. A significant inverse correlation existed between the frequency of visits to departments and level of satisfaction of patients. In other words, the higher the frequency of visits, the lower the level of satisfaction would be. This is somehow expected because by an increase in the frequency of visits, the time and cost spent and the risk of pain also increase, which can result in patient dissatisfaction. The significant inverse correlation between the time spent for admission and the level of satisfaction is also expected and is due to the high number of patients visiting this clinic.<sup>12</sup> Appropriate communication between the clinician and the patient can help in calming the patient, and thus, the clinician can better explain the situation and treatment plan to the patient; thus, the patient feels that the clinician keeps the situation under control. This finding highlighted the significance of appropriate behavior of clinicians and personnel and their proper communication with the patients, which helped the patients undergo treatment with peace of mind. Dental clinicians and personnel should not only receive the scientific and practical information regarding their field of work, but also must learn appropriate behavioral techniques to communicate with the patients and increase their satisfaction.<sup>14</sup> The significance of the behavior of dental clinicians has been emphasized in many previous studies and the behavior of dental clinicians has been among the most important factors affecting patient satisfaction.<sup>13,15</sup>

Adherence to infection control protocols and precautions is imperative in all medical and dental centers. Dental clinics are among the areas with high risk of transmission of communicable diseases such as AIDS and hepatitis.

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Thus, infection control precautions are highly important in patient satisfaction.<sup>12</sup>

The cost of treatment services is among the fundamental parameters considered by the patients when choosing a treatment center, and greatly affects the level of satisfaction of patients. One major reason for patients visiting university clinics is the low cost of services provided in these clinics. Low cost of services is the main reason for high number of patients visiting these centers and affects their level of satisfaction. Most patients visiting these clinics are from the middle- and low-income socioeconomic classes. Thus, they expect the tariffs and the costs of services to be reasonably low. Coverage of services by dental insurance companies is also important. Increasing the coverage of dental services by the insurance companies and further cooperation of dental clinics with insurance companies can increase the level of patient satisfaction.

Inappropriate welfare services can also result in patient dissatisfaction. Dental clinics should have a large waiting room, clean restrooms, and sufficient parking lots. Long waiting time is expected considering the high number of patients and limited number of attending dental clinicians and staff.<sup>18</sup>

Obviously, by an increase in the educational level of patients, their level of expectations rises as well and may result in their dissatisfaction. Higher income level of private sector employees can be responsible for their higher expectations, which affect their level of satisfaction as well. One reason for higher demand of female patients for dental care services is greater attention of females to oral health and the fact that women often have more free time than men to visit crowded university dental clinics.<sup>19</sup> The highest satisfaction rate of patients with the endodontics department may be due to the alleviation of pain after endodontic treatment.

One limitation of the studies on satisfaction of patients is that they consider equal value (weight) for all parameters while some of the parameters may not have equal weights. Moreover, some of the interviewees may not give an honest response to questions due to some personal or social considerations. This is especially common in face-to-face interviews. However, considering the large sample size of this study and the thorough explanation given to the patients by the interviewer regarding the objectives of this study, the results seem to be acceptably reliable and suitable to take corrective actions. It is suggested that the evaluation is done for other departments in this clinic. It is expected that the level of satisfaction of patients visiting the dental clinic of Shahrekord University improves with the time, given that the personnel are well-educated regarding proper communication with the patients and that the number of experienced dental clinicians working in this clinic increases. Future studies based on qualitative findings may also help determine why patients have these levels of satisfaction based on this primary analysis and this normative assessment.

### Conclusion

According to the results of this study, level of satisfaction of patients visiting different departments of dental clinic

of School of Dentistry, Shahrekord University of Medical Sciences was relatively favorable. However, considering the presence of a small percentage of dissatisfied patients, attempts must be made to improve the quality of care and services provided in this clinic.

### Ethical Approval

The study protocol was approved by the Ethics Committee of Shahrekord University of Medical Sciences..

### Conflict of Interest Disclosures

None.

### Funding/Support

None.

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**How to cite the article:** Tanbakuchi B, Amiri M, Valizadeh S. Level of satisfaction of patients with dental care services provided by Dental Clinic of Shahrekord University . Int J Epidemiol Res. 2018;5(4):123-127. doi: 10.15171/ijer.2018.26.