

# General Dental Students' Views About the Ethics Level in Education, Research, and Provision of Dental Services

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## Abstract

**Background:** The current study examines general dental students' views about the ethics level in education, research, and provision of dental services.

**Methods:** This descriptive cross-sectional study was performed on all general dental students at Yasuj University of Medical Sciences selected in the census. The researcher-made questionnaire was prepared online with PorsLine. In this questionnaire, examples of observing or not observing ethics in education, research, and provision of dental services by faculty members were presented to the dental students. Finally, all collected data were analyzed by SPSS software version 26.

**Results:** 47 students participated in the current study. The participant's mean age was 25.95 with a standard deviation of 3.5. Results of the study showed that the mean and standard deviation of non-observance of ethics in education, the provision of dental services, and research were  $3.05 \pm 0.9$ ,  $2.37 \pm 1.03$ , and  $3.04 \pm 1.15$ , respectively.

**Conclusion:** General dental students reported that the level of ethics in education, research, and provision of dental services by faculty members was unfavorable, so it is recommended that medical education courses related to ethics should be held for faculty members.

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## Introduction

The word "ethics" is derived from ethos (character) and the mores (customs). These two words are merged to define how individuals choose to interact with one another. In philosophy, ethics is defined what is good for an individual and society and establishes the nature of duties that people owe themselves and one another.<sup>1</sup> Ethics in Iran dates back to a very long time. Iranians, since the Achaemenes civilization, have followed the ethics in various fields, such as work and profession.<sup>2</sup> Professional ethics is a set of principles and standards of human behavior that determine the behavior of individuals and groups in a professional structure. In other words, the set of ethical principles derived from

the nature of the profession or occupation is called professional ethics.<sup>2</sup> Undoubtedly, professional ethics in medical sciences is also one of the most challenging topics, and almost all personnel in this profession, including dentists, encounter ethical issues in their work every day. Advances in technology have also added to ethical issues. However, these challenges have not been addressed in ethics in dentistry courses and the presentation of content, and it is necessary to pay attention to ethical competencies and appropriate ethical decision-making skills in different situations.<sup>3</sup>

Formal education of ethics in dentistry has increased exponentially over the years. Nevertheless, in several developing countries, this issue has not yet been addressed.<sup>4</sup> The main purpose of ethics

education in medical sciences is to train qualified people who can promote the level of health in society while observing justice, dignity, and human rights.<sup>5</sup> To achieve these goals, we need faculty members aware of the principles of ethics in their profession and adhere to these principles in practice. Awareness of dental faculty members on the principles of professional ethics helps them to provide better services and train more ethical people, minimize professional stress, and establish better relationships with patients, colleagues, and other health team members.<sup>6</sup> In fact, faculty members are important factors in shaping the students' moral and professional personality and may hinder their moral development, so it is necessary to pay attention to this issue.<sup>7-11</sup> Although special attention has been paid to the professionalism in the transformation and innovation packages, there are criticisms about its implementation.<sup>12</sup>

Various studies in this regard have been done abroad and in Iran, among which we can mention Elsheikh et al., Kemparaj et al., and Alaeddini et al.<sup>13-15</sup> In Region 5 of Iran, two studies have identified ethical challenges in education, research, and the provision of dental services, from the perspective of faculty members and students. These two pieces of research and others have not specified the degree of observance of ethical challenges. They have only indicated that problems exist in this regard, while most research has been conducted qualitatively and somehow extract the ethical codes that the faculty members should observe.<sup>16, 17</sup>

Faculty members are considered important factors in shaping the students' moral and professional personality of students; therefore, this study aimed to examine the general dental students' views about the ethics levels in education, research, and provision of dental services.

## Methods

This cross-sectional descriptive study was performed in 2021. Participants consisted of general dental students who had started their clinical rotations at Yasuj University of Medical Sciences. The method of selecting the target population was census. The inclusion criteria were general dental students studying in their fourth to twelfth terms. Students who completed less than 90% of the questionnaire questions were excluded from the study.

A researcher-made questionnaire was used to collect the data; the initial format was prepared by reviewing related articles and dissertations. Then, this questionnaire was modified in the focus group meetings held with medical education and dental faculty members. To determine its validity, the authors distributed the questionnaire among 10 specialists in dentistry and medical education, and they were asked, "Which of the questionnaire items does not properly

measure what should be measured, and which one is not clear and transparent." Finally, content validity index and content validity ratio of this questionnaire were calculated. Then, for determining the reliability, this questionnaire was given to 30 students to complete, and its reliability was calculated using Cronbach's alpha. After determining the validity and reliability and solving the related problems, we prepared the questionnaire which consisted of two parts, demographic characteristics and 128 specific questions, online with PorsLine and sent via WhatsApp for completion. In this questionnaire, examples of observance or non-observance of ethics in education, research, and provision of dental services by faculty members were presented to dentistry student, showing the importance of the specialized phrases in the questionnaire from very low to very high.

In the next step, the data were entered into SPSS software version 26 for analysis. Finally, descriptive statistics, including mean and standard deviation, were used. The code of ethics was granted by the relevant authorities under the number IR.SUMS.REC.1400.190. If the study participants agreed to participate, the questionnaire was administered to them. All information was kept confidential (Recode of questionnaires no. 1-6 and 10).

## Results

47 students participated in the current study. 12 students (5 %) were more than 35 years old, 5 students (12%) were between 30-35, 16 students (45%) were between 25-29, and 14 students (38%) were less than 29 years old. The participants' mean age was 25.95 with a standard deviation of 3.5. The students' grade point average was 15.99 with a standard deviation of 2.81. Nineteen students (41%) were studying in term 12, 7(14%) in term 10, 4(8%) in term9, 11(24%) in term8, 2(5%) in term 6, and 4(8%) in term 4.

The study showed that the means and standard deviations of non-observance of ethics in education, the provision of dental services, and research were  $3.05 \pm 0.9$ ,  $2.37 \pm 1.03$ , and  $3.04 \pm 1.15$ , respectively. Table 1 shows the mean and standard deviation of questionnaire items.

As Table 1 shows, the responsibility of faculty members in education and their attention to training the content specified in the curriculum are poor. Therefore, the level of expectation from the student who has just entered the wards is high. Furthermore, the lack of observance of justice by faculty members in scoring, along with injustice and discrimination in the teacher's treatment of the student imposes stress on the student. Moreover, some issues were found to be prevalent, such as positioning and stuttering of faculty members with students, forcing the student to find the patient, not teaching beauty techniques completely to the student due to financial issues, wasting the

**Table 1:** Mean and standard deviation of questionnaire items

| Number              | Question   | Mean | SD   |
|---------------------|--|------|------|
| Ethics in education |  |      |      |
| 1                   | Adequate training in theory classes and wards  | 3.01 | 1.21 |
| 2                   | Teacher's responsibility in the field of education   | 2.84 | 1.30 |
| 3                   | Proper supervision of faculty members to student work in the department  | 3.20 | 1.09 |
| 4                   | Observe the time set for training by the teacher   | 2.93 | 1.15 |
| 5                   | Complete teaching of the contents specified in the curriculum  | 2.86 | 1.26 |
| 6                   | Emphasize theory classes by teachers   | 3.02 | 1.16 |
| 7                   | The level of expectation from the student who has just entered the wards   | 3.78 | 0.70 |
| 8                   | Creating despair and hopelessness in the student by the faculty members  | 3.44 | 1.22 |
| 9                   | Lack of motivation in the student by the teacher   | 3.32 | 1.36 |
| 10                  | Having proper order in the faculty by the faculty members  | 2.90 | 0.90 |
| 11                  | Teachers' indifference to student education  | 3.32 | 1.09 |
| 12                  | Non-observance of professional ethics by faculty members   | 3    | 1.11 |
| 13                  | Lack of observance of justice by faculty members in scoring  | 3.51 | 1.39 |
| 14                  | Non-standard exam questions  | 3.38 | 1.09 |
| 15                  | Lack of proper response of faculty members to student protests   | 3.79 | 1.19 |
| 16                  | Do not give feedback to the student by the faculty member  | 3.35 | 1.14 |
| 17                  | Non-observance of security issues of test questions  | 2.86 | 1.04 |
| 18                  | Not cooperating with a student with a specific medical problem   | 2.54 | .94  |
| 19                  | Injustice and discrimination in the teacher's treatment of the student   | 3.54 | 1.35 |
| 20                  | Give stress to the student   | 3.60 | 1.23 |
| 21                  | Positioning and stuttering of faculty members with students  | 3.60 | 1.37 |
| 22                  | The immorality of faculty members  | 3.48 | 1.42 |
| 23                  | The teacher does not respect the student   | 3.40 | 1.37 |
| 24                  | Improper treatment with a student in front of the patient  | 3.02 | 1.33 |
| 25                  | Teacher misbehavior when asking a student a question   | 3.11 | 1.22 |
| 26                  | Destroying student confidence by the faculty members   | 3.39 | 1.28 |
| 27                  | Faculty members view about the student as a career competitor  | 3.27 | 1.31 |
| 28                  | Do not allow a student to enter the class if there is a delay of less than 5 minutes                               | 2.36 | .94  |
| 29                  | Forcing the student to find the patient  | 3.65 | 1.43 |
| 30                  | Not taking the student seriously   | 3.49 | 1.35 |
| 31                  | Do not allow the student to do practical work in the wards   | 2.69 | 1.18 |
| 32                  | The teacher's huff in the classroom  | 2.40 | 1.08 |
| 33                  | The teacher blames the student for the teacher' mistake  | 2.90 | 1.23 |
| 34                  | Introducing the student to the technicians' personal laboratories  | 2.91 | 1.45 |
| 35                  | Forcing students to outsource their work   | 2.44 | 1.13 |
| 36                  | Lack of up-to-date educational content of faculty members  | 3.26 | 1.25 |
| 37                  | Failure to provide lesson plans to the student   | 2.92 | 1.19 |
| 38                  | Inadequate teacher training due to patient protest   | 2.77 | 1.12 |
| 39                  | Not teaching completely due to a lack of motivation  | 3.26 | 1.26 |
| 40                  | Old age and impatience, and incomplete presentation of lessons   | 2.66 | 1.28 |
| 41                  | Incomplete teaching of beauty techniques to the student due to financial issues                                    | 3.62 | 1.41 |
| 42                  | Not being hard on the student by the faculty member to increase his / her evaluation score                         | 2.32 | 1.19 |
| 43                  | Waste of useful time in student education  | 3.61 | 1.35 |
| 44                  | Lack of constant presence of the teacher in the ward   | 3.03 | 1.26 |
| 45                  | Unprofessional behavior of faculty members with colleagues due to competition                                      | 2.84 | 1.22 |
| 46                  | Faculty members do not respect each other  | 2.55 | 1.12 |
| 47                  | Lack of commitment of faculty members to the student   | 3.47 | 1.37 |
| 48                  | Faculty members reluctance to teach  | 3.42 | 1.28 |
| 49                  | Faculty members' lack of commitment to provide service in student education  | 2.94 | 1.31 |
| 50                  | Faculty members' reluctance to teach due to welfare problems   | 2.72 | 0.97 |
| 51                  | Lack of accuracy and focus of the faculty members in the ward  | 2.65 | 0.94 |
| 52                  | Having a gender perspective on the student   | 3.13 | 1.36 |
| 53                  | Do not allow the student to do patient work and learn  | 2.86 | 1.20 |
| 54                  | Obliging a student to purchase equipment from a particular company by a faculty member without a scientific reason | 2.01 | 1.01 |
| 55                  | The role of the teacher is not a role model for the student  | 2.68 | 0.99 |
| 56                  | Lack of special privacy between the faculty member and student due to being too intimate                           | 2.27 | 1.01 |
| 57                  | Comparing the quality of work of novice students with faculty members and ridicule that work                       | 2.45 | 1.15 |
| 58                  | Taking a repetitive exam from students and not designing a new question  | 3.18 | 1.43 |

| Number                   | Question   | Mean | SD   |
|--------------------------|--|------|------|
| 59                       | Abuse of managerial position by the teacher  | 3.01 | 1.28 |
| 60                       | Passing students despite not completing their recovery   | 2.99 | 1.41 |
| 61                       | Passing a student due to passing the basic science exam  | 2.69 | 1.26 |
| 62                       | Injustice in scoring due to orders   | 3.52 | 1.38 |
| Ethics in research       |  |      |      |
| 1                        | Extraction of the patient's teeth due to proofing teeth by the faculty member                              | 1.77 | .85  |
| 2                        | Breaking the rotary file in the channel by the faculty member  | 1.66 | .91  |
| 3                        | Faculty members are not responsible for more complex cases   | 2.94 | 1.38 |
| 4                        | Inattention and inaccuracy of faculty members in the initial examination of the patient                    | 2.56 | 1.10 |
| 5                        | Inappropriate treatment of the patient by the faculty member   | 1.89 | .97  |
| 6                        | Waste of patients' time by the faculty member  | 3.07 | 1.13 |
| 7                        | Receive radiation many times by patient due to lack of supervision of student by the faculty member        | 3.08 | 1.18 |
| 8                        | Confirmation for the patient without performing periodontist surgery                                       | 2.23 | .99  |
| 9                        | Prioritize student scores over patient profits   | 2.38 | .96  |
| 10                       | The insignificance of the patient for the faculty member   | 2.77 | 1.13 |
| 11                       | The patient's treatment is incomplete due to the late presence of the faculty member                       | 3.29 | 1.20 |
| 12                       | Failure to obtain informed consent from the patient by the faculty member                                  | 2.37 | 1.08 |
| 13                       | Injury to the patient  | 2.52 | 1.02 |
| 14                       | Prefer his/her profits over the profits of the patient by the faculty member                               | 2.45 | 1.14 |
| 15                       | Impose additional costs on the patient if no treatment is needed   | 2.07 | .97  |
| 16                       | Improper treatment for the patient for economic gain   | 1.88 | .84  |
| 17                       | Failure to complete the patient's treatment due to his miscalculation                                      | 1.98 | .89  |
| 18                       | Perform non-specialist work for the patient  | 1.89 | .72  |
| 19                       | Doing unrealistic advertisements by dentists   | 2.15 | 1.12 |
| 20                       | Referral of patients to a special radiology clinic by dentists   | 3.14 | 1.42 |
| 21                       | Use of substandard materials in dentistry  | 2.81 | 1.31 |
| 22                       | Taking poor quality radiology photos by the radiology clinic and incurring costs                           | 2.64 | 1.26 |
| 23                       | Refer patients to specific pharmacies to purchase medication   | 1.80 | .99  |
| 24                       | Failure to treat the patient due to patient misbehavior  | 2.53 | 1.23 |
| 25                       | Refer the patient to specific centers to purchase the required equipment                                   | 1.92 | .96  |
| 26                       | Charging the patient extra due to being miscalculated  | 1.72 | .99  |
| 27                       | Lack of awareness of patient rights  | 2.51 | 1.32 |
| 28                       | Not blaming yourself when hurting the patient  | 2.64 | 1.25 |
| 29                       | Damaging the reputation of colleagues without a scientific reason  | 2.12 | 1.10 |
| Ethics in dental service |  |      |      |
| 1                        | Lack of welcome and support of faculty members for students in the field of research                       | 3.32 | 1.49 |
| 2                        | Faculty members do not pay attention to student research interests   | 3.18 | 1.23 |
| 3                        | Giving a duplicate title to the student by the faculty member  | 3.14 | 1.37 |
| 4                        | Faculty members' lack of interest in research  | 3.63 | 1.33 |
| 5                        | Stealing the title of the research from others by the faculty member                                       | 2.78 | 1.32 |
| 6                        | Do not give time to the student by a supervisor or faculty member  | 3.47 | 1.31 |
| 7                        | The faculty member does not read the student proposal  | 2.99 | 1.23 |
| 8                        | Receive a fee from the student for being a supervisor by the faculty member                                | 1.84 | .83  |
| 9                        | Request from faculty member to submit a proposal by the student without any training by the faculty member | 3.15 | 1.35 |
| 10                       | Lack of cooperation of faculty members in research and imposing total work pressure on the student         | 3.67 | 1.29 |
| 11                       | Did not act as promised with the faculty member in research  | 3.21 | 1.30 |
| 12                       | Imposing additional costs on the student due to the lack of cooperation of the faculty member              | 3.10 | 1.20 |
| 13                       | Submit the students' work by the faculty member in their name  | 3.19 | 1.41 |
| 14                       | Do research on the patient without informing him   | 2.13 | .96  |
| 15                       | Data generation by students due to lack of supervision by faculty members                                  | 2.79 | 1.18 |
| 16                       | Failure to check the accuracy of the content in the introduction by the faculty members                    | 2.63 | 1.16 |
| 17                       | Ignoring spelling and writing errors   | 2.46 | .98  |
| 18                       | Commitment service Faculty member's disregard for students' dissertations                                  | 2.89 | 1.29 |
| 19                       | Waste of student time due to lack of cooperation of the teacher  | 3.59 | 1.27 |
| 20                       | Decreasing the scientific quality of research  | 3.59 | 1.29 |
| 21                       | Spend money on useless topics  | 3.28 | 1.20 |
| 22                       | Investigation of superficial issues in research  | 3.62 | 1.22 |
| 23                       | Unreasonable praise of dissertations by faculty members  | 2.83 | 1.24 |

| Number | Question  | Mean | SD   |
|--------|---|------|------|
| 24     | Lack of study of the dissertation by faculty members                                      | 3.20 | 1.32 |
| 25     | Data generation by faculty members  | 2.46 | .99  |
| 26     | Accepting a supervisor or advisor of a student dissertation without mastering the subject | 2.87 | 1.12 |
| 27     | Giving unimportant titles to the student  | 3.37 | 1.12 |
| 28     | Abuse of people to advance the dissertation and not thanking them                         | 2.82 | 1.18 |
| 29     | Write the student's name as the last name in the article regardless of the activity       | 3.56 | 1.18 |
| 30     | Deleting the names of colleagues in the article without a scientific reason               | 2.58 | .93  |
| 31     | The faculty member does not listen to the lectures presented in the defense session       | 2.81 | 1.07 |
| 32     | Lack of sufficient knowledge in writing a dissertation                                    | 3.12 | 1.22 |
| 33     | Forcing students to translate articles by the faculty member for personal reasons         | 3.20 | 1.17 |

valuable time in student education, practicing injustice in scoring due to orders, not having research interest by faculty members, not having cooperation of faculty members in research and imposing total work pressure on the student, wasting the students' time due to lack of cooperation of the teacher, decreasing the scientific quality of research, investigating superficial issues in research, and writing the student's name as the last name in the article, regardless of the activities.

## Discussion

The present study aimed to examine the general dental students' views about the ethics levels in education, provision of dental services, and research. According to the results of the present study, ethics in education, provision of dental services, and research does not have a proper status. These results are consistent with the study conducted by Rezaei et al. and Gharaei et al.<sup>18, 19</sup> Rezaei and colleagues conducted a qualitative study in 5 regions of Iran and found many ethical challenges related to the managers and the faculty members, lack of planning and supervision, lack of workforce and equipment, management of faculty member education, exams and inappropriate treatment of students by colleagues and staff faculty members, preference of personal interests over education, actions taken by the student to reduce the faculty member's motivation, and non-observance of professional ethics by the student.<sup>18</sup> The difference between the results of the present study and those of Rezaei's study is that the present study only attended ethical challenges in that faculty members play a role.

The qualitative study of Gharaei et al. in Mashhad found four main themes for the educational problems of Mashhad Dental School from the students' perspective.<sup>19</sup> The difference between the present study and Gharaei's study is that the latter also pays attention to other ethical problems. These challenges reflect that the ethics course in dentistry does not work well and does not nurture what it ought to, which is consistent with Bertolami's article. Bertolami says that the behavior of students does not change after teaching a series of lessons on ethics. He recognized three specific weaknesses in an ethics course; for example, ethics is boring; everything contained within the course is inadequate qualitatively because it does

not give an introspective framework for changing actual behavior; and the course is presented in the early semesters of dentistry without linking theory and practice.<sup>20</sup> The following reasons can justify why the ethics program was found unsuccessful in the present study. Perhaps, one of the reasons for the inadequacy of ethics by faculty members was Covid-19 disease, which negatively affected medical education.<sup>21</sup> Moreover, teaching ethics in dentistry has moved from lecturing to interactive methods and group problem solving, while it was found interactive in this study. The inverted classroom teaching method can also be used to teach ethics, as explained in Rezaei's article.<sup>22</sup> Another reason may be lack of attention of the education development center to the issue of ethics education, which was evident in the internal evaluation of this center.<sup>23</sup> Ethics program is often offered in the third year of the program (in the pre-clinic course) and before entering the clinic course, and this theoretical program only introduces people to ethical principles.<sup>24</sup> Moreover, the subjects envisaged in this theoretical course are based only on medical (and not dental) ethics and often relinquish professional differences between medicine and dentistry. Albeit the general principles of medical ethics can be generalized to the subgroups of medical sciences, it does not fulfill all the professional requirements of different groups.<sup>24</sup>

This study showed that faculty members do not observe many ethical issues in education and research, such as justice in scoring and treatment with the student, standard exam questions, cooperation in research, and authorship criteria. Test analysis can improve the test quality and somehow justice in scoring; therefore, it is suggested that the test should be analyzed, and various articles should discuss the test analysis.<sup>25</sup> Rouhi et al. stated that the most important motivating factors for students were faculty members.<sup>26</sup> Faculty members convey the norms of society to shape the behavior, beliefs, and attitudes of students and to cultivate moral virtues in them.<sup>27, 28</sup> Given that it is the faculty member's behavior that affects the student's ethical behavior,<sup>29</sup> the faculty member's ethical misconduct has many negative effects on students. Hence, It is suggested that faculty members should be justified to observe ethical issues.

Plenty of the challenges this study elicited are

similar to the results of Khaghanizadeh's survey. In their survey, the educational challenges of medical ethics related to faculty members include codes such as having weak interaction with students, giving no feedback to students, neglecting the students' interests, ignoring patients, preferring personal interests, disrespecting patients, and knowing weakness.<sup>30</sup> Hence, it is suggested that educational programs should be held for faculty members. In addition to the modification of the ethics course in dentistry and the need to train faculty members, establishing a faculty ethics committee that assesses the ethics of managers, students, staff, and faculty members and holding seminars and sessions to appreciate the right ethical behaviors, not just punishing wrong behaviors,<sup>29</sup> are among other solutions to observe ethics in dental education.

Considering that the present research only investigated the students' views about observing ethics by faculty members, it is suggested that future studies should investigate the rate of observing ethical principles by faculty members from the viewpoint of all stakeholders. In other words, an educational needs assessment should be done which has been used in many studies.<sup>31-33</sup>

Also, given that this research was carried out at Yasuj University of Medical Sciences and ethics is context-dependent, it is suggested that ethical challenges should be investigated in other metropolitan areas of the country as well and the results should be compared with those of the present research.

In this study, the researchers estimated the content validity and did not take any action regarding structural validity, which was one of the limitations of the present study. Other studies may use factor analysis to cover this limitation.

## Conclusion

From the viewpoint of general dental students, the level of ethics in education, research, and provision of dental services by faculty members is unfavorable, so it is recommended that medical education courses related to ethics should be held for faculty members.

## Authors' Contribution

All the authors have read and approved the final manuscript. LB, Introduction Writer/(20%); MY, Discussion Writer/(20%); JK, Methodology Writer (15%); MA, Result Writer (20%); HR, Methodology Writer/Discussion Writer (25%)

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