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Original Article

Dental Curriculum Revision in Iran: Dentists' Perspective on Achievement of Essential Competencies through National Curriculum

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Abstract

Background: Based on the current emphasis on competency-based education, as a part of need assessment phase of dental curriculum revision in Iran, in the present study the dental graduates' perspective concerning the minimum competency requirements for an Iranian general dentist has been investigated.

Methods: Based on the three available major competency documents in the literature a questionnaire was developed in which the participants were asked to indicate their opinion about the necessity of each of the 142 stated competencies for an Iranian general dentist (Yes/No), and to state the degree to which they believed the current curriculum covers each competency (Completely, Partially, Not at all). In an annual meeting in June 2008, the provincial chief dental managers were asked to distribute the questionnaires among general dentists in their province (10 questionnaires in each province). The managers posted back the completed questionnaires to the researchers.

Results: Of 300 questionnaires distributed in the 30 provinces of the country, 250 questionnaires (83%) were returned. While most of the participants considered the competencies as necessary for an Iranian dentist, less than 40% of the respondents believed that the graduates acquire the most required competencies of the profession during the current educational program.

Conclusion: A necessity exists for curriculum revision. In addition to clinical skills, in this revision more emphasis also should be placed on the non-clinical part of the curriculum.

Keywords: Dental curriculum, Dentist, Competency

Introduction

The first post-revolutionary national dental curriculum revision in Iran was conducted in 1982. The main objective was to reduce the dental credits from 220 to 213 by omitting some non-dental courses. In the second revision in 1988, in addition to small changes in the number of credits, two major changes were applied: first, the students were obliged to pass a comprehensive examination of basic sciences, and second, an internship program in the last semester was defined. The dramatic changes in the third revision in 1999 included introduction of courses in Community-Based Education, Primary Dental Health Care, and Comprehensive care (1). These changes were in line with the integration of medical education and health care services in the coun-

try (2, 3). Similar revisions were also done in medical curriculum (4).

Although the three above-mentioned revisions addressed many of the deficiencies of the curriculum it still seemed to suffer from such problems as overcrowding, lack of elective courses, inadequate training in meta competencies (such as communication skills, professionalism, evidence-based dentistry, etc), insufficient emphasis on prevention, not benefiting from modern educational methods, and not being in accordance with community needs (5). Moreover, the curriculum is a requirement-based rather than a competency-based curriculum.

Based on the current emphasis on competency-based education (6-10), as a part of need assessment phase of dental curriculum revision in Iran, in the present study the dental graduates' perspective concerning the minimum competency requirements for an Iranian general dentist has been investigated

Methods

Three major competency documents, available across the literature, were used to determine the minimum expected competencies of dentists (8, 9). To finalize the primary draft of competencies, a committee was formed by CDE (Council for Dental Education, Ministry of Health and Medical Education). The members of this committee comprised head of CDE, heads of strategic planning committees of CDE, oral health consultant of minister of health, and some academic staff members who were experts in dental education. The committee finalized the competency document through a Delphi method. Based on the final document, a questionnaire was designed in which, the respondents were ask to firstly indicate their opinion about the necessity of each of the 142 stated competencies for an Iranian general dentist (Yes/No), and secondly, to state the degree to which they believed the current curriculum covers each competency (Completely, Partially, Not at all). According to ADEE document (8), the competencies were categorized under 7 domains: Professionalism; Communication and interpersonal skills; Knowledge base, information handling and critical thinking; Clinical information gathering; Diagnosis and treatment planning; Establishment and maintenance of oral health; and Health promotion. The questionnaire also requested information on age, gender, work experience, current setting of practice, and the main field of dental practice as personal and professional characteristics.

The provincial chief dental managers were asked to distribute the questionnaires among general dentists in their province (10 questionnaires in each province) in two occasions: first, in their annual meeting in June 2008 in Gorgan, and second, in a one day seminar held in November 2008 in Tehran. Those not participating in the first meeting received the questionnaire in the second seminar. The purpose of the study and the method of completing the questionnaire were fully explained for the managers. Phone recalls at one month interval was also performed.

Of 300 questionnaires distributed in the 30 provinces of the country, 250 questionnaires (83%) were returned.

Results

Among the 250 participating dentists, 133 dentists (53%) were male. The mean age of the respondents was 33 years, and the man working experience was 79 months.

Table 1 shows the distribution of the respondents according to their current settings of practice. More than half of the respondents worked in urban health centers, and 50% of them had private practice.

The main field of the dental practice of the respondents can be seen in Table 2. Restorative treatment was the main field of practice for half of the respondents. On the other hand, less than 1% of them had focused on prosthodontics and periodontics procedures.

In average more than 85% of the respondents believed in the necessity of acquiring competences of each domain (Fig. 1).

Table 1: The distribution of a sample of Iranian dentists (n=250) according to their current settings of practice

Settings of dental practice	Frequency (%)*
Urban health center	56
Private office	50
Rural Health Center	33
State dental clinic	32
Private dental clinic	30
State hospital	7
Others	5
Private hospital	2

* Since it was possible for the respondents to choose more than one option, the sum of the percentages is more than 100.

On the other hand less than 40% reported that the competencies of each domain were completely attainable through national curriculum. Less than 50% of the respondents believed in complete achievement of most of the competencies through current curriculum. Based on the responses, competencies related to Establishment and maintenance of oral health, Clinical information gathering, and Diagnosis and treatment planning domains were the most achievable competencies compared to other competences.

Table 2: The main field of the dental practice among a sample of Iranian dentists (n=250)

Main field of dental practice	Frequency (%)
Restorative dentistry	50
Endodontics	20
Oral and maxillofacial surgery	17
Preventive dentistry	7
Orthodontics	1
Community Oral Health	1
Periodontics	0.5
Prosthodontics	0.5
Others	3

On the other hand, the competencies that less than 30% of the dentists believed in their complete achievement mostly belonged to the non-clinical domains including Communication and interpersonal skills, and Health promotion.

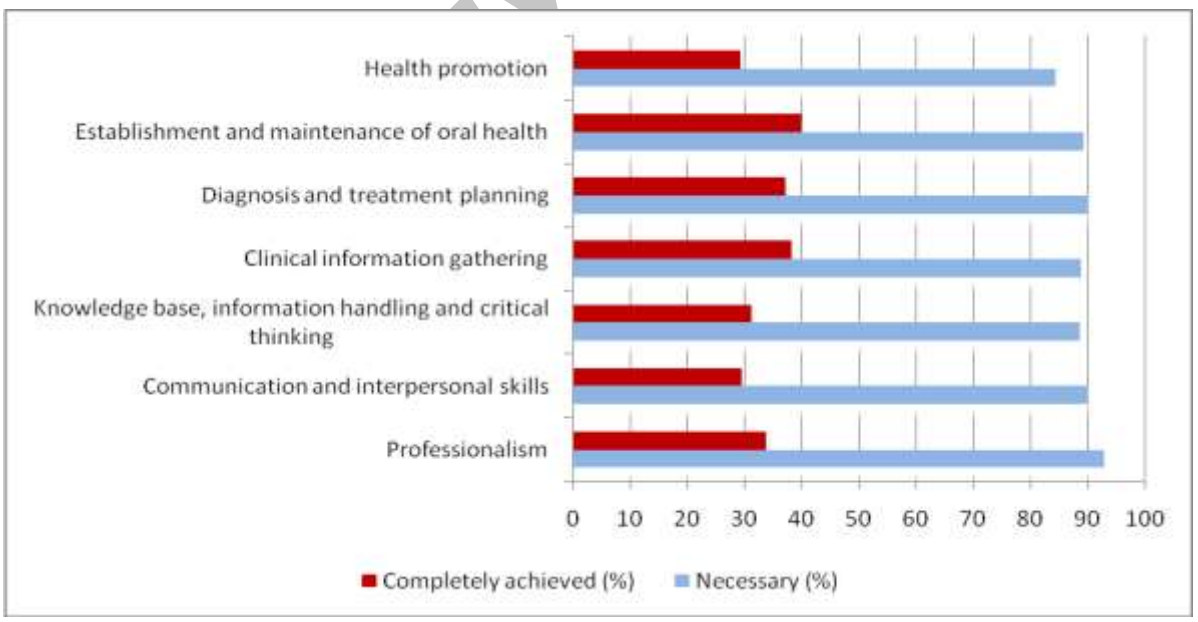

Fig. 1: Percentages of the dentists believing in the necessity and complete achievement of the defined competences through national dental curriculum (n=250)

Discussion

The present study investigated dentists' perspective on the capability of current national dental curriculum to cover minimum competency requirements for an Iranian dentist. The results showed that certain deficiencies exist in this regard especially in non-clinical competencies.

All of the participants of the study were oral health professionals. This homogeneity reduces the probability of biases related to misconceptions and errors (11), and to non-responses and incorrect answers (12), which have been reported to exist in studies using self-administered questionnaires with lay populations. However, like any other questionnaire survey, the tendency among the participants to give favourable responses, which is referred to as social desirability (13), might have affected the responses.

Competency has been defined as "behaviour expected of beginning independent practitioners", which "incorporates understanding, skills, and values in an integrated response to the full range of circumstances encountered in general professional practice" (6). Competency-based education has been accepted as a sound method for the design of instruction and assessment for undergraduate dental education (7). It refers to the acquisition of the knowledge, skills and values related to the cognitive, psychomotor, and affective domains, and includes an integrated mechanism for evaluation and assessment (10). In order to make it practical for European dental schools to implement competency-based dental education, the ADEE has defined the required competencies for European dentists in detail (8) and this approach has been operationalized at the European level. The diversity of the dental schools across Europe, in terms of the facilities and equipments, academic staff members, and socioeconomical status resembles the situation in Iran. It was the reason the ADEE document served as the basis for preparing competency document for Iranian dentists. In order to prepare a complete document, ADEA and CDA documents were also reviewed. Moreover, through a Delphi method, we collected expert opinions in dental education and made necessary modifications in the primary draft of competency document.

According to the findings of the present study, while most of the participants considered the competencies as necessary for an Iranian dentist, the majority of them believed that the current national curriculum is incapable of covering most of these competencies. The problem was more significant in non-clinical domains compared to clinical domains. This finding is not surprising since the current curriculum does not sufficiently emphasize on such skills as communication skills, professionalism, evidence-based practice, etc. Due to the low cost of dental services delivered in the dental schools, many patients are referred to these centers, providing the students with the opportunity to treat various cases though their undergraduate training. This may cover the deficiencies of the clinical part of the curriculum.

Conclusion

According to graduates' opinion, current dental curriculum seems to be deficient in developing minimum competency requirement for Iranian dentists. In curriculum revision more emphasis should be placed on such domain as Health promotion; Communication and interpersonal skills; and Knowledge base, information handling and critical thinking.

Ethical considerations

Ethical issues (Including plagiarism, Informed Consent, misconduct, data fabrication and/or falsification, double publication and/or submission, redundancy, etc) have been completely observed by the authors.

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The authors declare that there is no conflict of interest.

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