Background: Awareness of dental students' views from the clinical departments will help on developing strategies for qualitative and quantitative improvement of clinical skills. The purpose of this study was an assessment of the strengths and weaknesses of the clinical departments of Babol dental school, from students' views point, to provide feedback for improving of clinical skills training.

Methods: In a cross-sectional study, all of dental students of Babol dental school in one educational year (1390-1991) were asked to fill a questionnaire with 16 standard questions. The questionnaire was about student's satisfaction from teachers, nurses, equipment and facilities of clinical setting, student's self-evaluation and satisfaction of their action in clinical practices. The data was analyzed by SPSS software using descriptive statistics, ANOVA and Chi-square.

Results: There was significant difference between students' satisfaction from different departments. The lowest satisfaction scores were obtained for the different sections in the departments other than students' satisfaction from different departments. The results showed that the overall satisfaction from students' in clinical departments was relatively appropriate.

Conclusions: Results showed that despite the differences between the different departments, students' satisfaction level was relatively appropriate. Nevertheless, the present situation can be improved by upgrading the facilities of some departments and creating confidence in students for treatment of patients during dental education.
INTRODUCTION

Acquisition of clinical skills for dental students is the necessity of effective clinical practice for their future career. Students should become familiar with the pattern of clinical skills while a suitable environment and condition should be provided for their training (1). Acquisition of required qualification in performing clinical skills entails spending time, patience and practice in an appropriate context (2). The acquisition of clinical skills is slow and often they will be disappearing with the lack of utilization (3). Clinical education consists of: preparing students for coordinating basic scientific information and fulfilling skills, accompanied by diagnosing, curing, and caring patients, and acquiring different professional skills (4).

Inadequate training of clinical skills to dental students, causes highly variable performs in routine clinical practices by newly graduated students. Even if the academic education (general and specialized courses) be sufficient, it could not guarantee the adequate skills required for the dentists’ professional life (5). Undoubtedly, such disabilities cause stress among young dentists and preventing them from offering desired services to patients. Since after graduation, the possibility of amending of these disabilities is often impossible, special attention should be paid during dental education. In the review of literature, several studies were indicated the lack of learning and proficiency in general clinical practices in most medical schools in the world. These problems are more remarkable in the universities which offer traditional patterns of medical education like medical universities in our country (6-9).

Since the medical schools are responsible for training students as a commitment and skilled workforce, the effect and role of these centers in matter of treatment is known to everybody. Clinical training of dental students is directly effective in the health and treatment of oral and dental diseases. Not only students’ motivation and effort is effective in their learning but also the experienced and compassionate teachers and available facilities have a key role in medical education (10). Evaluations of students’ satisfaction as a main service recipient in educational system play a key role in the study of the foundations of educational quality. In addition, paying attention to their viewpoints can be effective and helpful in the way of finding the strength and weakness and presenting appropriate solutions for qualitatively and quantitatively improvement of education. On the other hand, this evaluation can be a motivation for the presence and cooperation of departments, teachers and students in the educational area. Furthermore, this type of educational planning may improve the cooperation of educational groups and teachers in which are more relevant to the students’ future career. A study by Hassan Zadeh on the viewpoints of 83 medical students who were learning clinical skills showed that percentage of students’ satisfaction in all aspects was high (11).

In Iran, a few studies assessed the dental students’ satisfaction of clinical training. In a similar study, Amanat et al (2010) evaluated the Shiraz students’ satisfaction from the medical education provided by the dental school of Shiraz. The findings showed that, despite differences in some questions about various areas such as teacher’s qualification, scientific equipment and teachers and staff’s behavior, in general, satisfaction of students of target group, almost identical to each other and there is little fluctuation (12). In another study by Eslamipour et al, (2010) the satisfaction of clinical dental students from the Dentistry School of Isfahan University from different departments was evaluated. Results showed that despite of the differences between the departments, satisfaction of students from different departments is desirable. However, it is necessary to put priority the prosthodontics and endodontics department in the future planning (13). The objective of these studies was to improve the dental education quality for better treatment of patients.

The present study is done to evaluate the satisfaction of students from the clinical departments of Babol dental school in order to find the weak points and prioritize them for future applications. In this study, the rate of students’ satisfaction in relation to communicated to teachers, existing required equipment and facilities in all departments, nurses’ behaviors and the determination of learning together with confidence in various scientific and practical parts, in order to improve educational quality is measured.

METHODS

This study was a descriptive cross sectional study using questionnaire consists of 16 questions related to each department using academic sources (13). This questionnaire was given to 5 groups of dental students of Babol dentistry school: 1) fourth year dental students, 2) fifth year dental students 3) sixth-year dental students, 4) dental students accepted under the quota of dental hygienists, and 5) dental students who had passed some courses in abroad universities and were studying additional requisite courses to receive their certificate (dental students are trained in foreign universities). The number of participants in this study was 100 people. The first part of the questionnaire included information about gender, year of entrance, type of entrance, and the average of students. The second part of the questions related to satisfaction which is divided into 4 categories, 8 questions about teachers, 3 about nurses, 2 questions related to facilities and equipment, 2 questions in relation to the feeling of confidence and self-satisfaction of students and the last question was about the overall satisfaction of the students from the relevant departments.

In other words, factors influencing satisfaction of dental students were divided into the four categories of teachers, nurses, facilities and confidence. To assess the satisfaction in response to the questions, the 5 grade Likert scale from totally disagree = 1 to totally agree = 5 was used and at the end of the questionnaire there was one question asking about the overall student satisfaction of all clinical department of school of dentistry which can be answered in the form of I am satisfied or not. Students also could explain their reasons in case of dissatisfactions. Face and
content validity of the questionnaire sections were confirmed by a number of dental school teachers and experts. The reliability has been confirmed by conducting a pilot study among 11 students with a Cronbach’s alpha of 0.81. For the analysis, the data was initially entered into SPSS17 and then use descriptive test for the descriptive data. After that, the ANOVA and Chi-square were used to analyze the data. In case that the result of ANOVA test was significant, the Scheffe’s multiple comparison test was used. In this study, the level of statistical significance was determined to be less than 0.05.

**RESULTS**

This study was conducted on 100 of dental students of Babol dentistry school which consists of 23 students of the sixth year, 23 student of fifth year, 25 of forth year, 11 dental students accepted under the quota of dental hygienists and 18 students of foreign trained dental students which 62 of them were male and 37 were female. All questionnaires were returned completed. (Response rate of 100%). Table 1 indicates the satisfaction according to the year of entry and type of entry which in some parts there was a significant difference in relation to the level of students’ satisfaction of different entry. But in the case of operative dentistry, prosthodontics, periodontics and oral diseases departments no significant difference reached. Using Chi-square test, there was no significant relationship ($P = 17/0)$ between students’ satisfaction. The results are shown in table 2.

Table 3 represents the level of students’ satisfaction from various departments. By using ANOVA test, level of students’ satisfaction of different departments regarding evaluation of various aspects, has significant relationship. Similar letters in each column shows the lack of significant difference between groups in the level of $\alpha = 0.05$.

### DISCUSSION

In the present study, levels of dental students’ satisfaction of their clinical education in the Babol Dentistry School have been studied. It showed that in spite of differences among departments, the level of students’ satisfaction from different departments of Babol Dentistry School was relatively favorable considering more than half the satisfaction score in the majority of cases were obtained. One of the important and fundamental ways in raising the quantitative and qualitative level of function of dental clinical department is the recognition and awareness of the education authorities from the level of clinical students’ satisfaction from the function of different department. Since identification of the weakness in the way of improving educational level by relevant authorities is necessary, attention to students viewpoints who are the educational audience, will be effective in the future program planning.

So far many various researches has been done in the field of evaluation of teachers ($14$) and initial conditions for clinical training ($2, 11, 15, 16$) but a few articles about dental clinical training and students’ views on this subject have been published.

In a general look, considering the satisfaction of students from clinical education in the different educational levels,
Table 3. Students level of satisfaction from different departments regarding various aspects

<table>
<thead>
<tr>
<th>Departments</th>
<th>Teachers</th>
<th>Nurses</th>
<th>Material and equipment</th>
<th>Self-confidence</th>
<th>Overall satisfaction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Radiology</td>
<td>2.05±0.1a</td>
<td>2.06±0.14a</td>
<td>3.02±0.42a</td>
<td>3.2±0.43a</td>
<td>2.73±0.64a</td>
</tr>
<tr>
<td>Pediatric dentistry</td>
<td>3.0±0.02b</td>
<td>2.99±0.03b</td>
<td>3.67±0.77b</td>
<td>3.1±0.21a</td>
<td>3.51±0.54b</td>
</tr>
<tr>
<td>Prosthodontics</td>
<td>3.17±0.07b</td>
<td>3.05±0.12b</td>
<td>3.11±0.21a</td>
<td>3.5±0.74b</td>
<td>3.21±0.62b</td>
</tr>
<tr>
<td>Oral diseases</td>
<td>3.21±0.28c</td>
<td>3.71±0.69c</td>
<td>3.28±0.26a</td>
<td>3.07±0.3a</td>
<td>3.44±0.52b</td>
</tr>
<tr>
<td>Endodontics</td>
<td>3.44±0.38c</td>
<td>3.19±0.42b</td>
<td>3.59±0.77b</td>
<td>3.13±0.24a</td>
<td>3.47±0.54b</td>
</tr>
<tr>
<td>Periodontics</td>
<td>3.44±0.38c</td>
<td>3.19±0.42c</td>
<td>3.59±0.77b</td>
<td>3.13±0.24a</td>
<td>3.32±0.51b</td>
</tr>
<tr>
<td>Orthodontics</td>
<td>2.01±0.06a</td>
<td>2.97±0.14b</td>
<td>3.82±0.75b</td>
<td>3.0±0.0a</td>
<td>2.72±0.81a</td>
</tr>
<tr>
<td>Surgery</td>
<td>3.65±0.58c</td>
<td>3.15±0.29b</td>
<td>3.77±0.29b</td>
<td>3.52±0.63b</td>
<td>3.58±0.54b</td>
</tr>
<tr>
<td>Operative dentistry</td>
<td>3.44±0.48c</td>
<td>3.59±0.12c</td>
<td>3.2±0.4a</td>
<td>3.8±0.4c</td>
<td>3.40±0.57b</td>
</tr>
<tr>
<td>P-value</td>
<td>&lt;0.001</td>
<td>&lt;0.001</td>
<td>&lt;0.001</td>
<td>&lt;0.001</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>

Dental students accepted under the quota of dental hygienists and dental students are trained in foreign universities indicated significant statistical difference in all departments except for prosthodontics, operative dentistry, oral diseases and endodontics. In a similar study by Amin et al, significant increase in medical student satisfaction in the case of more specialized and advanced educations reported followed by increasing in proficiency of students during their final years of studying (2). However, in a study by Amanat et al, on the students’ satisfaction from different departments, no significant difference was found regarding the year of entry (12).

There is no significant relationship between the students’ satisfaction and the average, but students with higher average had less satisfaction which can originate from the high scientific expectation and the need of more favorable conditions for improving their scientific level. A study by Zamanazad et al showed that the medical student’s major concern was the necessity of focusing on practical issues relevant to their needs by their teachers (16). Therefore it is necessary that authorities provide better conditions in future in order to meet the academic needs of all students especially high grade students. A study by Amanat et al indicated that to some extent the lack of significant relationship between the students average and their satisfaction related to the lack of coordination between subjects, educational goals and evaluation methods in different departments (11) which was similar to the study of Eslamipour et al (13). On the other hand, dental students are trained in foreign universities and dental students accepted under the quota of dental hygienists had less satisfaction compared with the students who were able to pass the national university entrance exam. Considering the dental students are trained in foreign universities, this matter could be due to difficulty and seriousness of subjects and also the way of evaluation which is more serious than compared to their hometown universities, because they have been studying predominantly in lower rank universities.

Also by considering their rejections which can be due to their scientific weakness in the university entrance exam, most of them were under pressure and experiencing many educational problems. Their higher ages compared to other students could be another reason of their dissatisfaction. Of course a higher cost that the dental students are trained in foreign universities paid could also cause more dissatisfaction. Eventually, considering all the facts together lead to lower satisfaction.

Regarding dental students accepted under the quota of dental hygienists, what could cause their lower satisfaction are probably: their scientific weakness and higher ages compared to others as well as their reliance on the semi-scientific and sometimes personalized methods in the treatment of patients which are in contradiction with the routine expectations and trainings.

In a study by Eslamipour et al, the negative correlation between students’ average and their level of satisfaction from the departments of the operative dentistry, oral diseases, pediatric dentistry, and endodontics indicated students’ attention to these departments in order to enhancing and upgrading their ability as a public dentist (15). Zamanazad et al also found the medical student’s major concern was the necessity of focusing on practical issues relevant to their needs by their teachers to improve their knowledge as a future general practitioner (16). This matter showed the importance of this issue for both students of medicine and dentistry. Furthermore, authorities are responsible for improving the quality of scientific and practical educations. However, Amanat et al found that the reason for lack of significant relationship between students’ average and their satisfaction was somehow related to the lack of coordination between subject, educational goals and their methods of evaluation in various departments (12).

In this study we found that the level of students’ satisfaction from the teachers of each department was different. In other words, it can be said the highest satisfaction scores were belong to periodontics department followed by surgery, operative dentistry and endodontics departments.
However, the lowest satisfaction scores were obtained from the departments of orthodontics and radiology which can be due to the serious behavior of teachers and more specialized training in orthodontics compared to other departments. The results of Zamanzad et al study showed a decrease of Shahr-e-Kord medical students’ satisfaction which absence of clear evaluation criteria, inappropriate manner of the physician towards the patients and the lack of relevant training with need of students were the key factors of their dissatisfaction (16).

In a similar study, Eslamipour et al found that the students’ highest satisfaction scores from their teachers were belong to orthodontics and periodontics department and the lowest satisfactions were obtained from operative dentistry and prosthodontics department. The low satisfaction of prosthodontics department teachers was due to their untimely presence in department and in operative dentistry departments was for inadequate and unsuitable methods of education (13). However, Amanat et al indicated that the reason of decreasing satisfaction of some departments like surgery department in Shiraz dental school was due to lack of sufficient time for exchange of information between teachers and students in scientific environment (12).

The level of satisfaction from nurses in different department was significantly different. The highest satisfaction score from nurses were obtained from operative dentistry department and the lowest were belonging to the nurses of radiology department. In the evaluation of each question of questionnaire, the different manner of nurses of different departments with students was the reason of this satisfaction. In a study by Eslamipour et al, the highest students satisfaction scores were belong to the performance of orthodontics and periodontics departments and the lowest level of satisfaction obtained from the performance of nurses in surgery and endodontics departments. The low satisfaction from nurses in these departments was due to their inappropriate manner towards students because nurses with the students which it can cause increase in stress among students (13).

The highest level of satisfaction obtained from facilities and equipment of orthodontics, surgery, endodontics and periodontics departments that it can be the reason for the existence of new equipment and facilities in mentioned departments. However, no significant statistical difference found among other departments and in each case the level of satisfaction was lower than the mentioned departments. In the prosthodontics department the dissatisfaction was due limiting the consumable material, in radiology department because of problems arose in irradiation devices and their frequent needs for repairing students had dissatisfaction. In other departments, provision of educational supplies by the students themselves was the main reason of dissatisfaction. However, the results of study in Shiraz medical university showed that the surgery department had the least facilities compared to other departments (12).

In the study by Eslamipour et al, the highest level of students’ satisfaction from facilities and equipment related to the periodontics and surgery departments and the lowest satisfaction were obtained from endodontics department which was caused by the inappropriate working times of start and end in the morning and afternoon, because afternoon working hours for the full work departments such as oral disease was not adequate.

The highest score of self-confidence was obtained from operative dentistry department followed by surgery and prosthodontics departments. Other departments did not show significant differences. However, the lowest score related to the orthodontic, oral diseases and pediatric dentistry departments which have been caused by short sessions of operative dentistry treatment compared to prolonged treatments with high risk. Also the Less number of special case patients commensurate with the theories in the students’ reference books of oral diseases can cause reduction self-confidence in students. In the case of pediatric dentistry and orthodontics departments, the high level of self-expectations in relation with treatment of certain patience can justifies their low confidence. In a study by Amini et al, the reason of decreasing interns’ satisfaction from clinical skills was due to lack of time for experience and practice (2).

In the study by Eslamipour et al, the highest of level of self-confidence and self-satisfaction from their performance among Isfahan dental students were obtained from the periodontics and diagnosis departments. The lowest rate of satisfaction of performance was reported from endodontics and holistic dentistry departments (15). Although Amini et al, in their study indicated that the reasons of reduction in interns’ satisfaction of some clinical skills were the complexity and difficulty of learning, lack of time for experience and practice and lack of emphasis on these skills as a part of students’ daily duties (2). It seems that these factors were present in the orthodontics and pediatric dentistry departments, which justifies the lack of confidence in the mentioned departments of the present study. In the case of certain departments such as orthodontics, students faced with patients and could not treat them properly and this subject was due to their lack of experience, because they did not face with such patients in their educational periods, so they lost their self-confidence in such cases. In the case of the pediatric dentistry department, the difficulties of working with children could be a reason of the feeling less confidence among students.

The results showed that in spite of differences among departments, the level of students’ satisfaction from different departments was relatively favorable considering more than half the satisfaction score in the majority of cases were obtained. Nevertheless, the present situation can be improved by upgrading the facilities of some departments and creating confidence in students for treatment of patients during dental education.

Further studies can be helpful in finding the educational problems and proper solutions which needs more cooperation of higher authorities and educational directors.

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Dental Students' Satisfaction from Clinical Departments

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