

Moral skills of Iranian general dentists

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Objective This study aimed to assess the moral skills of Iranian general dentists.

Methods This cross-sectional study was performed on 384 general dentists selected in national congresses, in 2016. Volunteers were asked to fill out the moral skills inventory with four domains of integrity, courage, reasoning and sensitivity. Demographic factors were also assessed and their correlation with moral skills was evaluated using the backward linear regression model.

Results The mean acquired score of sensitivity, reasoning, integrity and courage score was 2.96, 5.71, 4.11 and 4.50 out of 8, respectively and the mean percentage of total moral skills of dentists was 54%. Males and females were not significantly different in terms of scores acquired in the four domains ($P > 0.05$). The scores obtained in the four moral domains were higher in younger graduates (by increase in the graduation year) ($P = 0.02$). A significant inverse correlation was found between moral integrity and reasoning with father's level of education ($P < 0.05$). The correlation between moral sensitivity and mother's level of education did not reach statistical significance ($P > 0.05$).

Conclusion The mean percentage of moral skills of Iranian dentists was moderate. Thus, especial emphasis should be placed on moral skills particularly moral sensitivity in medical ethics educational programs.

Keywords moral courage, moral integrity, moral reasoning, moral sensitivity

Introduction

Recent advances in health domains and technology have also altered health-related ethical aspects. Public concerns regarding ethical issues in the medical field are increasing. Ethics in dentistry is a fundamental topic in dental education. Adherence of dentists to dental ethics principles increases the patients' trust in receipt of dental care.

Moral and communication skills improve the patient–dentist relationship and increase the cooperation of patients, their adherence to preventive instructions and their satisfaction with dental care. In addition to cognitive skills, efficient communication with patients and adherence to professional ethical principles and respecting the patients' rights are among the prerequisites for provision of dental care services. Instruction of professional ethics has a theoretical background. Rest designed a four-component model for moral development based on a theory by Lawrence Kolberg who described moral development using a classified model such that during growth and development of each individual, moral systems are replaced with more complete systems.^{1,2} Rest followed two related research paths. The moral reasoning was his main topic of research.^{1–3} Rest's approach included three phases of pre-conventional, conventional and post-conventional. These attempts resulted in development, accreditation and use of defining issues test (DIT) to measure the moral reasoning component.^{4–6} Also, Rest designed a four-component model of moral behavior with moral reasoning being one component of it. Bebeau et al.⁵ extensively assessed the efficacy of Rest's four-component model and DIT for dental education and profession and published many studies on this topic in accredited journals. This model, also used in the current study, includes four components of moral sensitivity, moral reasoning, moral integrity and moral courage. However, different terms have been used for each of these concepts in different studies even those by Rest, which indicates the experimental, rather than theoretical nature of this model. Also, different measurement

instruments may particularly focus on some specific aspects. The moral skills inventory by Chambers is an instrument to analyze the moral behavior.⁷ This inventory was used by Khosravi et al.⁸ on three groups of dental students in Tehran University of Medical Sciences to assess their moral behavior. They showed that dental students gained the highest score in moral reasoning and the lowest score in moral integrity. Also, first year dental students gained a higher score than third year and senior dental students. Chambers assessed the moral skills inventory in three groups of dental students, faculty members of dental school and members of the American College of Dentists.⁷ They acquired the lowest score in moral integrity and the highest mean score in moral reasoning. Bebeau et al. developed a professional role orientation inventory with 40 items for assessment of perception of dentists of their professional role. This test included four attitudinal dimensions each with 10 items covering authority, responsibility, agency, and autonomy. They assessed the differences between different professions and dental students. The results showed that professionals had different attitudes toward their professional role, which were somewhat different from the models described in the literature regarding professionalism.⁵

Moral skills of Iranian general dentists have not been evaluated before. This study aimed to determine the moral skills of Iranian general dentists. The effect of demographic variables such as age, gender, level of education and occupation of the parents of dentists on their moral behavior was also assessed.

Methods

This descriptive, cross-sectional study was performed on general dentists selected in two national congresses, in 2016. The instrument used for data collection in this study was the 16-question moral skills inventory designed by Chambers in

2011.⁷ This inventory has been translated to Farsi by Khosravi et al.⁸ in 2012 and its validity and reliability have been confirmed.⁸ The questionnaire was administered among 450 Iranian general dentists who attended the 56th Congress of Iranian Dental Association and 10th congress of Iranian general dentists' association from all over the country. A total of 384 complete questionnaires were returned. The questions were divided into four domains of sensitivity, integrity, reasoning and courage.

Moral sensitivity is defined as the knowledge about the fact that ethical issues are part of the situation, the ability to recognize when a moral response is appropriate and the knowledge about the fact that how our actions affect others.

Moral reasoning, also known as moral judgment or moral development is defined as thinking about ethical challenges.^{1,5} This component of the Rest model has been well known. Moral reasoning is not equal to coping with a known challenge or a law or theory that determines the best approach. Some levels have been described for moral maturity. The higher the level of an action theoretically, the higher the level of moral development would be.

Moral integrity determines the level of adherence to moral and ethical standards. For instance, a dentist becomes aware of the malpractice of his colleague. If he believes that his colleague did not follow the ethical principles but at the same time he thinks that it is not his problem, then he has low level of moral integrity.

Moral courage was defined by Rest¹ as the power of ego, perseverance and bravery. Duckett and Ryden⁹ reported the 4th component to be character while Bebeau et al.^{5,6} reported the 4th component to be character and competence to emphasize on active control of situations.

Each domain had four questions and each question had three answer choices. Only one answer choice could be selected as response. Each choice was allocated a score from 0 to 2. The highest score in each domain was 8 (four questions in each domain and maximum score of 2 for each question). Maximum total score was 32 and minimum total score was 0.

Demographic factors including father's occupation, mother's occupation, father's level of education, mother's level of education, gender and age were also evaluated and their correlation with moral skills was assessed. The data obtained from the questionnaire were analyzed using the backward linear regression model. $P < 0.05$ was considered statistically significant.

Results

The results are reported in two domains. First, we report the frequency of data and then assess the correlation of variables

with moral components. Regarding the father's occupation, 15.63% were businessman (highest frequency) and 1.30% was nurse (lowest frequency). Among mother's, 30.99% were housewife (highest frequency) and 0.52% were midwife (least frequency). In terms of level of education, most parents (20.57% of fathers and 26.82% of mothers) had bachelor's degree.

The highest acquired score by both males and females belonged to moral reasoning (5.65 in males and 5.75 in females). The lowest score acquired by males and females belonged to moral sensitivity 2.97 in males and 2.94 in females; Table 1.

Tables 2–5 show the questions of moral sensitivity, moral reasoning, moral integrity and moral courage and the response rate to each question.

The backward linear regression model was used to assess the correlation of moral skills with level of education of mothers and fathers, age, gender and graduation year. The results showed a significant inverse correlation between moral integrity and moral reasoning and fathers' level of education ($P < 0.05$). Other moral skills had no significant association with fathers' level of education ($P > 0.05$). Also, the results showed an association between mother's level of education and moral sensitivity; however, this association did not reach statistical significance ($P > 0.05$). The mean scores were not significantly different between males and females ($P > 0.05$). Assessment of the relationship of moral skills and graduation year revealed that the mean score of moral courage, moral sensitivity, moral reasoning and moral integrity was significantly higher in younger graduates (increased by an increase in graduation year) ($P = 0.023$). The mean total score acquired by dentists was 54%.

Discussion

Adherence to ethical and moral principles in work is one criterion of professionalism. The moral and ethical principles in educational centers and universities are particularly important.

A total of 384 general dentists were enrolled in this study and the association of demographic factors with moral skills was assessed in them. The questions of moral skills were divided into four components: Moral sensitivity, reasoning, courage and integrity. The highest score in both males and females belonged to moral reasoning and the lowest score belonged to moral sensitivity. In line with our results, Chambers et al.⁷ reported the score of moral sensitivity in the three groups to be 4.92–5.23; moral sensitivity ranked the lowest after moral integrity. Also,

Table 1. Mean and standard deviation of scores acquired by the Iranian general dentists with regard to moral skills

Moral skills	Male				Female				Total mean
	Mean	Standard deviation	Minimum	Maximum	Mean	Standard deviation	Minimum	Maximum	
Sensitivity	2.97	1.90	0	7	2.94	1.94	0	11	5.71
Reasoning	5.65	1.24	3	8	5.78	1.21	3	12	4.11
Integrity	4.09	1.38	2	7	4.15	1.47	2	11	4.50
Courage	4.55	1.446	2	7	4.44	1.40	2	11	2.96

Table 2. Questions in moral sensitivity domain and frequency and percentage of responses by general dentists

Questions	First choice	Second choice	Third choice
-I tend to see almost every aspect of dentistry as involving an ethical dimension. -I am pretty sensitive to ethical matters. -When ethical issues are clear, I am prepared to do my part.	(49.2%) 189	(20.3%) 78	(%30.5%) 117
Question 2. Technical quality of dental procedures is -An ethical issue in every single case. -An ethical issue when the average level of skill is close enough to the minimal standard that it might cause a problem. -Clearly an ethical issue if below standard.	(67.7%) 250	(24.2%) 93	(8.1%) 31
Question 3. One of your practice partners teaches part-time at a dental school and wants to participate in a multisite research project. There is a handsome "finder's fee." You would consider enrolling some of your patients in the study if -The university and its ethics review board have approved the study. -You can present the study to patients in a way they can agree to. -Your review of available information shows that the product is potentially very helpful in practice.	(33.6%) 129	(33.9%) 130	(32.6%) 125
Question 4. Access to care is -Clearly an ethical issue. -A complex issue with some ethical components. -Not really an ethical issue.	(39.3%) 151	(46.45%) 178	(14.35%) 55

Table 3. Questions in moral reasoning domain and frequency and percentage of responses by general dentists

Questions	First choice	Second choice	Third choice
Question 5. I tend to decide problematic situations that arise in dentistry -Based on what gives me the best outcome in each case. -With a pretty careful eye to what others are doing. -On principle.	(61.25%) 235	(4.95%) 19	(33.9%) 130
Question 6. A colleague calls requesting the chart of a patient on whom you have completed a fair bit of work but have yet to receive about \$3000 in payment. You consider informing the patient that you cannot release a copy of the chart until you receive at least some of the payment owed. Eventually you decide against this approach because -It might be illegal. -It casts a shadow of "commercial interest" on the entire profession. -It stands in the way of the patient receiving oral health care.	(22.45%) 86	(8.3%) 32	(69.3%) 266
Question 7. Restricting procedures performed to those you like and can do well is perhaps unethical if -Market segmentation draws the attention of the Federal Trade Commission. -That is not the custom in the community where you practice. -All patients count on you to provide comprehensive care.	0	(6.8%) 26	(93.2%) 358
Question 8. On a state or national policy level, the most appropriate approach to Medicaid is as -An economic matter, especially considering "no show" rates. -A political issue involving understanding between the ADA and government groups. -A matter of distributive justice (people getting their fair share).	(8.1%) 31	(25.3%) 97	(66.7%) 256

Table 4. Questions in moral integrity domain and frequency and percentage of responses by general dentists

Questions	First choice	Second choice	Third choice
Question 9. I place high value on - Projecting my (ethical) character into what I do on all occasions. -Learning from each ethical situation and taking a broad perspective. -Making certain I am within my rights.	(42.7%) 164	(40.9%) 157	(16.4%) 63
Question 10. Because dentistry necessarily involves conflicting circumstances and multiple goals, the best policy is usually to -Be guided by a single standard of integrity in all situations. -Match each action to the particular situation. -Respond to others' expectations of you.	(19.3%) 74	(60.9%) 234	(19.8%) 76
Question 11. I admire dentists who -Place principle above success always. -Blend principle and success. -Selectively succeed as long as this does not compromise principle.	(14.8%) 57	(26.8%) 103	(58.3%) 224
Question 12. The reason I value my professional standards is that they -Anchor my identity and focus my action. -Ensure my standing in the professional community. -Create realistic expectations among colleagues and patients.	(36.7%) 141	(32.8%) 126	(30.5%) 117

Table 5. Questions in moral courage domain and frequency and percentage of responses by general dentists

Questions	First choice	Second choice	Third choice
Question 13. When I see something that does not look fair, -I am reluctant to get involved because I know I should not stick my nose in other people's business. -I may speak up if the case is obvious and straight forward. -I tend to take the initiative to find out what is going on and to try to set things straight.	(32.3%) 124	(47.1%) 181	(20.6%) 79
Question 14. Two separate patients have come to you with questionable work performed by a colleague in your community. You do not disparage your colleague to your patients but you would be willing to talk with your colleague -If you could be certain there are no extenuating circumstances. -If a few more similar patients appear. -Right now.	(24.7%) 95	(54.4%) 209	(20.8%) 80
Question 15. You and a good friend have been talking for years about taking Medicaid patients. You are willing to do so -When the numbers seem good enough to sustain the viability of this change. -If your friend does so as well. -Because you are convinced that the service is needed in your community.	(23.46%) 90	(15.4%) 59	(61.2%) 235
Question 16. Debating anti-fluoridation is -A waste of time, generally. -Appropriate for those who have such skills. -A professional responsibility.	(12.2%) 47	(48.2%) 158	(39.6%) 152

participants acquired a higher score in moral reasoning (5.72) compared to other components. Our results showed a significant inverse correlation between fathers' level of education and moral integrity and reasoning ($P = 0.023$ and 0.033 , respectively). However, these components had no significant correlation with other demographic variables ($P > 0.05$). In the study by Khosravi et al.⁸ no significant association was found between moral skills and fathers' level of education. Moreover, associations were noted between moral sensitivity and mother's level of education and graduation year but these correlations were not statistically significant ($P > 0.05$). Khosravi et al.⁸ did not find a significant association between mothers' level of education and moral sensitivity either ($P = 0.746$).

Data analysis revealed no significant difference between males and females in any moral component ($P > 0.05$) and the mean scores were relatively the same in males and females. Similarly, Bebeau et al.¹⁰ assessed the role of gender in moral skills of dental students and found no significant difference between males and females with regard to moral sensitivity. However, differences were noted between males and females in taking responsibility, moral integrity, moral reasoning and moral courage. These differences can be explained by the effect of culture and social beliefs in each community on moral skills. In our study, the mean score of all four components of moral skills significantly increased by an increase in graduation year ($P < 0.05$). This indicates that in the recent years, more emphasis has been placed on instruction of professional ethics in dental curricula in

universities. Al-Zain et al.¹¹ reported that the mean score of senior dental students was significantly higher than that of junior dental students. Moreover, in the study by Chambers level of moral skills increased by an increase in age; this finding was different from our results but in line with that of Khosravi et al.^{7,8} Dental students in academic year 2013 studying in Tehran University acquired higher scores in all components except for moral integrity compared to dental students in academic years 2008 and 2010; however, this difference was not statistically significant.

Conclusion

Considering the low level of moral skills of general dentists, special emphasis must be placed on moral skills, particularly moral sensitivity in educational curricula of dental students and continuing education courses.

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Conflict of Interest

None. ■

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