

Dentists' attitude and perceived educational barriers to oral health promotion among patients with disabilities

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Original Article

Abstract

BACKGROUND AND AIM: Individuals with disability usually suffer from complex oral problems and marked physical limitations, and therefore need special dental care. The dentists' attitude and perceived educational barriers for oral health promotion among the individuals with disabilities were evaluated in the present study.

METHODS: In this cross-sectional study, 193 dentists participating in the 54th International Congress and Exhibition of Iranian Dental Association in 2014 were invited to complete a valid and reliable questionnaire. The questionnaire included questions on attitude, satisfaction with training courses, perceived barriers to learn about oral health of patients with disabilities, age, gender, office location (city), and experience of treating patients with disabilities. The results were analyzed in SPSS software using linear regression analysis.

RESULTS: A total of 177 questionnaires were collected. The mean age of the participants was 35.5 (10.1) years, and 53.8% of the participants were men. The mean score of attitude and perceived barriers was 27 out of 52, and 13.6 out of 24, respectively. Dentists were not satisfied with education they had received. The most important barrier was the shortage of experts for training (52.1%). The linear regression model controlling the confounders revealed a better attitude among dentists with higher satisfaction with their academic education and among those perceiving less barriers in receiving the related academic educations.

CONCLUSION: The dentists' attitude towards the oral health promotion of patients with disabilities was not in a desirable level. The dentists satisfied with their training during academic education had a better attitude towards treating these patients, indicating the need for more extensive interactive training programs.

KEYWORDS: Dentistry for Disabled; Attitude; Barrier; Dentist; Oral Health

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Individuals with physical and mental disabilities usually suffer from complex oral and dental problems and marked physical limitations, and therefore need special dental care.¹⁻³ Like other individuals, the individuals with disabilities have a right to benefit from the standards of health care. However, evidence suggests that they experience lower levels of public health in their lifetime, have unmet

health needs, and receive less attention in screening programs.⁴ Therefore, it is important to design and implement plans to improve provision of health services to these patients and eliminate its barriers.

Lack of specialized knowledge on individuals with disabilities, difficulty of working with these patients, and attitudes and misunderstandings about disability are the main challenges of health care providers

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in this regard.⁵ The attitude towards oral health among these patients and the level of knowledge on this issue can deeply affect their attendance in health centers to receive treatments, the level of their physical and mental disability, and the tension the patients and their caregivers suffer from every day.⁴ Moreover, oral health may be overshadowed by the potentially life-threatening medical problems and disabilities among these patients and be regarded as a lower priority.⁶

The dentists' negative attitude may affect the services provided to the patients with disabilities. Although negative attitudes are not usually obvious, they can hamper the provision of appropriate and preventive services.⁷ In other words, the negative attitude of experts and health care providers towards individuals with disabilities is an invisible barrier to medical services.⁸ Moreover, the patients with disabilities reported the negative attitude of the health service providers and their behavior as the main barriers to their access to health services.⁹ Acquiring the necessary skills in this regard may provide conditions to remove these barriers,¹⁰ so that the factors like "necessity of allocating more time for treatment of disabled patients" will no longer be a reason for lack of access to dental services.

Since the culture and geographical location along with the type and duration of dental education are different in each country, the present study was carried out with the aim to evaluate the attitude of general dentists towards health promotion among patients with mental and physical disabilities. In addition, the level of satisfaction with different educational fields and barriers of training on oral health promotion among the individuals with disabilities were assessed in this study.

Methods

The dentists participating in the 54th International Congress and Exhibition of Iranian Dental Association in 2014 were invited

to take part in this cross-sectional study.

The dentists with a comprehensive understanding of Persian and willing to join the study were included and non-Iranian dentists were excluded from the study. A valid questionnaire¹¹ with some researcher-made questions was used to evaluate the dentists' attitude. First, the questionnaire was evaluated by 5 faculty members in Community Oral Health Department, School of Dentistry, Tehran University of Medical Sciences, Tehran, Iran, who confirmed its validity after some modifications. To assess its reliability, the questionnaire was completed by 10 general dentists twice with an interval of 2 weeks, which showed an actual agreement of 85% [Intraclass Correlation Coefficient (ICC) = 0.85] and Cronbach's alpha of 75%.

The attitude section of the questionnaire contained 13 questions on a Likert scale with answers ranging from "strongly agree" to "strongly disagree", including "I don't know" (Table 1). The total attitude scores ranged from 0 to 52.

Satisfaction with training on different stages of oral health promotion among patients with disabilities (Prevention and treatment, table 2) was assessed by 6 questions with answers on a Likert scale as "completely satisfied" to "completely unsatisfied", and "no idea". The total satisfaction scores ranged from 0 to 24. There were also 6 questions on barriers to receiving training on health promotion among individuals with disabilities with answers on a Likert scale as "to a very large extent", "to some extent", "to a little extent", "to a very little extent", and "no idea". There were also some questions about age, gender, experience of working with patients with disabilities with yes/no answers, and office location (city).

The study objective was explained to dentists who met the inclusion/exclusion criteria. Qualitative data were presented as mean \pm standard deviation (SD). Data were analyzed using linear regression analysis in

Table 1. Dentists' responses to questions regarding attitude towards oral health among patients with disabilities

Item	Completely agree [n (%)]	Agree [n (%)]	Disagree [n (%)]	Completely disagree [n (%)]	No idea [n (%)]
I feel comfortable with treating patients with disabilities	77 (40.5)	30 (15.8)	33 (17.4)	7 (3.7)	14 (7.4)
Providing health services to patients with disabilities makes me nervous.	14 (7.4)	54 (28.4)	58 (30.5)	7 (3.7)	22 (11.6)
I enjoy providing health care for individuals with disabilities.	33 (17.4)	47 (24.7)	37 (19.5)	17 (8.9)	19 (10.0)
Working with individuals with disabilities is stressful for me.	17 (8.9)	56 (29.5)	39 (20.5)	18 (9.5)	25 (13.2)
I am capable of assessing the special needs of patients with physical disabilities including the visual and auditory disorders.	22 (11.6)	38 (20.0)	44 (23.2)	14 (7.4)	31 (16.3)
I am capable of how to assess the unique needs of mentally disabled individuals	25 (13.2)	43 (22.6)	33 (17.4)	25 (13.2)	26 (13.7)
I prefer not to treat patients with mental disabilities.	18 (9.5)	39 (20.5)	49 (25.8)	17 (8.9)	25 (13.2)
I prefer not to treat patients with physical disabilities.	18 (9.5)	41 (21.6)	41 (21.6)	28 (14.7)	21 (11.1)
I believe my academic dental education has prepared me to treat patients with disabilities.	16 (8.4)	30 (15.8)	50 (26.3)	33 (17.4)	29 (15.3)
I think I am aware of the dental needs of patients with disabilities.	18 (9.5)	39 (20.5)	52 (27.4)	16 (8.4)	25 (13.2)
I have self-confidence for treating patients with disabilities.	16 (8.4)	51 (26.8)	33 (17.4)	22 (11.6)	31 (16.3)
I believe I can treat patients with disabilities.	24 (12.6)	43 (22.6)	37 (19.5)	16 (8.4)	34 (17.9)
Dentists may refuse to treat patients with disabilities as it may upset other patients.	21 (11.1)	35 (18.4)	42 (22.1)	32 (16.8)	29 (15.3)

SPSS software (version 18.0, SPSS Inc., Chicago, IL, USA). P values less than 0.05 were considered to be significant. The study was approved by the research ethics committee of Tehran University of Medical

Sciences. All participants were assured about confidentiality of the information and the right to withdraw at any stage of the study. In addition, the questionnaires were anonymous.

Table 2. Dentists' satisfaction with academic education

Level of satisfaction Educational issue	Completely satisfied [n (%)]	Satisfied [n (%)]	Unsatisfied [n (%)]	Completely unsatisfied [n (%)]	No idea [n (%)]
Communication with the patient	34 (17.9)	54 (28.4)	44 (23.2)	13 (6.8)	17 (8.9)
Treatment environment (without barriers and easy transfer)	11 (5.8)	40 (21.1)	49 (25.8)	30 (15.8)	21 (11.1)
Oral manifestations related to disability and prevention of dental diseases	11 (5.8)	45 (23.7)	50 (26.3)	27 (14.2)	24 (12.6)
Advising parents and caregivers of patients with disabilities to observe oral health, diet, and fluoride use	11 (5.8)	48 (25.3)	38 (20.0)	40 (21.1)	19 (10.0)
Performing dental procedures and behavioral control	8 (4.2)	48 (25.3)	53 (27.9)	31 (16.3)	21 (11.1)
Related ethical and legal issues	13 (6.8)	46 (24.2)	50 (26.3)	25 (13.2)	23 (12.1)

Table 3. Barriers to receiving training on dental and oral health among individuals with disabilities

Item	To a very large extent [n (%)]	To some extent [n (%)]	To a little extent [n (%)]	To a very little extent [n (%)]	No idea [n (%)]
Low number of faculty members expert in this field	31 (16.3)	68 (35.8)	32 (16.8)	20 (10.5)	8 (4.2)
Lack of practical courses	24 (12.6)	49 (25.8)	52 (27.4)	21 (11.1)	13 (6.8)
Low number of patients	36 (18.9)	57 (30.0)	36 (18.9)	17 (8.9)	11 (5.8)
Scarcity of educational materials	23 (12.1)	40 (21.1)	40 (21.1)	23 (12.1)	29 (15.3)
Density of dental curriculum	34 (17.9)	39 (20.5)	43 (22.6)	20 (10.5)	22 (11.6)

The dentists' responses to questions in the sections of attitude, barriers, and satisfaction were reported as rate (%). The total and mean score of the attitude, satisfaction, and barriers was calculated separately. A linear regression model was used for the multivariate assessment of factors related to the differences in mean scores.

Results

Totally, 193 dentists were included in the study. 16 (8.3%) of the questionnaires were excluded due to errors in completion, and the final analysis was performed on 177 questionnaires. The mean age of the dentists was 35.5 ± 10.1 years. Of 173 participants, 93 (53.8%) and 80 (46.2%) were men and women, respectively. 94 dentists answered the question about their current office location. The results showed that one third (32.7%) of the dentists worked in Tehran.

Of 160 participants, 90 (24.5%) had no experience of working with patients with disabilities however, 75 (45.5%) had the experience of treating the disabled.

Table 1 represents the dentists' responses to questions regarding their attitude towards the oral and dental health of patients with disabilities. Among the participants, (24.2%) believed that their academic dental education

has prepared them to treat patients with disabilities and 35.8% asserted that providing services to individuals with disabilities makes them nervous.

Table 2 represents the dentists' responses to questions on satisfaction with academic training. Dentists were not satisfied with education they had received regarding the oral health promotion for the disabled as the highest and the lowest satisfaction rate was reported for the communication with the patient and performing dental procedures and behavioral control with 17.9% and 4.2%, respectively.

As shows in table 3, the most important barriers to receiving training about oral health promotion among individuals with disabilities were the shortage of experts to present the required training courses in the school (52.1%), lack of practical courses, and density of the curriculum (38.4%).

The scores of the domains of attitude, satisfaction with training, and barriers to receiving training about oral health promotion of individuals with disabilities are shown in table 4. The mean score of attitude, satisfaction, and barriers was 27 out of 52, 11.1 out of 24, and 13.6 out of 24, respectively.

The results of linear regression controlling for backgrounds revealed that the dentists

Table 4. Scores obtained in different domains related to oral health among individuals with disabilities (n = 177)

Domain	Maximum Possible	Lowest score	Highest score	Mean \pm SD
Attitude	52	11	43	27 \pm 5.7
Satisfaction with academic educations	24	0	24	11.1 \pm 5.2
Barriers to learning on oral health of individuals with disabilities	24	0	24	13.6 \pm 5.4

SD: Standard deviation

with higher satisfaction with their academic educations ($B = 0.465$, $P < 0.001$) and among those who reported less barriers in receiving the related academic educations ($B = 0.302$, $P = 0.003$), had better attitude. Age, gender, office location (city), and work experience were not associated with the dentists' attitude towards oral health promotion of patients with disabilities.

Discussion

Treatment of the dental problems is one of the major health challenges of patients with disabilities as the oral health among these individuals may affect their general health and quality of life (QOL). The findings of the present study showed the unfavorable attitude among 27 (52%) out of 52 of the dentists towards the oral health of the patients with disabilities which is in accordance with studies reporting the poor oral health of the individuals as a result of different problems including the dentists' negative attitude.^{6-9,11-13}

Previous studies have reported statistics regarding the dentists' awareness, attitude, and willingness to treat the dental problems and promote the oral health of patients with disabilities. A study by Oredugba and Sanu in Nigeria showed that although 80% of dentists treated these patients, their mean awareness of oral health promotion among such patients was 18%.¹⁴ In Australia, only 18% of the dentists had an appropriate level of knowledge about dental and oral diseases among the individuals with disabilities.¹⁵ Two studies showed that 74% and 94% of the dentists in the United States of America (USA) and Saudi Arabia treated these patients, respectively.^{16,17}

The negative attitude of the dentists towards these patients plays an important role in their undertreatment,^{18,19} which could result from academic educations, as it has been reported that these educations significantly affect the dentists' inclination to treat patients with disabilities.^{3,20} Vainio et al.²¹ conducted a study among dental students in the USA and found

that they had a moderate inclination to treat these patients. The findings of this study revealed that the students were not satisfied with their education about providing care for these patients and felt the need for more training. Moreover, the lack of providing the necessary education for dentists is itself a barrier to treatment among these patients as it can lower their self-confidence in addition to creating a negative attitude. Educational programs have an important role in training experienced medical staff and will therefore affect the oral health among individuals with disabilities.²²

The results of the present study indicated that the dentists were not satisfied with their education regarding the individuals with disabilities and only 48% of them had the experience of working with these individuals. Lack of specialized educators for training was a major barrier to providing care for patients with disabilities in the present study. Continuous medical education (CME) programs have an important role in training skilled and experienced dentists and positively affect the oral health of the individuals with disabilities.²³ The findings of the present study suggested the low level of the educational courses for dental students regarding individuals with disabilities, indicating the need for revising the dental education curriculum.

Treatment complexities and difficulties of treating patients with disabilities in terms of communication and anatomical problems, associated diseases, and lack of cooperation with the dentist may impede service delivery to this target group. Therefore, the availability of special facilities for patients with disabilities along with appropriate dental educations are important steps since providing dental treatment for these patients may require a team effort and the intervention of a medical team depending on the degree of disability, anatomical problems, and underlying diseases.^{24,25} In addition, there is an inverse relationship between the economic status and oral and dental

health.^{26,27} In fact, economic factors are an important issue as an inverse relationship has been confirmed between the level of oral health and the economic level.^{28,29} Therefore, it seems that the State Welfare Organization, as the steward of health and medical care for special patients, should take steps to increase the dental insurance coverage of these patients in the country.

As other studies using self-administered questionnaires, the present study had some limitations. Participants could have dishonesty with their answers due to the social desirability. The researchers in the present study tried to decrease dishonesty by assuring respondents that their personal information would not be revealed and the data would be analyzed anonymously.

The supplementary interventional studies are suggested to be performed to assess the effectiveness of different educational courses on dental care for patients with disabilities,

targeting undergraduate dental students.

Conclusion

The present study showed that the dentists' attitude towards promotion of the oral and dental health status of patients with disabilities was not in a desirable level. The dentists with higher satisfaction with their training and less perceived barriers during academic education had a better attitude towards treating the patients with disabilities. This indicates the need for more extensive training programs.

Conflict of Interests

Authors have no conflict of interest.

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