

Awareness of Senior Dental students about Patient Rights in Isfahan, Iran

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Abstract

Submitted: 9 September 2025

Revised version received: 2 February 2026

Accepted: 5 February 2026

Published online: February 2026

How to cite:

Tahani B, Kazemipour M, Keshavarzian A, Abdollahpour I. Awareness of Senior Dental students about Patient Rights in Isfahan. J Dent Sch 2026;44(1);e22

Objective(s): The Patient Rights Charter (PRC) in Iran was formulated to elucidate the rights of healthcare recipients and uphold the ethical standards of medical treatment. The present study aimed to determine the awareness of senior dental students (fifth and sixth-year) regarding the Patients' Rights. **Methods:** This cross-sectional descriptive-analytical study was conducted in 2022 among 119 dental students in Isfahan, Iran. A self-administrative electronic questionnaire was designed and validated based on five key dimensions of the PRC in Iran (receiving desired healthcare, access to information, decision rights, respecting patients' privacy, access to complaint system), the ethical guidelines of the American Dental Association (ADA), and the ethics manual of the World Dental Federation (WDF). The questionnaire included demographic information (gender, marital status, academic year, admission quota, Grade Point Average (GPA)), and 38 multiple choice scenarios. ANOVA and T-tests were used at a significance level of 0.05 to compare the total and 5-dimensions awareness mean based on GPA and admission quota levels, and based on the gender, marital status and academic year of the participants, respectively. **Results:** The level of awareness was higher in female students ($p=0.02$), and was desirable, moderate, and insufficient in 19%, 64% and 17% of students, respectively. The highest percentage of desirable awareness was observed in the second dimension (receiving information, 46%), whereas the lowest percentage was reported in the fourth dimension (principle of confidentiality, 6%). **Conclusion:** The participants exhibited a moderate level of awareness, indicating the need for specific strategies to improve students' awareness of patient rights before graduation.

Keywords: Awareness; Dental Students; Patient Rights; Iran

Introduction

Medical ethics is a structured system aimed at developing efficient strategies for addressing ethical issues in medical sciences¹. In each country, specific laws have been established to regulate the performance of healthcare staff². Advances in knowledge and technology have now led to many preventive, diagnostic, and therapeutic alternatives, as well as a wide range of decision-making options for healthcare professionals. Medical ethics is closely intertwined with these developments; therefore, medical students must be educated on new ethical strategies to address these emerging ethical challenges³.

One of the key principles of medical ethics is the awareness of the Patient Rights Charter (PRC). Patient rights encompass a set of rules and regulations recognized by a society that acknowledges specific privileges and entitlements for individuals. The World Health Organization (WHO) defines patient rights as a set of legal rights from which individuals benefit within the healthcare system. Healthcare providers are also expected to respect those rights⁴.

Respecting patient rights and establishing an ethical legal framework for these rights have a long history in the field of healthcare worldwide⁵. The growing interest in patient rights

has led to extensive research in developed and developing countries. Various factors including values of human rights, reforms in healthcare systems, continuous advances in medical sciences and biomedical technology, and easy access to medical information have contributed to the recognition and promotion of patient rights⁶. There are now numerous declarations emphasizing the importance of patient rights in healthcare. However, the implementation mechanisms and actual contents of these declarations vary in different countries, often depending on prevailing cultural and social norms⁷.

Considered a valuable source of patient rights in dentistry, the ethical guidelines of the American Dental Association (ADA) express the ethical principles of the five main axes including justice and fairness, patient autonomy, non-maleficence, beneficence, and honesty and truthfulness⁸. The FDI (World Dental Federation) Ethical Guidelines also address the ethical principles derived from the ADA guidelines in four categories: dentists and the community, dentists and colleagues, dentists and patients, and dentists and research⁹. In Iran, the PRC was first introduced in 2002 to define the rights of healthcare recipients and observe ethical standards in healthcare. Formulated in five main axes and 37 articles by the Policy Council in the Ministry of Health and Medical

Education, it was declared to affiliated centers. The final text of the Patient Rights Charter was announced by the Minister of Health and Medical Education on October 26, 2009, and was then declared to the affiliated centers¹⁰.

The PRC in Iran consists of five main axes. This charter is based on the high human values rooted in Islamic-Iranian culture, aiming to preserve, promote, and strengthen human relationships between healthcare providers and recipients¹⁰. The first axis entitles patients to receive the desired healthcare services. The second axis requires that information should be adequately and appropriately provided for patients. The third axis is focused on the patient's right to choose and make free decisions on the reception of healthcare services. The fourth axis indicates that the provision of healthcare services should be based on respecting the patient's privacy and observing the principle of confidentiality. Finally, the fifth axis emphasizes the necessity of access to an effective system for addressing patients' complaints.

Although the objectives of the Iranian charter are noble, its success depends greatly on the awareness of healthcare providers about its contents and its implementation. The successful implementation of this charter might significantly improve the provision of healthcare services, increase patient satisfaction, and involve further patients in healthcare decision-making¹¹. Accordingly, the ethics course has been defined and encompassed in medical education to empower students in basic ethics, strengthen their professional commitments to society, and uphold patients' legal rights.

Evaluating dental students' knowledge of patient rights is a critical component of dental education, as it ensures that future practitioners are ethically competent and legally responsible. Studies have shown that gaps in awareness of patients' rights persist among dental students; only 71% of Shiraz dental students reported familiarity with patient rights as codified in professional charters and ethical guidelines¹². Moreover, the process of informed consent — a core element of patient autonomy — may not be fully internalized by students. In a recent survey of clinical dental students in Uganda, although most of them demonstrated high knowledge of consent, ongoing training was recommended to reinforce ethical accountability¹³. In addition, adherence to guidelines in other critical areas, such as antibiotic prophylaxis for infective endocarditis, varies widely among students, highlighting the need for consistent education in legal and ethical clinical standards¹⁴. By systematically assessing and addressing deficiencies in students' ethical and legal understanding, dental schools can cultivate a generation of dentists who not only excel clinically, but also uphold patients' rights, enhance patient-centered care, and contribute to a culture of professional integrity¹⁵.

To the best of our knowledge, there have been few studies evaluating dentists and dental students' awareness comprehensively based on the Human Rights Charter. Considering the significance of awareness about patient rights

among graduates who are about to enter the professional field, the present study aimed to analyze the awareness and attitudes of senior dental students regarding patient rights.

Methods

Study design and population

In this cross-sectional study, the study population consisted of 160 fifth and sixth-year dental students at School of Dentistry in Isfahan, Iran, who passed the medical ethics course and signed the informed consent forms. The School of Dentistry in Isfahan holds a PRC workshop with 17 three-hour sessions covering most examples of patient rights with different categorizations. However, the educational contents are provided mostly lecture-based. Those questionnaires which were not completed were excluded.

Ethics

This study was approved by the Ethics Committee of Isfahan University of Medical Sciences (Ethics Code: IR.MUI.RESEARCH.REC.1401.167). Participants were informed about the anonymity of the questionnaires, the voluntary participation in the study, the absence of any consequences, the confidentiality of the entered information, and the group-wise anonymous publication of the results. Written informed consent forms were then obtained from the participants.

Sample Size

As per the results of a similar study by Tabei *et al.*¹² and considering 71% of medical students with a desirable level of knowledge, the minimum significant difference was equal to 0.07 (10% of 71%), and the sample size was calculated to be 160 (power= 80%, $\alpha=0.05$).

Study procedure

A descriptive-analytical method was used in two phases: 1) questionnaire design along with its validity and reliability; and 2) study implementation.

Phase 1: Questionnaire design along with its validity and reliability

The key dimensions of the PRC in Iran⁵ were considered as the main framework for designing the research questionnaire. The examples in dental care were then identified concerning relevant sources, *e.g.*, the ethical guidelines of the ADA⁸, and the ethics manual of the FDI (World Dental Federation)⁹⁷. For each dimension, according to the variety of its subdomains, some specific statements or scenarios were designed based on the literature and through expert panel discussions (including the principle investigators of the research). The statements were then categorized into five domains (Table 1).

For content validity assessment, the experts (*i.e.*, two professors in the field of medical ethics, two experts in dental public health, and four professors in the field of dentistry with teaching experience in medical ethics) were asked to score the necessity using a three-point Likert scale (*i.e.*, “necessary”, “useful but not necessary”, and “not necessary”) for

calculation of content validity ratio (CVR)¹⁵. The experts were also requested to provide comments on any missing or required modifications to the items.

Table 1 - The five domains of patient right and the designed items for each domain

Designed items (scenarios and questions)		
Domains		
1	Receiving desired healthcare services	10
2	Receiving adequate and appropriate information	14
3	Freedom of choice in receiving healthcare services	6
4	Providing services based on respect for privacy and confidentiality	6
5	Access to an efficient complaint system	5

The formula of content validity ratio is $CVR = (N_e - N/2) / (N/2)$, in which the N_e is the number of panelists indicating "essential" and N is the total number of panelists. According to the Lawashe table, the minimum acceptable CVR is considered 0.75 for a sample size of eight experts¹⁶. The content validity index (CVI) was determined through the Waltz and Bussell method¹⁷. The items and their proposed objectives were provided for the same experts who were asked to score the relevance, simplicity, and clarity, using a four-point Likert scale for calculation of content validity ratio (CVR). In this regard, the items were evaluated for their relevance to the objectives (ranging from 1=completely relevant to 4=irrelevant), for their clarity (ranging from 1=completely clear to 4=unclear), and for their simplicity (ranging from 1=completely simple to 4 = not simple). The CVI for each item was calculated by dividing the total number of group members who agreed with the first two options for each criterion by the total number of expert group members¹⁵.

Finally, three items were omitted by considering the number of experts, as well as the values of CVR and CVI. Some minor changes were also made to some items.

The reliability of the items was then assessed through a pilot study involving 50 students—not included in the study—through the split-half Guttman's test and confirmed with a Guttman coefficient of 0.77¹⁸.

The final questionnaire encompassed 31 multiple-choice scenarios and seven yes/no questions (scaling 0 for incorrect and 1 for correct responses), and six demographic items about gender, marital status, Grade Point Average (GPA), and entrance status. Therefore, the validated final questionnaire had 44 items (supplementary file1).

Phase 2: Study implementation

The finalized questionnaire was prepared electronically and sent to all students in 10th and 12th semesters via messages and shared in their WhatsApp groups. Some reminders were also sent every two days until the desired sample size for the students was reached.

Statistical Analysis

Data analysis was performed in SPSS 26, and the results were

presented and summarized by descriptive tests and analytical analyses. ANOVA and T-tests were used to compare the total and 5-dimensions awareness mean based on GPA and admission quota levels and based on the gender, marital status, and academic year of the participants, respectively. Data was input in SPSS and the level of significance was set at 0.05.

Results

A total of 119 students completed the questionnaire (response rate of 74%). Demographic characteristics of the participants are presented in Table 2. The majority of participants were female (65.5%) and unmarried (76.9%), had usual admission (52.4%), and a GPA of 16–18 (72.6%).

Table 2- Demographic characteristics of the senior dental students (5th and 6th academic year) (N= 119)

Variable	Frequency	Percentage (%)
Gender		
Female	76	65.5
Male	40	34.5
Academic year		
5th	55	47
6th	62	53
Marital status		
Single	90	76.9
Married	27	23.1
Admission quota		
Usual admission	33	52.4
With a quota (deprived cities and etc.)	13	20.7
International	17	27
GPA		
Below 16	7	11.3
16-18	45	72.6
Over 18	10	16.1

Note- Some participants did not answer demographic questions; therefore, the sum of the frequencies is variable

The mean± standard deviation (SD) of awareness score was 21.3 ± 5.8 (ranging from 7 to 32) out of 38. Table 3 indicates the frequency of correct responses to each question. For two items (i.e., 9 and 20), the percentage of correct responses was below 30%. For 11 items (i.e., 6, 14, 16, 18, 20, 21, 33, 34, 35, 37, and 43), the percentage of correct responses was below 50%. For nine items (i.e., 10, 11, 30, 32, 39, 40, 41, and 42), the percentage of correct responses was above 70%. The items with the lowest percentage of correct response rates of 10% and 20%, were number 20 (i.e., request to accompany a child during treatment by parents), and number 9 (i.e., the patient has not followed the post-operative hygiene

instructions), respectively. Items 31 and 32 asked about the patient rights to have invoices with fees greater than the received expenses and replace the treatment plans not covered

by insurance with covered ones. These items gained the highest correct response rates of 89.9% and 87.3%, respectively.

Table 3- Percentage of correct answers given by participants to each question

Question number	Content of the question	Percentage of correct answers
6	Cosmetic restorative treatments requested during a societal crisis	44.5
7	Getting inform about abuse in an adult female	65.5
8	Providing care based on the do no harm principle	84
9	Patient has not followed the post-operative hygiene instructions (scenario)	20
10	Type of cost information a dentist should give to the patient	76.5
11	Proposing a treatment plan to patients	86
12	Giving information about the professional status of the dental team	53.4
13	Access to all the clinical information by the patients	57
14	Informing the referral dentist about the patient's medical history	26
15	Continuing treatment by a specialist	50.4
16	Patient's right in emergency situation (scenario)	44.5
17	Being guilty even after obtaining a signed acquittal form	52
18	Patient's right to complain about the dentist (scenario)	47.9
19	Patient's front tooth turns black following incomplete root canal therapy	57
20	Request to accompany a child during treatment by the parents	10
21	Request to accompany the wife during treatment by her husband (scenario)	44.5
22	Work on one unit while simultaneously examining another patient on the adjacent unit	68.9
23	Responsibility of the dentists facing mismanagement by a colleague (scenario)	67
24	Continuing treatment of a patient referred by a general dentist to a surgeon for implant placement surgery	68.9
25	Management of patients by an orthodontics intends to migrate from his/her city	63
26	A dentist with a COVID-19 positive test	63.9
27	Patient inform you about his HIV positive status during extraction (scenario)	64
28	The first step action when encountering a treatment not in accordance to the evidenced-based principles performed by another colleague, accidentally	67
29	Requests to replace amalgam restorations with composite ones by a patient (scenario)	52
30	Changing the treatment date on the insurance certificate	79.9
31	Issuing certificate with an amount greater than the received expenses	89.9
32	Replacing the treatment plan that is not covered by insurance with a covered one in patients' certificate	87.3
33	Prescribing a new toothpaste to patients requested by a company (scenario)	40.3
34	Changing the office tariffs after participating in reputable clinical courses (scenario)	43.7
35	Indications of permissible patients' information sharing (scenario)	41
36	No interest of the dentist to updating his knowledge	52
37	Refusing to refer the patients to an expert despite their request (scenario)	49.6
38	Encountering a huge number of patients because of the colleague type of practice (scenario)	58
39	Participating the dental patients in an approved clinical trial- facing side effects	80
40	Participating the dental patients in an approved clinical trial- assuring the ethical approval	82
41	Participating the dental patients in an approved clinical trial- not offering the alternatives	75.6
42	Participating the dental patients in an approved clinical trial- right of the patients to get inform about the results	73.5
43	Refusing to work for transgender patients	37.5
44	Free of charge services provided in community programs	62.2

For the items in which fewer than 50% of the students chose the correct responses, more frequent choices are explained

further. For item 9, the option of “delaying the treatment until improvement in the patient’s oral hygiene” was chosen

incorrectly by most of the students (60%, N=69). In item 14, students mostly (59%, N=70) thought incorrectly that the status of patients with HIV, even without their consent, should be announced by dentists to other colleagues. According to the parents' rights to accompany their children (item 20), most of the students thought the decision was totally up to dentists (46%, N=54). For item 33 regarding the prescription of a new brand of toothpaste, the students mostly thought if dentists trusted the company, it would be unnecessary to inform the patients about the dentist's beneficence (41%, N=48). In response to the scenario raised in item 34, some of the students (30%, N=35) thought that dentists had the right to receive specialist tariffs in case of participation in relevant courses.

Regarding the cut-off point of 70% as the threshold, the respondents who scored 27 or higher were considered to have desirable levels of awareness. Accordingly, 19.3% (23 respondents) reached this level of awareness about patient rights. The majority of respondents (63.9%) had moderate awareness (*i.e.*, scores ranging from 16 to 26), whereas 16.8% had insufficient awareness (*i.e.*, scores below 16).

Table 4 presents the awareness mean score based on dimensions of the PRC. Accordingly, the mean scores were higher than the midpoint in dimensions 2, 3, and 5, whereas they were at about the midpoint in other dimensions.

Regarding the first dimension (*i.e.*, receiving optimal health services), 23.5% of the participants had desirable awareness, whereas 46.2% had desirable awareness for the second dimension (*i.e.*, receiving information). Moreover, 34.5% had desirable awareness for the third dimension (*i.e.*, the right to decision-making), whereas 5.9% exhibited desirable awareness for the fourth dimension (*i.e.*, the principle of confidentiality). Furthermore, 37.8% of the respondents had a desirable level of awareness of the fifth dimension (*i.e.*, access to an efficient complaint system). The highest percentage of desirable awareness (Figure 1) was related to the second dimension (*i.e.*, receiving information), whereas the lowest percentage was related to the fourth dimension (*i.e.*, the principle of confidentiality).

As per the comparison of overall mean scores, the awareness mean score was significantly higher ($p=0.02$) among females than males (22.4 ± 5.4 vs. 19.9 ± 6.1). Moreover, the awareness mean score was significantly higher ($p=0.01$) among females than males (4.1 ± 3.3 vs. 3.3 ± 1.4) in the third dimension. There was no significant difference in the overall mean scores and dimensions based on the academic year and marital status. Additionally, no significant difference was found in awareness mean scores (overall and dimensions) based on GPA and admission quota.

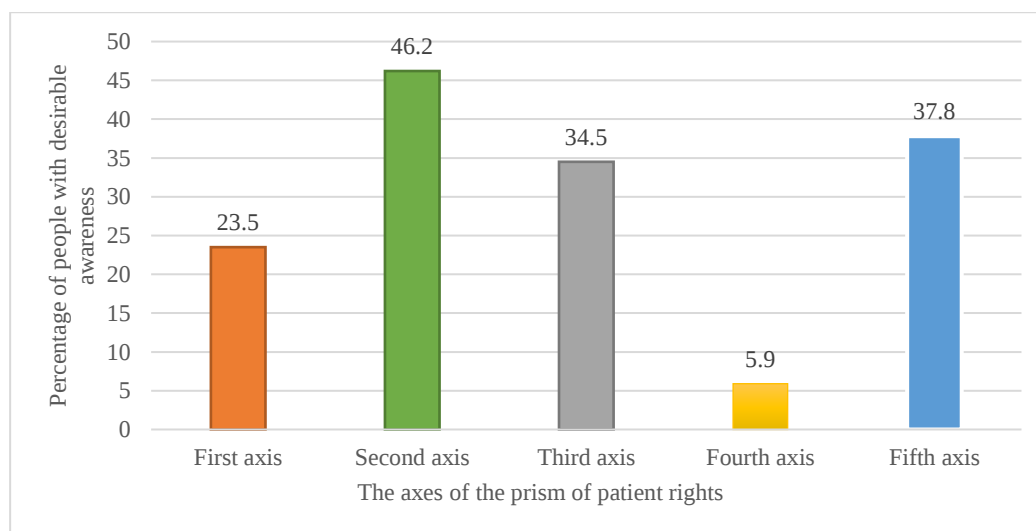


Figure 1: The percentage of people with desirable awareness in each domain of patient rights

Axes of the Patient Right Charter	Min - Max	Mean $\pm$ SD	Number of questions
The first axis: receiving optimal health services	0-8	4.9 ± 1.8	10
The second axis: receiving sufficient information	0-14	9.6 ± 2.7	14
The third axis: the right to make decisions freely	0-6	3.7 ± 1.4	6
The fourth axis: receiving services based on privacy and confidentiality	0-6	2.5 ± 1.2	6
The fifth axis: access to an efficient complaint system	0-5	2.9 ± 1.4	5

Discussion

This study assessed dental students' awareness of patient rights using a 38-item questionnaire and found a mean score

of 21.3 ± 5.8 (range 7–32). Using a 70% cut-off ($\geq 27/38$), only one fifth of respondents reached what we defined as a desirable level of awareness, while most students had moderate awareness. Dimension-level analysis showed relatively better awareness about receiving information and access to complaint systems, but markedly poor awareness in the domain of confidentiality (only 5.9% at desirable level). Females scored higher overall and in the decision-making dimension. Below, we interpret these findings, compare them with published reports, and discuss implications for dental education and practice.⁵

Most of the participants had moderate awareness, especially regarding the second axis of the charter (*i.e.*, receiving adequate and appropriate information). The lowest level of awareness was reported regarding the fourth axis (*i.e.*, providing services based on respect for privacy and confidentiality). Countries such as Canada, England, the US, Switzerland, Australia, and Sweden have played pioneering roles in paying attention to the PRC. They have formulated this charter and obliged hospitals and healthcare centers to implement it¹⁷.

Patient rights are addressed in most countries such as the US, England, France, and Canada, as well as in the World Medical Association's declaration and the European Declaration on Patient Rights. These rights usually include access to healthcare services, the right to consent to treatment, the right to consent to participate in experimental or educational research, the right to have privacy, the right to keep information confidential, the right to access information in medical records, and the right to safeguard patient rights (the right to make complaints). The right to access public services including having a companion or using an interpreter, is also highlighted in the Patient Rights Charter in some states of the US¹⁹.

In the current study, one-fourth of the students had desirable awareness. This finding is consistent with the results reported by other studies such as the one conducted by Ghodsi *et al.*²⁰ among medical students in Iran. However, in a study conducted by Tabei *et al.*¹² among Iranian dental students based on the ADA ethical guidelines, nearly 70% of participants achieved desirable awareness. The discrepancy might be due to the use of different questionnaires. Khedmatizadeh *et al.* found that medical-sciences students commonly had only moderate awareness of the patients' rights charter²¹. A review of patient-rights practice in Iran also highlights gaps between statutory charters and actual awareness/observance in clinical settings, supporting the notion that curricular and institutional reinforcement is often inadequate. A review of patient-rights practice in Iran²² also highlights the gaps between statutory charters and actual awareness/observance in clinical settings, supporting the notion that curricular and institutional reinforcement is often inadequate

However, there were some similarities to the previous study

in Iran based on the subdomains. For example, Tabei *et al.*¹² reported that 45.9% of the students thought that only the essential information of patients was permissible to be transferred to other dentists without identical information or after the acquisition of informed consent. This finding aligns with the resultant frequency of 41.2% in our study. Other agreements were explored in the subdomains of cost information sharing, informing patients about infectious transmissions, and providing complete information on alternative treatment plans. It seems that dental students have usually better performance on explicit, structural rights (*e.g.*, right to receive a treatment plan, invoices, or explanations) than on nuanced ethical principles. This finding could indicate that students are more comfortable with tangible, administrative aspects of rights than with confidentiality, disclosure, or conflict-of-interest scenarios.

Ranjbar *et al.*²³ studied clinical internship students in teaching hospitals in Yazd, reporting that 35.6% had low levels of awareness, 27.7% had moderate awareness, and 36.7% had good levels of awareness. These findings are inconsistent with the results of our study. They also indicated that the highest level of awareness was related to the right to personal freedom, whereas the lowest level was related to the right to access services. However, in the present study, the highest level of awareness was related to providing appropriate information for patients, whereas the lowest level was related to respecting privacy and confidentiality. The inconsistent results could be attributed to participants' different fields of study, the use of different questionnaires, variations in clinical experiences among students, diverse population demographics, and varying sample sizes. Ghodousi *et al.*²⁴ also documented limited understanding of confidentiality principles among dental students, and stressed the need for focused instruction and policy clarification. It might indicate that while students may grasp certain procedural rights (*e.g.*, receiving invoices, information), they frequently lack a robust understanding of privacy/confidentiality obligations — a domain that is both ethically salient and legally sensitive in contemporary practice.

In our study, the lowest scores were related to the fourth domain which was about privacy and confidentiality. Similarly, Budimir *et al.*²⁵ studied Croatian dentists and reported that they had poor levels of awareness and low attitudes toward ensuring confidentiality and privacy for patients. Moreover, Ashrafizadeh *et al.*²⁶ reported that although the mean score was moderate, the lowest score belonged to the domain of confidentiality. On the other hand, in Brazil, Clause XI of the Fourth Article of the Code of Ethics of Dentists emphasizes that health professionals should keep professional confidentiality. Situations in which confidentiality may be breached, *e.g.*, such as cooperation with justice in the cases provided by law, are also indicated in its first paragraph, and 44.29% of the dentists reported talking about the clinical cases of their patients with their friends or

spouses²⁷. Keeping professional confidentiality is considered one of the key ethical concepts. Thus, it should be prioritized in dental education. Emphasizing these concepts in curricula might help undergraduate students understand their ethical, professional, and legal duties.

Systemic factors may explain why students are familiar with administrative rights (invoices, treatment plans), but less with confidentiality and conflict-of-interest issues. Institutional policies, visible workflows, and routine administrative cues make the former easier to observe and internalize; the latter require explicit ethical framing, opportunities to practice judgement, and clear modelling by clinical supervisors. Reviews of patient-rights practice emphasize the gap between legal charters and clinical observance — underscoring that legislative or institutional documents alone are insufficient to produce clinician competence²².

We observed statistically higher overall awareness scores among female students and specifically higher scores for the decision-making dimension. Gender differences in ethical knowledge or professionalism measures have appeared in a few educational studies (often favoring female students for communication, empathy, or patient-centered attitudes), though findings are not uniform across contexts. The result in our sample may reflect differing educational experiences, communication skills, or motivational factors, and suggests that educational interventions should be evaluated for differential impact across subgroups²⁸.

The present study had some limitations. The most important intrinsic limitation of this study might be the fact that the PRC was developed for medical patients, not dental ones. Therefore, we had to adapt the axes and their examples to the settings of dental care. However, we did our best to guarantee their validity using the opinions of experts. The sample size and single-institution context may limit generalizability; however, comparison with multi-site and regional studies suggests commonalities in dental education that make our results broadly relevant. We highly recommend that the current study should be conducted on a larger sample size of students from different faculties to ensure the generalizability of results.

Conclusion

The findings of this study indicate that the level of awareness was moderate among most students. Female students exhibited significantly higher levels of awareness. Although further studies should be conducted to analyze the contents and methods of ethical education in the dental schools of Iran, further planning seems necessary to improve students' awareness of patient rights. Adding the PRC to the current ethics curriculum and incorporating case presentation sessions to employ knowledge in real situations can effectively improve students' awareness. Moreover, introducing the legal and ethical consequences of neglecting patient rights in practice should have higher priorities in dental education.

Acknowledgement: We would like to acknowledge the financial and administrative support of the Vice chancellery of Research, Isfahan University of Medical Sciences.

Author Contributions: B.T., A.K.: Conceptualization, Methodology, Writing- Original draft preparation. M.K.: Data Curation, Writing- Original draft preparation. E.A.: data analysis. The manuscript was read and approved by all the authors.

Funding: This study was funded by Isfahan University of Medical Sciences (Grant N0=293220).

Ethical Approval Code: The study and its consent forms were approved by the research ethics board at Isfahan University of Medical Sciences (code of ethics: IR.MUI.RESEARCH.REC.1401.167).

Informed Consent Statement: was gained from each participant.

Data Availability Statement: Data is available upon the request from the corresponding author.

Using AI: None

Conflict of Interest: The authors declare no conflict of interest, financial or otherwise.

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