

## Evaluation of Professional Behavior among Dental Students: A Case Study on Shahid Sadoughi University of Medical Sciences in Yazd and Qom University of Medical Sciences in Qom, Iran

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### Abstract

**Background and Objectives:** Evaluation of the status and improvement of professional behavior among dental students is a vital objective of the dentistry faculty. The principles and methods of professional behavior, which affect the doctor-patient relationship, are of paramount importance in all medical services. Regarding this, the present study aimed to assess the professional behavior of dental students studying at two universities, namely Shahid Sadoughi University of Medical Sciences, Yazd, Iran, and Qom University of Medical Sciences, Qom, Iran.

**Methods:** This study was conducted on 72 and 82 dental students of Qom University of Medical Sciences and Shahid Sadoughi University of Medical Sciences, respectively, who entered the clinical course, in 2017. The study population was selected from students with various college admission years using stratified random sampling technique. Data collection tool was a 35-item professional behavior assessment questionnaire, the validity and reliability of which were confirmed. Data analysis was performed using the statistical tests of ANOVA, Pearson's correlation coefficient, and t-test. P-value less than 0.05 was considered statistically significant.

**Results:** According to the results, the mean scores of the professional behavior of dental students in Yazd and Qom universities were  $102.70 \pm 15.76$  and  $106.41 \pm 13.66$  out of 135, respectively. The results of Pearson test revealed a direct correlation between professional behavior and interest in dentistry ( $r=0.246$ ,  $P<0.003$ ). However, no significant difference was observed between the two student groups in this regard ( $P=0.66$ ).

**Conclusion:** As the findings indicated, the professional behavior of the two groups of dental students was at an acceptable level. However, Qom students had a higher level of professional behavior, compared to the Yazd students. Therefore, it is suggested that more attention be paid to this issue during the academic years.

**Keywords:** Professional Ethics, Ethics, Dental Students, Dental Ethics, Dental-education.

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### Introduction

Professional behavior is defined as the ability of meeting the ethical expectations of patients. These expectations are based on patients' welfare, independence, and social justice. This type of behavior is determined by commitment to professional duties, adherence to ethical principles, and sensitivity toward patient community (1).

One of the main duties of medical universities is to prepare students to comply with professional standards (2). Similar to any other profession, dentistry requires a moral responsibility that is the duty of each dentist and in accordance with his/her obligations under the law (3).

Professional behavior emerges during the college years and internship program (4).

However, according to a number of studies, the baseline values and behaviors that students have upon entering the university may undergo a change during their academic years at the university. Even positive behaviors and values may be replaced by some negative values and manners.

Some studies have reported the incidence of some non-professional and non-ethical behaviors in teaching clinics that could have a negative educational effect on the formation of professional behaviors of students (5). Many researchers believe that the observation of others' behavior in the medical environment by student is more effective in the formation of their professional behavior, compared to the contents they theoretically learn in the classroom (6).

When teaching dentistry workforce, attention should be paid to the development and strengthening of values, attitudes, ethical norms, social skills, and other characteristics that lead to the formation of human or professional behaviors in dentists. The education of professional behaviors to dental students is an important issue in the training of this field. The core of professional behavior in student life is created by education and learning (7).

Evaluation of the status and improvement of professional behaviors of dental students is a goal of great significance for a dentistry faculty. In addition, the principles and methods of professional ethics, which affect the doctor-patient relationship, are extremely important in healthcare provision (8, 9). Observance of the principles of professional ethics and attention to the rules and regulations of the dental profession and patients' rights are prerequisites for the provision of dental services.

Professional behavior refers to the recognition and ability to perform a profession, respect for the service recipient, confidentiality, promotion of advanced and effective health services, improved access, justice and fairness, knowledge-based skills, trust gain, fulfillment of professional duties in relation to colleagues and stakeholders, as well as proper communication, empathy, and sympathy with patients (1-2).

The dental schools of England has addressed ethical behavior by teaching the behavioral sciences related to oral health since 1990 (10, 11). Furthermore, communication skills and professional ethics were taught in major dental education programs in the United States in 1993 (12). In 2018, the American Association of Dentists revised the code of ethics for the professional practice of dentists, which represents an implicit commitment between dental profession and society members. The five fundamental principles emphasized for this profession by the American Dentists Association include attention to the patient's lack of dependence, non-hostility, profitability, justice, and truthfulness towards patients (13). Dental assistant specialists are more likely to adhere to their communication skills and professional ethics, compared to the students studying the general courses of dentistry program (2). Furthermore, there is evidence indicating that dentists observe the professional ethics less than physicians. The Dental Association, American Dental College, and American Dental Professional Ethics Association have dedicated extensive efforts to incorporate the course of professional ethics into dentistry programs.

Emphasis on ethics education in dentistry curriculum indicates the importance of promoting professional behavior among students (14). Professional behavior is one of the most challenging issues in the medical departments, and all of the professionals working in this field, including dentists, are faced with this issue on a daily basis. Regarding this, the evaluation of the professional behavior of dental students would inform the faculty members about this issue, thereby facilitating the provision of more efficient services and training professional dentists with attention to professional conduct. Moreover, it would lead to the improvement of the relationship of dentists with patients, colleagues, and other healthcare teams and lay a good basis for the institutionalization of this category in the medical community.

Therefore, considering the importance of this issue, the present study aimed to evaluate the professional behavior of dental students

studying at two universities, namely Shahid Sadoughi University of Medical Sciences in Yazd and Qom University of Medical Sciences in Qom, Iran.

## Methods

This descriptive analytical research was conducted on 154 dental students of Qom (n=72) and Yazd (n=82) universities majoring in the 5-11th academic terms in 2017, selected through multistage random sampling technique. The participants had different university admission years and studied at two dentistry faculties.

The mentioned universities were selected mainly due to the simplicity of access to their students. The data were collected using a 35-item questionnaire, the reliability and validity of which have been confirmed by Heshmati Nabavi (8). In the present study, the content validity of the research tool was confirmed based on the opinions of a panel of experts and professors. Furthermore, the reliability of this instrument was estimated rendering a Cronbach's alpha coefficient of 0.76.

The questionnaire consists of two sections, one of which covers demographic characteristics (i.e., age, gender, marital status, and total grade point average) and the other one pertains to professional behavior (27 items). The professional behavior section is rated on a five-point Likert scale (never=1, sometimes=2, no idea=3, often=4, and always=5). In this questionnaire, the minimum and maximum scores are 27 and 135, respectively. Generally, the respondents were asked to rate their level of interest in the field of dentistry on a score range of 1-10.

The inclusion criteria were studying in one of the dentistry faculties evaluated in this study and entering the clinical course (internship) to be in direct contact with patients. On the other hand, the exclusion criteria were unwillingness to cooperate in the study and non-completion of the questionnaire. After obtaining consent from the subjects, they were ensured of confidentiality terms regarding their personal information. Data analysis was performed using t-test, ANOVA, and Pearson's

correlation coefficient. P-value less than 0.05 was considered statistically significant.

## Result

This research was conducted on 152 dental students in Yazd (n=82, 53.25%) and Qom (n=72, 46.75%) universities of medical sciences. Table 1 summarizes the demographic characteristics of the participants.

Table 1. Demographic characteristics of the two study groups

Variable		Students of SSUMS, Yazd, Iran	Students of QUMS, in Qom, Iran	Total
Gender % (n)	Male	48.8 (40)	48.6 (35)	48.7 (75)
	Female	51.2 (42)	51.4 (37)	51.3 (79)
Marital status % (n)	Single	76.8 (63)	75 (54)	76 (118)
	Married	23.2 (19)	25 (18)	24 (36)
Place of residence % (n)	Native	56.1 (46)	44.4 (32)	50.6 (79)
	Non-native	43.9 (36)	55.6 (40)	49.4 (75)
Age (year) (mean±SD)		24.70±4.21	23.55±3.65	24.15±3.99
GPA (total score=20) (mean±SD)		16.21±1.13	16.32±1.35	16.27±1.23
Interest in the field of study (mean±SD)		8.07±1.85	7.98±2.13	8.03±1.97

GPA: grade point average, QUMS: Qom University of Medical Sciences, SSUMS: Shahid Sadoughi University of Medical Sciences

According to the results, the mean scores of the professional behavior of dental students in Yazd and Qom universities were 102.70±15.76 and 106.41±13.66 (total=135), respectively. The results of Pearson correlation test showed a direct relationship between professional behavior and interest in dentistry field (r=0.246, P<0.003).

Table 2. Comparison of the mean scores of professional behavior based on gender and university semester

Variable		n	Mean±SD	P-value
Gender	Male	75	105±14.22	0.162
	Female	79	103.77±15.55	
Semester	First semesters of clinical course (5-7)	79	103.50±16.57	0.126
	Final semesters of clinical course (8-11)	75	105.42±12.92	

The results of t-test demonstrated no significant difference between the two genders in terms of professional behavior (P=0.162). Nonetheless, the total score of professional

behavior was higher among the males, compared to that in the females.

Furthermore, the total score of professional behavior was not significantly different among students of different covered semesters ( $P=0.126$ ). Additionally, no significant correlation was observed between grade point average and mean total score of professional behavior ( $r=-0.16$ ,  $P=0.857$ ). The result also revealed that dental students in the 11th semester had the highest mean professional behavior score ( $108\pm 11.77$ ) (tables 2 and 3).

Table 3. Comparison of the mean scores of professional behavior based on the place of residence and marital status

Variables		n	Mean $\pm$ SD	P-value
Place of residence	Native	79	105.80 $\pm$ 15.16	0.262
	Non-native	75	103.09 $\pm$ 14.66	
Marital status	Single	117	104.59 $\pm$ 13.49	0.797
	Married	37	103.86 $\pm$ 19.10	

## Discussion

It is essential to provide dental students with education on professional skills toward patients. The adoption of a professional attitude at the beginning, during, and end of the treatment course is an important issue for the provision of quality services by dentists. Attention to secrecy, empathy, sympathy, maintenance of respect and professional dignity, acquisition of patient trust, benevolence, efficacy of treatment, usefulness, accountability, justice, fairness, and proper relationships with colleagues are factors that are agreed upon by all people (2).

The present study aimed to evaluate the professional behavior of dental students in Shahid Sadoughi University of Medical Sciences of Yazd and Qom University of Medical Sciences who started their clinical course. According to the results, the professional behavior of all participants was at an acceptable level, which is in line with the results obtained by Kinoshita (1). Professionalism occurs during academic years within the course of official and unofficial educational programs (15). In addition, Jabari et al. reported that the professional behavior of nurses was at a moderate level (16). This result can be indicative of the appropriateness of the training provided by the two faculties, which

had enabled dental students to reach an acceptable level of professional behavior.

Accordingly, the mean score of professional behavior in the students of the two faculties was above 50% of the total score. Dental students enter the clinical course in the fifth semester. After passing the clinical units, they have a higher chance of being affected by the culture and professional behavior in clinical environments until the end of their education. The professional behavior emerges in these individuals by observing the behavior of their faculty members and listening to the lectures presented by dentistry professors.

The results of the current research revealed no significant difference between the two groups in terms of professional behavior, which is in congruence with the results obtained by Heshmati Nabavi (6), who conducted a research on nursing students and nurses. According to the results of a study, it seems that insufficient attention has been paid to the professional qualifications of students in the curriculum; accordingly, the graduates are not expected to fully comply with professional commitments (17).

Meanwhile, contradictory results were obtained by Zijlstra-Shaw, who found a significant difference between the professional behavior scores of students and staff. In the mentioned research, it was argued that professional behavior not only is important, but also directly affects the acquisition of clinical skills. They also reported that time and space planning improves the learning of professional ethics by students (18).

In the current study, no significant difference was observed between the two genders regarding the total score of professional behavior. Nevertheless, male students had a higher professional behavior score, compared to their female counterparts. This result is inconsistent with that obtained by Dehghani (19), who found a correlation between gender and performance quality of ethical behavior. They reported that the females showed a higher adherence to the ethical behavior criteria, compared to the males. However, in the present research, the total mean score of the

male students was higher than that of the females.

Our results demonstrated no significant correlation between the academic term and total score of ethical behavior of the participants. In line with our findings, Jabarifar et al. observed no significant relationship between academic years and mean score of ethical behavior and communication skills. However, they reported that increased academic years of dental students led to a slight increase in this behavior score. In the mentioned study, there was a significant difference between the assistant specialists and students spending their general course in terms of the mean professional behavior score (2).

The relationship between the semester and the score of professional behavior can be explained by the increase in communication with patients in higher semesters. Moreover, the observation of professors' behavior in the clinical department and communication with patients by students lead to the improvement of their professional behavior.

In the current study, the mean score of professional behavior was higher in the students who were in their 11th semester of dentistry, which is in accordance with the results reported by Jabarifar (2). This can be ascribed to the fact that increased academic semester might be associated with more experiences in performing clinical practices, thereby improving the professional behavior of students toward patients. It could be also stated the incidence of more interactions with the patients at higher semesters promotes the students' sense of responsibility.

The results of the Pearson correlation coefficient indicated a direct relationship between professional behavior and interest in dentistry field. Similarly, Bishive Moghaddam et al. marked that interest in the field had a direct relationship with learning of clinical skills and socialization of the individual in the nursing profession (20). On the other hand, Heshmati Nabavi reported no significant association between interest in the field of nursing and mean score of professional behavior in nurses (9).

The relationship between interest in the field of study and professional behavior score might be due to the fact that interest in discipline may result in the enhancement of student's motivation to perform therapeutic activity, and consequently induces a sense of responsibility toward the patients, which in turn leads to the adoption of professional behavior by dentistry students.

## Conclusion

As the findings of the current study indicated, both groups of dental students had an acceptable level of professional behavior. Nevertheless, the professional behavior of Qom dentistry students was higher, compared to that of the Yazd dental students. While the professional behavior of students was evaluated as acceptable, there are some limitations in this domain. It is suggested to perform continuous and practical training on professional behavior to improve the quality of observing the principles of professional behavior in dental students. Since having graduates with high professionalism plays a vital role in promoting the profession, measures should be planned to improve the professional behavior of dental students.

One of the major limitations of the present study is small sample size due to the low number of students entering the clinical course. Therefore, our findings cannot be generalized to all dentistry faculties.

## Conflict of interest

The author declares no conflict of interest.

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