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Research Article

Evaluation of the Turkish Population's Knowledge about Dental Implants

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Abstract

Aim: Dental implants have become the most preferred treatment method for tooth loss. The aim of this study is to evaluate the knowledge and preferences of individuals living in Türkiye regarding dental implants.
Material and Method: In this research, a multiple-choice questionnaire was administered to assess individuals' knowledge levels and reasons for preference concerning dental implants. The survey was conducted online among men and women aged 18-79 who had never undergone implant treatment, residing in various provinces of Türkiye. The statistical analysis of the obtained data was performed using the SPSS program and the chi-square test.
Results: A total of 429 individuals participated in the study, including 196 men (45.7%) and 233 women (54.3%). Of the participants, 47.9% learned about the concept of dental implants from dentists, and 57.6% reported having partial knowledge. A majority of 67.7% preferred to have implant treatment performed by a specialist dentist. 87.8% believed that dental implants are not harmful to health after treatment. Most participants indicated that the most crucial factor in the preference for implants is the dentist's recommendation (54.2%).
Conclusion: This study provides significant data for understanding the knowledge levels and factors influencing the preferences of individuals regarding dental implants. While highlighting the critical role of dentists in providing information and guidance, it also underscores the need to increase awareness about dental implants among the general population. Accordingly, broader informational and educational efforts are necessary to promote more widespread and correct application of dental implant treatments.

Keywords: Dental implants, patient knowledge level, implant treatment, implant preferences

INTRODUCTION

Dental implant procedures were introduced into dental practice with the description of osseointegration by Branemark and his team in the early 1980s (1). Osseointegration is a critical process that enables dental implants to integrate biologically with bone, making them a reliable and long-lasting treatment option for individuals with tooth loss (1). This development has led to the rapid adoption of dental implants in clinical practice (1).

Dental implant applications have a wide distribution network, and patient demand, influenced by the information provided by physicians and the media, plays a significant role in expanding this network (2). Physicians' patient education, including the advantages and disadvantages of dental implants, increases the acceptance of implant procedures (2). The media is also an important factor in increasing the popularity and awareness of dental implants in society (2). There is extensive literature on dental implants, with most studies providing information on the clinical success of dental implants (2,3). Topics such as factors affecting implant success, surgical techniques, materials used, and long-term clinical outcomes have been extensively researched (2,3).

Dental implant treatment is one of the primary treatment options for both edentulous and partially edentulous patients (3). In this treatment process, the patient's expectations and preferences are as important as the physician's choice (3,4). Patient-related factors include not only physical conditions such as bone volume but also psychosocial conditions, expectations, and economic means (5). Particularly, patients' aesthetic expectations, functional needs, and psychological approaches to treatment play a significant role in implant treatment planning. (6). Economic factors also directly affect patients' preferences for implant treatment, as dental implants are generally among the high-cost treatments

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(3-7).

Physicians' education and guidance of their patients are highly effective in planning dental implant treatments (7). Factors contributing to this influence include the physician's knowledge and experience, ability to explain the planning, and good communication with the patient (8). Physicians' knowledge and experience are critical for gaining patients' trust and fostering a positive attitude towards treatment (9). Additionally, the educational materials provided by the physician help patients make informed decisions (7-11).

A review of the literature reveals that although there are many studies focusing on the clinical success of dental implants, there are relatively few studies on patient awareness and knowledge levels (10-12). Increasing patient awareness and knowledge is essential for the success of implant treatment, as informed patients can be more compliant with the treatment process and more careful about post-treatment care (10). Some researchers have conducted various studies to evaluate patients' awareness of dental implants in different countries (10). These studies reveal how cultural and socioeconomic differences affect patient awareness and attitudes towards implant treatment (10).

This research aims to evaluate the awareness levels regarding implants, ways of accessing information about implants, and the factors influencing implant preferences among patients living in various provinces of the country who have never undergone implant treatment. This study will reveal the knowledge levels of patients about dental implants and help dentists develop more effective patient education and information strategies in this area. Additionally, our study aims to emphasize the importance of patient education in dental practice and shed light on future research in this field.

MATERIAL AND METHOD

Ethical Approval

The study was conducted over a three-month period (December 2022- February 2023) in accordance with the principles of the Declaration of Helsinki. Ethical approval for the study was obtained from the Non-Interventional Clinical Research Ethics Committee of Karamanoğlu Mehmetbey University on December 16, 2022, with decision number 11-2022/06.

Survey Design

This cross-sectional study, which aims to evaluate the knowledge and awareness of individuals regarding implant application, was designed as a survey study consisting of open-ended and multiple-choice questions. The survey forms were prepared using Google Forms (Google, Inc., 2017, California, USA). Before the survey questions, a section explaining the nature and purpose of the study and including a consent form for participants was prepared. The voluntary nature of participation and the confidentiality of responses were assured. Individuals who selected the option "I do not wish to participate" were excluded from the study. Following a literature review, a 12-question survey was prepared based on previous studies and evaluated for face and content validity through a pilot study on three randomly selected volunteers (13). To ensure the accuracy and confidentiality of the data, participants were asked to use nicknames instead of their names and to respond with the same nickname during a follow-up test two weeks later. Data from the pilot study were not included in the final analysis. Subsequently, all validated questions were evaluated for validation by sending a five-point Likert scale evaluation form via email to two oral surgeons and one periodontologist. All questions were revised and finalized based on expert feedback. The self-administered, online 12-question survey, consisting of two sections, was distributed to 450 volunteers via email and messages. The study included 429 volunteers who agreed to participate. No personal information, including email addresses, was requested from participants. Demographic information, professional experience, and institutional affiliations of the participants were collected. Only volunteers who had not previously undergone implant treatment and agreed to participate were included in the study. The survey consisted of two sections. The first section inquired about demographic characteristics such as age, gender, education, and income level. The second section, comprising eight questions, examined participants' preferences regarding dental implants. The survey investigated how patients accessed information about dental implants, whether they considered their knowledge sufficient, the institution they preferred for treatment, whether they believed dental implant treatment was harmful to health, their preference for domestic or imported products, and the reasons for these preferences. The relevant link (URL) to the survey was sent to individuals who had never undergone implant treatment. Participants were informed that they could contact the researcher with any questions or issues they might encounter at any stage of the study. The data obtained were transferred to Microsoft Excel by the researcher, and percentage/frequency values for each item in the survey form were calculated.

Participants

Individuals who had never undergone implant treatment were included in the study. The aim was to reach 450 individuals. Those under the age of 18, those who had previously undergone implant treatment, and individuals with conditions such as mental retardation were excluded from the study. Online consent forms were obtained from participants, and they were allowed to participate voluntarily.

Statistical Analysis

Statistical analyses were performed using IBM SPSS Statistics (Version 26.0. Armonk, NY: IBM Corp.). Categorical data were expressed as numbers and percentages. The chi-square test was used to evaluate responses to the questions according to participants' gender, age, education level, and monthly income. A p-value of <0.05 was considered statistically significant in the study.

RESULTS

The demographic characteristics of the individuals participating in the study are as shown in Table 1. These findings indicate that the participants of the study are from a broad demographic spectrum.

Table 1. Demographic characteristics of participants

		f	%
Gender	Male	196	45.7
	Female	233	54.3
Age	Under 30	73	17.0
	30-40	212	49.4
	40-50	67	15.6
	50-60	45	10.5
	Over 60 years old	32	7.5
Education level	Primary school	35	8.2
	Middle school	41	9.6
	High school	66	15.4
	Associate degree	52	12.1
	Licence	145	33.8
	Graduate	90	21.0
Income rate	Low income	80	19.5
	Middle income	188	45.7
	High income	143	34.8

When examining the findings regarding where participants first learned about the concept of dental implants, 47.9% (n=205) reported learning about it from dentists, 32.2% (n=138) from relatives or friends, 11.7% (n=50) from social media (Facebook, Instagram, etc.), 5.1% (n=22) from visual media (TV, billboard, etc.), and 3.0% (n=13) from print media (newspaper, magazine, brochure, etc.). When evaluating the levels of knowledge about dental implants, 57.6% (n=247) reported having partial knowledge, 27.3% (n=117) sufficient knowledge, and 15.2% (n=65) no knowledge at all. When asked where they would prefer to have dental implant treatment, 67.7% (n=289) preferred a specialist dentist's clinic, 23.0% (n=98) a university hospital, and 9.4% (n=40) any dentist. While 87.8% (n=374) did not believe that dental implants are harmful to health after treatment, 12.2% (n=52) had concerns about this. When asked if they knew someone who had undergone dental implant treatment, 81.1% (n=346) answered yes and 18.9% (n=81) answered no. Of the participants, 66.3% (n=283) considered getting a dental implant to be a difficult procedure, while 33.7% (n=144) did not. In implant preferences, 55.7% (n=235) preferred imported implants, while 44.3% (n=187) preferred domestic implants. Among the factors determining implant preferences, 54.2% (n=230) cited the recommendation of their dentist, 19.1% (n=81) cited recommendations they had heard, 16.5% (n=70) cited price, 9.7% (n=41) cited the country of manufacture/national preference, and 0.5% (n=2) cited social media.

In the evaluation by gender, it was found that female participants were more likely than male participants to learn about implants first from dentists, to consider themselves sufficiently knowledgeable about implants, to think that getting a dental implant is a difficult procedure, and to have the recommendation of their dentist as the determining factor in their implant preference ($p<0.05$). There were no statistically significant differences between male and female participants' responses to other questions ($p>0.05$) (Table 2).

In the evaluation by age, it was found that as age increases, participants are more likely to have first learned about the concept of dental implants from a dentist. The age group most likely to prefer any dentist for their dental implant treatment was those under 30, while the age group most likely to prefer a university hospital was those over 60. As age increases, the proportion of participants who believe that dental implants are not harmful to health after treatment also increases. The participants who were most likely to prefer imported implants were those aged 30-40, while those who preferred domestic implants were most likely over 60. The highest proportion of participants who preferred a national brand for implant preference were over 60, whereas the highest proportion of participants who preferred recommendations they had heard were those under 30 ($p<0.05$). There were no statistically significant differences in responses to other questions based on age ($p>0.05$) (Table 3).

In the evaluation by educational status, it was found that participants with postgraduate education were more likely to have first learned about dental implants from a dentist, while those who preferred the answer "I learned from relatives/friends" were most likely primary school graduates. Participants who answered "I have sufficient knowledge about implants" were most likely postgraduate individuals. Regarding the institution where they would prefer to have implant treatment, the highest proportion of participants who chose any dentist were primary school graduates, while the highest proportion of participants who chose university hospitals were postgraduate individuals. Participants who believed that dental implants are harmful to health after treatment were primary school graduates. Those who preferred domestic implants were also most likely primary school graduates. The highest proportion of participants who cited price as the determining factor in their implant preference were primary school graduates, while those who cited their dentist's recommendation were most likely postgraduate individuals ($p<0.05$). There were no statistically significant differences in responses to other questions based on educational status ($p>0.05$) (Table 4).

In the comparison by income level, it was found that participants with high income were more likely to have first learned about the concept of dental implants from a dentist, and these individuals consider themselves to have sufficient knowledge about dental implants. Participants with low income were more likely to choose any dentist when asked about the institution where they would prefer to have implant treatment, while those with high income were more likely to choose university hospitals and specialist dentist clinics. Participants with low income were more likely to believe that dental implants

are harmful to health after treatment and consider the procedure to be difficult, and they were also the group most likely to prefer domestic implants. Regarding the factors determining implant preference, participants with low income were more likely to cite implant price, while those with high income were more likely to cite their dentist's recommendation ($p<0.05$). There were no statistically significant differences in responses to other questions based on income level ($p>0.05$) (Table 5).

Table 2. Questions showing statistical differences in comparison by gender

Questions			Gender		Total	p
			Male	Female		
Where did you first learn about the concept of dental implants?	Relative/friend	n	65	73	138	0.018
		%	33.2	31.5	32.2	
	Dentist	n	87	118	205	
		%	44.4	50.9	47.9	
	Visual media (TV, billboard, etc.)	n	11	11	22	
		%	5.6	4.7	5.1	
	Social media (Facebook, Instagram, etc.)	n	21	29	50	
		%	10.7	12.5	11.7	
	Print media (newspaper, magazine, brochure, etc.)	n	12	1	13	
		%	6.1	0.4	3.0	
Do you have any knowledge about dental implants?	I have no knowledge	n	39	26	65	0.007
		%	19.9	11.2	15.2	
	Partially	n	115	132	247	
		%	58.7	56.7	57.6	
	I have sufficient knowledge	n	42	75	117	
		%	21.4	32.2	27.3	
Do you know someone who has had a dental implant?	Yes	n	152	194	346	0.140
		%	77.9	83.6	81.0	
	No	n	43	38	81	
		%	22.1	16.4	19.0	
Which type of implant would you prefer in your implant choice?	Imported implant	n	105	130	235	0.551
		%	54.1	57.0	55.7	
	Domestic implant	n	89	98	187	
		%	45.9	43.0	44.3	
Which of the following factors determines your implant preference?	Recommendations I have heard	n	44	37	81	0.019
		%	22.8	16.0	19.1	
	Price	n	28	42	70	
		%	14.5	18.2	16.5	
	My dentist's recommendation	n	94	136	230	
		%	48.7	58.9	54.2	
	Social media	n	2	0	2	
		%	1.0	0.0	0.5	
	Country of manufacture/national preference	n	25	16	41	
		%	13.0	6.9	9.7	

Table 3. Questions showing statistical differences in comparison by age

Questions			Age					Total	p
			Under 30	30-40	41-50	51-60	Over 60		
Where did you first learn about the concept of dental implants?	Relative/friend	n	34	73	16	10	5	138	0.032
		%	46.6	34.6	23.9	22.2	15.6	32.2	
	Dentist	n	27	97	35	24	22	205	
		%	37.0	46.0	52.2	53.3	68.8	47.9	
	Visual media (TV, billboard, etc.)	n	1	10	6	4	1	22	
		%	1.4	4.7	9.0	8.9	3.1	5.1	
	Social media (Facebook, Instagram, etc.)	n	7	25	10	6	2	50	
		%	9.6	11.8	14.9	13.3	6.3	11.7	
	Print media (newspaper, magazine, brochure, etc.)	n	4	6	0	1	2	13	
		%	5.5	2.8	0.0	2.2	6.3	3.0	
Do you have any knowledge about dental implants?	I have no knowledge	n	19	14	2	5	0	40	0.001
		%	26.0	6.6	3.0	11.1	0.0	9.4	
	Partially	n	45	140	51	34	19	289	
		%	61.6	66.4	77.3	75.6	59.4	67.7	
	I have sufficient knowledge	n	9	57	13	6	13	98	
		%	12.3	27.0	19.7	13.3	40.6	23.0	
Do you know someone who has had a dental implant?	Yes	n	17	24	6	4	1	52	0.018
		%	23.3	11.4	9.0	8.9	3.2	12.2	
	No	n	56	186	61	41	30	374	
		%	76.7	88.6	91.0	91.1	96.8	87.8	
Which type of implant would you prefer in your implant choice?	Imported implant	n	33	137	37	17	11	235	0.001
		%	45.8	65.9	56.1	37.8	35.5	55.7	
	Domestic implant	n	39	71	29	28	20	187	
		%	54.2	34.1	43.9	62.2	64.5	44.3	
Which of the following factors determines your implant preference?	Recommendations I have heard	n	18	40	12	8	3	81	0.001
		%	24.7	19.0	17.9	18.2	10.0	19.1	
	Price	n	22	34	6	4	4	70	
		%	30.1	16.2	9.0	9.1	13.3	16.5	
	My dentist's recommendation	n	28	117	41	28	16	230	
		%	38.4	55.7	61.2	63.6	53.3	54.2	
	Social media	n	0	0	1	1	0	2	
		%	0.0	0.0	1.5	2.3	0.0	0.5	
	Country of manufacture/ national preference	n	5	19	7	3	7	41	
		%	6.8	9.0	10.4	6.8	23.3	9.7	

Table 4. Questions showing statistical differences in comparison by educational status

Questions			Education level						Total	p
			Primary school	Middle school	High school	Associate degree	Undergraduate	Graduate		
Where did you first learn about the concept of dental implants?	Relative/friend	n	21	13	26	18	40	20	138	0.037
		%	60.0	31.7	39.4	35.3	27.6	22.2	32.2	
	Dentist	n	10	20	26	21	72	56	205	
		%	28.6	48.8	39.4	41.2	49.7	62.2	47.9	
	Visual media (TV, billboard, etc.)	n	1	2	1	4	12	2	22	
		%	2.9	4.9	1.5	7.8	8.3	2.2	5.1	
	Social media (Facebook, Instagram, etc.)	n	3	4	11	7	16	9	50	
		%	8.6	9.8	16.7	13.7	11.0	10.0	11.7	
	Print media (newspaper, magazine, brochure, etc.)	n	0	2	2	1	5	3	13	
		%	0.0	4.9	3.0	2.0	3.4	3.3	3.0	
Do you have any knowledge about dental implants?	I have no knowledge	n	10	11	13	8	14	9	65	0.001
		%	28.6	26.8	19.7	15.4	9.7	10.0	15.2	
	Partially	n	15	25	41	34	92	40	247	
		%	42.9	61.0	62.1	65.4	63.4	44.4	57.6	
	I have sufficient knowledge	n	10	5	12	10	39	41	117	
		%	28.6	12.2	18.2	19.2	26.9	45.6	27.3	
Where do you prefer to have dental implant treatment?	Any dentist Specialist dentist's clinic	n	10	5	10	6	4	5	40	0.001
		%	28.6	12.2	15.4	11.8	2.8	5.6	9.4	
	University hospital Any dentist	n	21	25	39	34	111	59	289	
		%	60.0	61.0	60.0	66.7	76.6	65.6	67.7	
	Specialist dentist's clinic	n	4	11	16	11	30	26	98	
		%	11.4	26.8	24.6	21.6	20.7	28.9	23.0	
Do you think dental implants are harmful to health after treatment?	Yes	n	10	3	11	4	16	8	52	0.025
		%	28.6	7.5	16.7	7.8	11.1	8.9	12.2	
	No	n	25	37	55	47	128	82	374	
		%	71.4	92.5	83.3	92.2	88.9	91.1	87.8	
Which type of implant would you prefer in your implant choice?	Imported implant	n	5	13	29	28	99	61	235	0.001
		%	14.7	31.7	44.6	54.9	69.7	68.5	55.7	
	Domestic implant	n	29	28	36	23	43	28	187	
		%	85.3	68.3	55.4	45.1	30.3	31.5	44.3	
Which of the following factors determines your implant preference?	Recommendations I have heard	n	4	10	11	13	26	17	81	0.012
		%	11.4	24.4	16.9	25.5	18.3	18.9	19.1	
	Price	n	11	4	18	11	15	11	70	
		%	31.4	9.8	27.7	21.6	10.6	12.2	16.5	
	My dentist's recommendation	n	16	19	27	26	85	57	230	
		%	45.7	46.3	41.5	51.0	59.9	63.3	54.2	
	Social media	n	0	0	0	0	1	1	2	
		%	0.0	0.0	0.0	0.0	0.7	1.1	0.5	
	Country of manufacture/ national preference	n	4	8	9	1	15	4	41	
		%	11.4	19.5	13.8	2.0	10.6	4.4	9.7	

Table 5. Questions showing statistically significant differences in comparisons based on income level

Questions			Income rate			Total	p
			Low income	Middle income	High income		
Where did you first learn about the concept of dental implants?	Relative/friend	n	43	54	36	133	0.001
		%	53.8	28.7	25.2	32.4	
	Dentist	n	29	89	79	197	
		%	36.3	47.3	55.2	47.9	
	Visual media (TV, billboard, etc.)	n	1	15	6	22	
		%	1.3	8.0	4.2	5.4	
	Social media (Facebook, Instagram, etc.)	n	6	24	16	46	
		%	7.5	12.8	11.2	11.2	
	Print media (newspaper, magazine, brochure, etc.)	n	1	6	6	13	
		%	1.3	3.2	4.2	3.2	
Do you have any knowledge about dental implants?	I have no knowledge	n	14	31	18	63	0.012
		%	17.5	16.5	12.6	15.3	
	Partially	n	44	120	72	236	
		%	55.0	63.8	50.3	57.4	
	I have sufficient knowledge	n	22	37	53	112	
		%	27.5	19.7	37.1	27.3	
Where do you prefer to have dental implant treatment?	Any dentist	n	21	12	5	38	0.001
		%	26.3	6.5	3.5	9.3	
	Specialist dentist's clinic	n	45	130	101	276	
		%	56.3	69.9	70.6	67.5	
	University hospital	n	14	44	37	95	
		%	17.5	23.7	25.9	23.2	
Do you think dental implants are harmful to health after treatment?	Yes	n	19	18	11	48	0.001
		%	23.8	9.7	7.7	11.8	
	No	n	61	167	132	360	
		%	76.3	90.3	92.3	88.2	
Do you consider getting a dental implant to be a difficult procedure?	Yes	n	60	137	75	272	0.001
		%	75.0	73.7	52.4	66.5	
	No	n	20	49	68	137	
		%	25.0	26.3	47.6	33.5	
Which type of implant would you prefer in your implant choice?	Imported implant	n	19	107	103	229	0.001
		%	23.8	57.8	73.0	56.4	
	Domestic implant	n	61	78	38	177	
		%	76.3	42.2	27.0	43.6	
Which of the following factors determines your implant preference?	Recommendations I have heard	n	22	31	24	77	0.001
		%	27.5	16.8	17.0	19.0	
	Price	n	23	34	10	67	
		%	28.8	18.4	7.1	16.5	
	My dentist's recommendation	n	24	102	94	220	
		%	30.0	55.1	66.7	54.2	
	Social media	n	0	0	2	2	
		%	0.0	0.0	1.4	0.5	
	Country of manufacture/ national preference	n	11	18	11	40	

DISCUSSION

In this study, where individuals first learned about the concept of dental implants and the factors influencing their implant preferences were examined. The findings show that the majority of participants learned about dental implants from dentists (47.9%). This highlights the significant influence and critical role of dentists in informing patients (14). It was also found that gaining information through relatives or friends (32.2%) is common, which indicates the influence of social circles in informing and guiding dental health decisions.

Regarding the level of knowledge about dental implants, 57.6% of participants had partial knowledge, 27.3% had sufficient knowledge, and 15.2% had no knowledge. This finding suggests that the overall level of knowledge about dental implants in society is insufficient, although the majority have some knowledge. Therefore, it can be said that more extensive information and educational efforts are needed to increase awareness about dental implants across the general population. A survey study (15) found that 43.5% of participants with similar educational backgrounds had sufficient knowledge, compared to 26.8% in our study. This discrepancy is thought to be due to differences in the educational levels of the individuals. Studies conducted in different countries have shown a higher level of knowledge about implants among participants, which may be attributed to socioeconomic differences (8,9).

The findings regarding where participants preferred to have dental implant treatment show that 67.7% preferred a specialist dentist's clinic, 23.0% preferred a university hospital, and 9.4% preferred any dentist. These results underscore the high level of trust in specialist dentists and the importance placed on the quality of treatment. The preference for university hospitals indicates that patients value academic and reliable treatment environments. A survey study (16) found that 40.6% of patients learned about implants from their dentists, compared to 47% in our study. These similar rates are thought to be due to similar patterns of dental visits. The finding that dentists are the primary source of information aligns with similar studies (17,18). Our study observed that as education and income levels increase, individuals are more likely to obtain information about implants from their dentists.

When examining perceptions of whether dental implants are harmful to health post-treatment, 87.8% believed that the treatment is not harmful, while only 12.2% had concerns. Other studies in the literature have shown that individuals have less knowledge about implants (15). This indicates a generally positive perception of dental implant treatment among the participants. However, for the minority with concerns, informational and confidence-building efforts may be beneficial. The study found that 81.1% of participants knew someone who had undergone dental implant treatment, and 66.3% considered implant treatment to be a difficult procedure. These findings suggest that implant treatment is common in society, but there are some perceptions about its difficulty. Detailed information is needed to change this perception and make the process more understandable.

In terms of implant preference, 55.7% of participants preferred imported implants, while 44.3% preferred domestic implants. The higher preference for imported implants may be due to a higher perception of quality and reliability. However, to increase preferences for domestic implants, it is important to emphasize the quality and reliability of local productions.

Finally, among the factors determining implant preference, 54.2% of participants cited the recommendation of their dentist, 19.1% cited recommendations they had heard, 16.5% cited price, 9.7% cited the country of manufacture/national preference, and 0.5% cited social media. This finding shows that the dentist's recommendation is the most determining factor in implant preference. While other factors are also important, it can be said that the authority and expertise of the dentist have a dominant influence on patients. The cost is less influential than the dentist's recommendation, which is consistent with a similar study (16). However, for individuals with lower income levels, cost is a significant determinant of implant preference, highlighting the relationship between cost and dental implant treatment.

This study provides important data for understanding the knowledge levels and factors influencing individuals' preferences regarding dental implants. The results emphasize the critical role of dentists in informing and guiding patients and also highlight the need to increase awareness about dental implants across society. The findings clearly demonstrate the significant role of dentists in patient education and guidance regarding dental implants. The majority of participants learned about the concept of dental implants from dentists, highlighting the critical role of dentists in patient education.

Limitations of the Study

This study has several important limitations. First, the sample size is limited and data were collected from 429 individuals who had not undergone implant treatment. This limits the generalizability of the results and may not be representative of the larger population. In addition, the cross-sectional design of the study does not allow for the assessment of time-varying factors. Longitudinal studies are needed to examine long-term effects. The study is limited by demographic data and participants' knowledge of dental implants. Additional variables such as participants' health status, dental history, psychosocial factors, and economic conditions should be examined for a more comprehensive assessment. These factors may help to better understand preferences for dental implants and attitudes toward treatment.

CONCLUSION

As a result, data were collected from a wide demographic spectrum of participants, including age, gender, education

level, and income. This increased the generalizability of the results across different demographic groups and allowed for the examination of differences in knowledge levels and preferences for dental implants across these groups. The results demonstrated the critical role of dentists in informing and guiding patients and highlighted the need to increase public awareness of dental implants. Accordingly, broader informative and educational efforts are needed to encourage more widespread and appropriate implementation of dental implant treatments.

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