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What is the first reaction of dental patients to severe toothache?

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ABSTRACT

Introduction: Some studies have indicated that toothache is the primary reason for dental visits. The present study was conducted to assess the initial responses of Iranian individuals to toothaches.

Materials & Methods: The study included individuals referred to six dental clinics in Qazvin with severe pain. Then, they were asked about their initial reaction to pain. Seeking professional medical attention was considered a correct decision. The significance level was set at ≤ 0.05.

Results: 503 participants with a mean age of 31 (±7.5) years, including 260 females and 243 males. The initial reaction after the onset of toothache were searching the Internet (n=168), followed by visiting a dentist (n=143). A significant correlation was found between age, history of dental visits, and correct reaction (p=0.033).

Conclusion: The Internet and social media significantly influence individuals' decisions regarding pain management. A notable proportion of individuals prefer self-treatment over visiting a dentist following a severe toothache.

Keywords: Pain, Toothache, Dentistry

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Introduction

Toothache is an unpleasant situation that almost all people experience in their lives. [1] Some studies have shown that toothache is the main reason for dental visits, especially in countries that do not have a proper health care system. [2] It should be noted that it is mandatory to visit a dentist to treat a toothache; however, in many cases, people do not take any actions to treat their toothache for reasons such as economic problems, dental stress, and fear. [3] There is also a problem called self-treatment. Some people prefer self-treatment or take some herbal and chemical drugs as painkillers instead of using dental advice and undergoing the necessary treatment. [4]

Education has an important role in prevention and helps people to make the best decision when a toothache occurs, which is to visit a dentist. Individual differences and different attitudes of people along with their experiences can be effective in their decision-making for toothache treatment. [5] Due to the lack of any studies in this regard in Iran, reports of the high prevalence of self-treatment or incorrect

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decisions about toothache, and the importance of determining the associated factors, the present study was conducted to evaluate the first reaction of the Iranian people toward toothache.

Materials & Methods

This study was conducted in Qazvin in 2022 and was approved by Ethic committed of Qazvin University of Medical Sciences. (IR.QUMS.REC.1401.223). Six dental clinics with a high turnover of patients were selected by the simple random sample method. A previously designed checklist was used to record information. The checklist had two parts. The first part addressed demographic data. In the second part, the participant was asked if this was his/her first dental visit. It was also asked if the pain was the reason for the dental visit. Only subjects who described the pain as severe and stated that the severe pain interfered with their normal life or sleep were included in the study. Then, the subjects were asked about their first reaction to toothache, and the answers were categorized as

1. Consultation with friends
2. Searching the Internet without following Internet guidelines
3. Searching the Internet and following the Internet guidelines
4. Going to the pharmacy
5. Using herbal medicine
6. Visiting a dentist
7. Other

The checklist comprised two sections. The first section covered demographic information. The second section inquired whether the current visit was the participant's first dental visit and whether pain prompted the visit. Only participants who described their pain as severe and indicated that it significantly affected their daily life or sleep were included. Subsequently, participants were asked about their initial response to toothache, with responses categorized as follows in Table 1:

Participants were asked whether they followed Internet instructions for alleviating dental pain. Those who followed online instructions were labeled as "Internet followers," while those who independently attempted pain relief without online guidance were considered "Internet non-followers." Lastly, participants who promptly visited a dentist after experiencing toothache were classified as making the correct choice, while those who pursued other measures were classified as making an incorrect choice. Data analysis utilized SPSS version 25 and encompassed descriptive tests, ANOVA, and t-tests. The significance level was set at 0.05.

Table 1. Demographic data of participants

	Category	n (%)	Consultation with friends	Searching the Internet without following Internet guidelines	Searching the Internet and following the Internet guidelines	Going to pharmacy	Using herbal medicine	Visiting a dentist	Other
Age	15-20	81[16.10	4	0	39	11	17	9	1
	20-30	154[30.6]	9	0	57	35	20	31	2
	30-40	151[30.5]	9	0	63	27	20	31	1
	40-50	78[15.5]	3	0	7	12	11	44	1
	50+	39[7.7]	2	0	2	4	3	28	0
Total		503	27(5.3)	0	168(33.3%)	89(17.6)	71(14%)	143(28.4)	5(0.09)

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	Category	n (%)	Consultation with friends	Searching the Internet without following Internet guidelines	Searching the Internet and following the Internet guidelines	Going to pharmacy	Using herbal medicine	Visiting a dentist	Other
Education level	Unfinished high school education	189[37.5%]	21	0	39	62	21	44	3
	University student	88[17.5]	3	0	35	13	9	28	0
	High school diploma	126[25%]	13	0	39	29	12	32	1
	Academic education	98[19.5%]	1	0	31	20	6	39	1
Job	Unemployed	41[8%]	2	0	10	11	12	4	0
	Student	88[17.4%]	3	0	35	13	9	28	0
	Self-employed	132[26.2%]	9	0	40	18	15	43	7
	Government employee	61[12.1%]	5	0	21	11	5	18	1
	Worker	150[29.8%]	11	0	32	48	18	39	2
	Other	7[1%]	0	0	2	2	1	1	1
History of dental visit	Yes	406	31	0	24	78	36	169	68
	No	97	7	0	18	20	18	14	20
Gender	M	243	25	0	86	43	13	67	9
	F	260	18	0	102	32	21	76	11

T- Test and ANOVA were used, p=0.05

Results

A total of 503 subjects (260 women and 243 men) participated in the study. The mean age of the participants was 31 years. Moreover, 97 subjects had their first dental visits and 406 had previous dental visits. Table 1. Shows the first decision of volunteers participating in the study based on gender, age, education level, history of dental visits, and job. Most of the Internet users were 20-30 and 30-40 years old. A high school diploma was the most frequent degree among the participants. Most of the participants were in the age group 20-30 years (n=154) followed by the 30-40-year-old group (n=151). According to the result, the most frequent decision of participants was: Following Internet instruction was 168(33.3%), visiting a dentist was 143(28.4%), Going to pharmacy was 89(17.6%), Self-treatment was 89(17.6%), Traditional medicine was 27(5.3%) and the other was 5(0.09%). According to the results of Table 2, there was a significant relationship between age and the correct choice of reaction; in other words, most people tended to visit a dentist with an increase in age. (p=0.033).

There was a significant relationship between the history of dental visits and the choice of reaction, and people who had a history of dental visits visited a dentist as the first reaction to the toothache. (p=0.024). No significant relationship was found between the correct choice of reaction and gender, job, or education level. However, there was an increase in dental visits with an increase in the education level, but this increase was not significant.

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Table 2. The relationship between demographic variables and their relationship with a correct decision after toothache

	Category	N.	Not choosing dentist	Choosing dentist	p-value
Age	15-20	81	72	9	0.033
	20-30	154	123	31	
	30-40	151	120	31	
	40-50	78	34	44	
	50+	39	11	28	
Education level	Unfinished high school education	191	149	44	0.094
	University student	126	98	28	
	High school diploma	98	66	32	
	Academic education	88	49	39	
Job	Unemployed	41	27	4	0.081
	Student	88	38	28	
	Self-employed	152	119	53	
	Government employee	61	43	18	
	Worker	154	118	39	
	Other	7	6	1	
History of dental visit	Yes	406	278	129	0.024
	No	97	84	14	
Gender	M	243	176	67	0.088
	F	260	184	76	

T-test and ANOVA were used, p=0.05

Discussion

The results of the present study showed a significant relationship between age and the correct choice of reaction and a significant relationship between the history of dental visits and the choice of reaction. The results of this study showed that the Internet had a very high impact on people. This finding was similar to several studies that found that the Internet was a tool to find answers to medical questions, look up a doctor, and find treatment solutions. Parmer et al found that a significant number of people used the Internet to obtain medicines or choose dental treatments. [6]

The age of the participants had a significant relationship with choosing the correct treatment method in the present study, and as they became older, they were less likely to use self-treatment, follow Internet instructions, and take medicines prescribed by pharmacists. An explanation may be that older people have a rich history of dental visits compared to younger people, and their understanding of life issues is deeper; therefore, they naturally visit a dentist when they have a toothache. This finding was similar to the results of a study by Baskaradoss that found that an increase in age increased dental visits. [7]

In the present study, no significant statistical difference was observed between men and women in terms of the number of dental visits. A positive history of dental visits had a significant relationship with visiting a dentist for toothache, and people who had previously visited a dentist were more likely to visit

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a dentist following a toothache. It can be hypothesized that people with a history of dental visits have lower levels of dental fear, which has been proven in several studies. [8] On the other hand, a person's dental visit can enhance his/her awareness about pain management and treatment. As a result, this person will always consider visiting a dentist as a treatment solution for toothache in the future. [9]

One of the strengths of the present study was the exclusion of people with work experience in medical and dental centers and those whose close relatives were dentists. Such people, both because of the knowledge resulting from working and studying in the medical field and probably because of having better access to such centers, are very likely to make a correct choice.

Another strength of this study was the exclusion of people with free or supplementary dental insurance coverage. These people may directly visit dental centers due to the possibility of using dental services for free or at very low costs. Since having supplementary insurance may affect the mentality, these people were also excluded from the study to avoid bias.

One of the limitations of the present study was that it was impossible to measure the pain level and the duration of the toothache. The tolerance of people to pain is different. Another limitation was the lack of knowledge about the psychological structure of the participants. It is possible that some people suffer from higher levels of stress and anxiety and therefore endure toothache for a longer time, and some people have an inherent desire to visit a doctor. These behaviors are usually controlled by the psychological structure of people. Another study limitation is sampling, which is not a population-based sampling and patients attending dental clinics do not represent Iranian people's behavior.

Conclusion

This study was designed to know people's reactions to severe toothache, and based on the results, referring to the Internet and going to the pharmacy without a doctor's prescription were common behaviors among the people. Educational programs are necessary to improve the public knowledge and understanding in this regard.

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Conflicts of Interest

There is no conflict of interest to declare.

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