

# Dental Students Perceived Barriers in Geriatric Dental Care Active Involvement

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## Abstract

**Objectives:** The present study assessed dental students' perceived barriers to geriatric dental care provision.

**Methods:** Out of 512 dental students in Iranian dental schools were participated in the study 464 were completed the questionnaire. The mean age of the dental students was  $25.5 \pm 2.8$  years; 67% were women.

**Results:** Most of the participants (79%) did not have any training focused on geriatric dental care, and the vast majority (more than 83%) had no experience with geriatric dental care. The primary barriers to provide dental care to the elderly that dental student mentioned included insufficient knowledge of geriatric dental care and perceived lack of communication skills and self-confidence in managing elderly patients.

**Conclusion:** Increased emphasis on geriatric dental education in the undergraduate dental curriculums needed to minimize the barriers and improving dental students' willingness to serve older people.

*Key words: Dental care, Geriatric, Barriers*

## Introduction

There is a considerable increase in the elderly population in both developed and developing countries. The fastest growing segment of the population is people 60 years old and older. Older adults exceed 600 million worldwide. This number is projected to rise to 1.2 billion by 2025 and to reach 2 billion in 2050; most living in developing countries [1,2].

Improvements in health care and living standards have contributed to longer life expectancy and older population growth [3]. In 1975, the proportion of elderly people in Iran (those over age 60) was 5.4%; in 2025 it is projected to be 10.5 percent, and to increase further to 21.7 percent in 2050 [4]. Therefore, the country must be prepared for this aging phenomenon and therefore plan appropriate policies to fulfill their special health and dental needs [3].

The general health and well-being of older adults are related to their oral health; however, many older adults in Iran do not use dental services on a regular basis [5]. Cultural, structural, financial and physical barriers, in addition to healthcare-provider barriers, hinder elderly patients' use of dental services [6].

Unwillingness to provide dental care for the elderly is a significant healthcare-provider barrier that reflects the attitudes of oral health care providers [7-9]. Complexity of dental treatments in elderly patients and inadequate training and insufficient facilities in nursing homes are some reasons for dental professionals' unwillingness to treat the elderly [8].

While there has recently been a revision in the Iranian dental curriculum, there still is no emphasis on geriatric dental care as part of geriatric clinical rotations [10,11]. Dental students may perceive barriers in caring for geriatric patients and this affects their attitudes and willingness to provide treatment to elderly patients.

## Materials and Methods

In 2011, 464 senior dental students from 18 Iranian dental schools participated in the present cross-sectional study. The students were selected since they would be graduating and would be working in their professional career within the upcoming month. After coordinating with the educational departments at selected dental schools', one of the researchers visited these schools and distributed self-administered questionnaires to volunteer students and subsequently collected the completed questionnaires in order to increase the likelihood of a high response rate.

The content of the questionnaire was based on geriatric dentistry guidelines and the objectives of geriatric dental education [5,6,8,12,13]. Content validity of the questionnaire was evaluated through the opinions of academic staff that had the experience in the care of elderly patients as well as the opinions of dental public health practitioners. Its face validity was assessed by senior dental students. Reliability was assessed through test-retest of the questionnaire with 21 dental students. A covering letter was provided that emphasized the importance of the study. The questionnaire was anonymous, consisting of questions in three sections:

The first sought background information including gender, age, prior training in geriatric dental care, and prior experience in treating the elderly in their education. The second part related to respondents' interest in provision of care for elderly patients and their preference to treat the elderly. The third section assessed dental students' self perceived barriers to geriatric dental care provision. "How do you assess the importance of each item in hindering your providing dental care to geriatric patients?"

The responses were categorized on a Likert scale (1= not

important, 2=very little important, 3= no idea, 4=important, 5=very important). Descriptive analyses were applied using SPSS (version 17.0, SPSS Chicago, IL, USA). To test differences between subgroups means and Standard Deviations (SD) the *t*-test was applied.

## Results

Out of 512 senior dental students, 464 completed the questionnaire (response rate=91%). The mean age of the respondents was  $25.5 \pm 2.8$ . The characteristics of the senior dental students and independent variables in the study are presented in *Table 1*. Out of all the respondents, 67% (n=371) were female and 33% (n=153) male. More than 50 percent of dental students preferred to treat young patients rather than old ones. The majority of the senior dental students (79%) had never received any training in geriatric dental care in their undergraduate dental curriculum, and 87% agreed that there was a need for geriatric dental care training as part of the undergraduate dental curriculum. Approximately 80% had a previous experience in provision of care for elderly patients as part of their educational requirements.

*Table 2* presents the mean score of barriers to geriatric dental care provision. There was no significant different between male and female dental students for most of the barriers, but patient compliance during treatment and self-confidence in elderly patient management were more important barriers for female dental students than for male students ( $p < 0.05$ ). Paradoxically, those who received geriatric dental training in dental schools actually had higher scores on

**Table 1.** Characteristics of senior dental students who participated in the study.

Gender	Number	Percentage
Female	371	67
Male	153	33
<b>Training on geriatric subjects</b>		
Yes	100	21
No	364	79
<b>Experience of care for elderly patients</b>		
Yes	384	83
No	80	17
<b>Willingness to work for elderly</b>		
Yes	98	21
No	246	53
No difference	120	26

**Table 2.** Mean scores of barriers reasons to dental care provision to the elderly patients according to senior dental students characteristics. (n=464) (1 = not at all important 5 = extremely important).

	Self -Confidence in patients management	Financial ability	treatment facilities	Time consuming	Knowledge of geriatric dental care	Communi- cation skills	patients compliance	Follow up
<b>Gender</b>								
Female	4.3 ± 0.9	3.05 ± 1.1	3.9 ± 0.7	3.9 ± 0.6	4.4 ± 0.7	4.4 ± 0.7	4.0 ± 0.8	3.87 ± 1.0
male	4.0 ± 1.2	2.84 ± 1.1	2.9 ± 0.7	3.8 ± 0.7	4.3 ± 1.0	4.5 ± 0.8	3.8 ± 0.8	3.46 ± 0.9
p-value	0.03	0.6	0.3	0.08	0.35	0.08	0.00	0.92
<b>Training in geriatric dentistry</b>								
Yes	4.31 ± 1.0	2.9 ± 1.1	3.9 ± 0.9	4.0 ± 0.6	4.52 ± 0.6	4.51 ± 0.6	4.0 ± 0.7	3.52 ± 0.9
No	4.17 ± 1.0	3.0 ± 1.1	3.9 ± 0.7	3.9 ± 0.7	4.31 ± 0.9	4.41 ± 0.8	4.0 ± 0.8	3.46 ± 1
p-value	0.24	0.56	0.77	0.65	0.03	0.19	0.6	0.5
<b>Experience of treatment of elderly</b>								
Yes	4.3 ± 0.9	3.03 ± 1.1	4.0 ± 0.7	4.0 ± 0.7	4.4 ± 0.8	4.4 ± 0.7	4.0 ± 0.7	3.5 ± 1.0
No	3.6 ± 1.4	2.7 ± 1.1	3.8 ± 0.8	3.8 ± 0.7	4.1 ± 1.0	4.4 ± 0.9	3.6 ± 0.8	3.2 ± 1.0
p-value	0.00	0.03	0.04	0.16	0.01	0.05	0.4	0.3

insufficient knowledge of geriatric dental care as a barriers for not providing dental care to elderly patients ( $p=0.036$ ) than did students who had not had such training. For dental students who had training in geriatric dentistry, important barriers to provide dental care to elderly patients included concerns pertaining to self-confidence in elderly patient management, financial ability of elderly patient to pay for services, lack of appropriate facilities in dental offices and insufficient knowledge of geriatric dental care ( $p < 0.05$ ).

According to Iranian dental students' responses to the question "How do you assess the importance of each item in hindering your providing dental care to geriatric patients?". The strongest barrier was insufficient knowledge of geriatric dental care. Inadequate communication skills with elderly patients and lack of confidence in elderly patients' management were the other most important reasons. Although all barriers were important, financial ability and follow up of elderly patients rated less highly (*Table 3* and *Figure 1*).

## Discussion

A self-administered questionnaire was used in this cross-sectional study to assess the Iranian dental students' barriers to dental care provision for elderly patients. To increase representativeness of the study sample, all Iranian dental schools' final year dental students were invited to participate in the study. From this study the most important dental students' barrier for treating elderly patients was insufficient knowledge of geriatric dental care. This barrier was followed by insufficient communication skills with elderly patients and insufficient self-confidence in elderly patients' management. The least important barrier was financial ability and patients' compliance. To our knowledge, no study has been done previously on perceived barriers of Iranian dental students to providing dental care for the elderly.

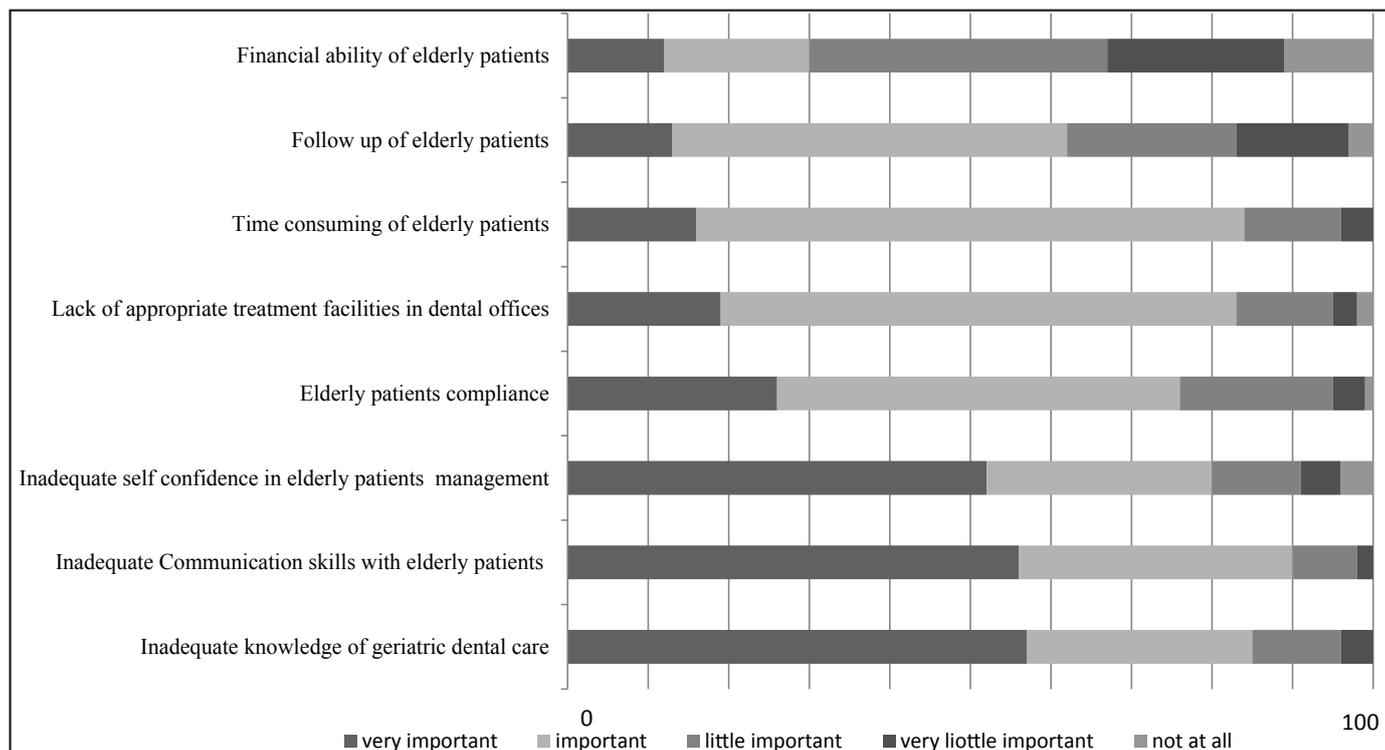
Dental providers' beliefs, attitudes, and comfort level with treating older patients are major factors in encouraging or discouraging dental care utilization by the elderly [6]. Some studies have addressed dentists' and dental students' opinions about treatment of the elderly in long-term care facilities, but few studies have focused on dental students' barriers for providing dental care for elderly patients [7,8,14-16].

Past experience can have a positive influence on dental students' perceived future willingness to treat vulnerable

Table 3. Study Questionnaire.

Gender:		female	male			
Which age groups do you preferred to care?		children	adult			
		elderly	All group			
Did you have any training on geriatric dental care in dental school?		Yes	No			
Did you have any previous experience in provision of care for elderly patients as part of their educational requirements?		Yes	No			
Geriatric dental care training should be as part of the undergraduate dental curriculum.		Yes	No			
"How do you assess the importance of each item in hindering your providing dental care to geriatric patients?"(1=not at all -5= very important)						
1	Inadequate self confidence in elderly patients management	1	2	3	4	5
2	Follow up of elderly patients	1	2	3	4	5
3	Elderly patients compliance	1	2	3	4	5
4	Inadequate knowledge of geriatric dental care	1	2	3	4	5
5	Financial ability of elderly patients	1	2	3	4	5
6	Time consuming of elderly patients	1	2	3	4	5
7	Inadequate Communication skills with elderly patients	1	2	3	4	5
8	Lack of appropriate treatment facilities in dental offices	1	2	3	4	5

Figure 1. Iranian senior dental students' responses to importance barriers for provision of dental care to elderly patients for each of 8 items (ranged from "very important" to "not at all").



populations [17]. In the current study, however, most of the Iranian dental students had experience in treating elderly patients and yet more than half of these students did not prefer to provide dental care for the elderly. This may reflect the fact that dental students did not have a favorable experience in providing dental care to the elderly; given the educational pressure most dental students are under to fulfillment their clinical requirements [15].

In this study the most prominent reason cited by the majority of dental students for their unwillingness to treat elderly patients was "insufficient knowledge of geriatric dental care". These results are in agreement with the findings of previous studies that assessed dentists' perceived barriers to providing dental care in long-term care facilities [14,18].

Iranian undergraduate dental curricula do not include emphasis on geriatric dental education. There is insufficient geriatric dental education despite the presence of some topics in prosthesis and oral medicine that are taught to Iranian dental students [10]. Providing students with more opportunities to practice and apply the knowledge gained through their didactic lectures could help to address the perceived barrier of insufficient knowledge

Communication between dentists, elderly patients and their families is an important factor in the achievement of dental care in this age group [19]. Dentists should consider the needs and expectations of elderly patients in order to have an effective treatment plan for these patients [8]. Dental schools should pay increased attention to social aspects of aging

and communication skills in geriatric dentistry [20,21]. The Iranian dental curriculum has not emphasized communication skills; dental students learn communication with the elderly from faculty members through their educational requirements. It therefore is not surprising that dental students' second; most important perceived barrier to providing elderly dental care was "Insufficient Communication skills with elderly patients".

Dental students' self-confidence in treating elderly patients is essential since these patients have different systemic diseases and medications which increase the complexity of treatment [19]. In this study another of the reason that dental students were reluctant to provide care to the elderly was "Insufficient self-confidence in elderly patients' management". This finding is similar to the results of a study by Kiyak HA et al which found that the students' greatest weakness was lack of confidence in medical emergencies management in elderly patients [6]. One of the most important causes of this weakness is receiving little training dealing with medical emergencies in aged patients in dental schools. Including geriatric dentistry in the undergraduate dental curriculum can address this shortcoming and thereby enhance the self-confidence of dental students in dealing with geriatric patients [6,22].

Financial ability of elderly patients was the least important issue in influencing dental students' unwillingness to treat the elderly. This finding is in contrast with studies of practicing dentists' opinions in treating the elderly indicating that the financial issue is an important barrier. The majority of practicing dentists suggested that elderly people should be insured [14]. The fact that dental students are not yet involved in financial issues may make financial ability less of a concern.

Some of the reasons for unwillingness to provide dental care for elderly patients, are influenced by gender [8,23]. In this study two reasons were affected by gender: "self-confidence in patient's management" and "elderly patients' compliance through treatment". Patient compliance with treatment plans was reported to be a major factor that encourages or discourages dental providers' provision of dental services [24]. In this study, female dental students expressed greater difficulties in their elderly patient management for these reasons.

Students who had some training about geriatric dental care actually rated insufficient knowledge of geriatric dental care as a more important barrier than did students who had not had

this kind of training. It appears that because geriatric dentistry content is dispersed through the curriculum, those students who have received training still know little about geriatric dentistry and perceive their weakness on this topic.

Four of the students' barriers to provision dental care to elderly patients were influenced by their experience of elderly patients' treatment. These included the time consuming aspect of treating elderly patients, communication skills with elderly patients, patient compliance with treatment plans and challenges in follow up of elderly patients. In dental schools students provide care under supervision of faculty members and if they have problems they can turn to their supervisors and therefore, dental students are not engaged independently in treating patients. In dental education the number of clinical requirements completed is more important than the time it takes to fulfill them. Therefore, the time consuming aspect of elderly patient treatment is one of the low important reason for their unwillingness to treat elderly. Experience in treating different subgroups of patients can lead to greater comfort and willingness to treat such patients [9,17]. However, another study found that dental students who were exposed to older adults with complex medical conditions and psychosocial concerns may have a more negative bias toward this age group [15]. To increase willingness to treat the elderly, community based learning is suggested because exposure to the elderly in a community setting may influence dental students to have more positive attitudes toward the elderly [23].

## Conclusion

Several factors affect elderly patients' use of dental services including age, income, education, access to a dental office, and physical health. Unfortunately, dentists' unwillingness to treat the elderly is one of the most important issues. Dental students' inadequate knowledge of geriatric dental care, poor communication skills and lack of confidence in management of elderly patients are the three most important barriers to dental care provision to the elderly. To minimize the above barriers, dental schools must assume responsibility for preparing students to meet growing elderly dental needs. Improving dental care providers' knowledge of aging and willingness to serve older people is possible through addition of geriatric dental education to the undergraduate dental curriculum.

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