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Evaluation of Patients' Knowledge and Attitudes Towards Dental Implant Treatment

Hastaların Dental İmplant Tedavisine Yönelik Bilgi ve Tutumlarının Değerlendirilmesi

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ABSTRACT

Objectives: Dental implant surgery is a common surgical procedure, but little is known about the knowledge and attitudes of patients towards this treatment. The objective of this study is to evaluate the knowledge and attitudes of patients who require dental implant treatment.

Materials and Methods: The study involved 187 patients for implant treatment. The patients completed a 34-question questionnaire. Data were analyzed using the chi-square test.

Results: Among the participants, 60.4% (113) were female, 39.6% (74) were male. 24.1% (45) of the patients had no information about implants, 17.6% (33) had sufficient information, and 58.3% (109) had partial information. 96.8% (181) of the patients recognized implant treatment as a surgical procedure. The results demonstrated a significant relation between patients' awareness of implant treatment for replacing missing teeth and their awareness of implant placement as a surgical procedure ($p < 0.05$). Of patients participating, 85.6% (160) indicated that the implants were inserted to the jawbone, 3.2% (6) to the gingiva, 1.6% (3) to the adjacent tooth, and 9.6% (18) were unsure of this information. It was noted that 44.9% (84) of the patients were unaware of the lifetime of the implant, while 21.9% (41) believed they would use the implant for life. Information about implant treatments was primarily obtained from dentists (57.2%), friends (19.3%), and the media (12.8%).

Conclusion: The study highlights the need for improved patient education regarding implant treatment; even patients seeking treatment need more knowledge. Dentists should be aware of this and provide patients with more detailed information.

Keywords: *Questionnaire Design, Knowledge, Dental implant, Awareness*

ÖZET

Amaç: Dental implant cerrahisi günümüzde uygulanan yaygın bir cerrahi prosedürdür, ancak hastaların bu tedaviye yönelik bilgi ve tutumları hakkında çok az şey bilinmektedir. Bu çalışmanın amacı dental implant tedavisi görmek isteyen hastaların bilgi ve tutumlarını değerlendirmektir.

Gereç ve Yöntemler: Çalışmaya implant tedavisi için başvuran 187 hasta dahil edilmiştir. Hastalar çalışma hakkında bilgilendirildikten sonra, 34 sorudan oluşan bir anket doldurmuştur. Anketten elde edilen veriler ki-kare testi kullanılarak analiz edilmiştir.

Bulgular: Çalışmaya katılan hastaların %60,4'ü (113) kadın, %39,6'sı (74) erkekti. Hastaların %24,1'i (45) implantlar hakkında bilgi sahibi olmadığını, %17,6'sı (33) yeterli bilgi sahibi olduğunu ve %58,3'ü (109) kısmi bilgi sahibi olduğunu bildirmiştir. Hastaların %96,8'i (181) implant tedavisini cerrahi bir prosedür olarak kabul etmiştir. Sonuçlar, hastaların eksik dişlerin yerine implant tedavisi konusundaki farkındalıkları ile implant yerleştirmenin cerrahi bir prosedür olduğu konusundaki farkındalıkları arasında istatistiksel olarak anlamlı bir ilişki olduğunu göstermiştir ($p <0.05$). Ankete katılan hastaların %85,6'sı (160) implantların çene kemiğine yerleştirildiğini, %3,2'si (6) diş etine yerleştirildiğini, %1,6'sı (3) komşu dişe sabitlendiğini, %9,6'sı (18) ise bu konu ile ilgili bilgi sahibi olmadığını belirtmiştir. Ankete katılım sağlamış hastaların %44,9'unun (84) implantın ağızda kalma süresinden habersiz olduğu, %21,9'unun (41) ise implantı ömür boyu kullanacaklarına inandıkları kaydedilmiştir. Hastaların implant tedavisi hakkındaki bilgileri öncelikle diş hekimlerinden (%57,2), arkadaşlardan (%19,3) ve medyadan (%12,8) aldığı görülmüştür.

Sonuç: Bu çalışma, implant tedavisine ilişkin hasta eğitiminin iyileştirilmesi ihtiyacını vurgulamaktadır. İmplant tedavisi yaptırmak için kliniklere başvuran hastaların bile tedavi hakkında kapsamlı bir bilgi birikiminin olmadığı görülmüştür. Hekimler, hastaların implant tedavisi hakkında yeterli bilgiye sahip olmadığının farkında olmalı ve hastaları daha fazla bilgilendirmelidir.

Anahtar Kelimeler: *Anket tasarımı, Bilgi, Diş implantı, Farkındalık*

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Introduction

Modern dentistry aims to restore the patient to normal function, aesthetics, speech, and health. Dental implants play an integral role in prosthetic treatment for patients with complete or partial edentulism, as they facilitate the optimal achievement of these goals.[1] The number of patients who can be treated with implants is increasing due to advances in augmentation techniques and implant surfaces. [2] However, many patients must be better informed about implant applications and success rates. [3] In developing countries, demographic variables such as age, gender, socioeconomic status, and place of residence stand out among the factors influencing the choice of implant treatment, and societal awareness and perceptions of implants vary widely depending on these factors. [4]

Many scientific studies focus on the clinical aspects of oral implantology, such as osseointegration, implant success rates, [5] biological and mechanical complications, [6] and patient satisfaction. [7] However, there is limited empirical data on the general public's understanding and perceptions of dental implants. [8] In our country, research investigating patients' awareness of dental implants, which hold a significant place in modern dentistry and are commonly used in routine clinical practice, remains insufficient. [9] This study aims to assess and compare the level of knowledge about dental implants among patients who have sought or been referred to our clinic for dental implant treatment.

Materials and Methods

Study Design and Sample Selection

The questionnaire applications were carried out at the Periodontology Clinic in the Faculty of Dentistry at Pamukkale University and the Oral Maxillofacial Surgery Clinic at Erzincan Binali Yıldırım University between April 1 and December 30, 2023. The questionnaire was given to patients who had received treatment at the Pamukkale University Periodontology Clinic and the Erzincan Binali Yıldırım University Oral and Maxillofacial Surgery Clinic for implant therapy. Patients under 18 years old, those who had not completed the questionnaire, and patients with limited communication skills were excluded from the study.

Ethical Approval

The study was approved by the Non-Interventional Clinical Research Ethics Committee of Pamukkale University (protocol code: 14.03.2023/05). The study was conducted in accordance with the ethical standards outlined in the Declaration of Helsinki. After patients were informed about the questionnaire's nature, a signed consent form was obtained, the questionnaire itself was administered, and completion was permitted. If patients lacked comprehension of the questions, a scribe was made available to assist.

Questionnaire

A questionnaire comprising 34 questions was created to assess the knowledge and attitudes of patients whoneeded dental implant treatment. The questionnaire included five questions about the participant's demographic information, a series of questions designed to assess the level of knowledge about dental implants, and a set of questions aimed at gauging patients' preferences regarding dental implant treatment, dental implant awareness, and the source of this awareness, as well as the perceived disadvantages of dental implants and the patient's desired treatment providers. The questionnaire is provided in the supplementary material.

Statistical Analysis

To calculate this study's sample size, a power analysis was performed using the G x Power 3.1.9.7 program. As in the reference article, when effect size = 0.3, $\alpha = 0.05$, $1-\beta = 0.85$, the total sample size was determined as 160. [10] All data obtained during the data collection phase were transferred to an Excel spreadsheet (Microsoft Excel 2020, Microsoft Corporation, Redmond, WA, USA). The data were then analyzed using IBM SPSS Statistics software (version 27.0, IBM Corp., Armonk, NY, USA). Descriptive statistical methods (frequency distributions, percentage distributions) were used to evaluate the data, as well as the chi-square test for comparisons of qualitative data. Results were evaluated at a significance level of $p<0.05$.

Results

A total of 187 patients, 60.4% (113) female and 39.6% (74) male, completed the questionnaire. Participants were mostly in the age range of 45-64 years (46.5%). Most of the participants had university-level (33.7%) and primary school-level (31.6%) education. A total of 141 participants (75.4%) indicated that they had prior awareness of dental implants. It was established that 88.2% (165) of the participants were aware of dental implant treatment as a potential option for replacing missing teeth. It was statistically significant that patients who had heard about dental implants knew they could have implant treatment instead of missing teeth ($p<0.05$). In addition, significance difference was found by cross-referencing demographic data with questions about dental implants. It was found

to be statistically significant that the patients who had heard of dental implant treatment before were 45 years and older ($p<0.05$). Patients aged 45 and 64 were statistically significant ($p<0.05$) that they could have dental implants to replace their missing teeth. Patients living in the city center are statistically more likely to have heard more about dental implants ($p<0.05$). (Table 1, 2) A total of 24.1% (45) of the patients indicated that they lacked knowledge about implants, while 17.6% (33) reported having sufficient knowledge, and 58.3% (109) indicated having partial knowledge. In the statistical analysis with questions and educational status, although there was a statistical difference between patients with primary school graduates and those with university graduates who had no knowledge about dental implants, it was not significant. Although there was a statistical difference between patients with secondary school graduates and those with university graduates who were unsure about implant treatment as a treatment option, it was not found to be significant (Table 3). Regarding the source of their knowledge about dental implants, the participants indicated that 57.2% (107) had heard about dental implants from dentists, 19.3% from friends, 12.8% from the media, 0.5% from medical doctors, and 10.2% from other sources. Of the patients surveyed, 96.3% indicated that they would like to receive information about dental implants directly from their dentist. 96.8% (181) of the surveyed patients knew that dental implant placement is a surgical procedure. The results demonstrated a statistically significant correlation between 58.7% of participants were unsure about the material of dental implants, while 25.7% confidently identified it as titanium. This study found that 47.9% of patients with a master's degree or higher education chose titanium as the material for dental implants. On the other hand, 62.9% of those who were uncertain about the implant material had a high school education or lower. This indicates that the level of education significantly influences the choice of dental implant material, regardless of the field of study (Table 4).

Table 1. Comparison of questions according to gender and age groups

Questions	Answers	Gender			Age group					Total
		Female n (%)	Male n (%)	p-value	12-24 n (%)	25-44 n (%)	45-64 n (%)	>65 n (%)	p-value	
Have you heard about of dental implants before?	Yes	81 (71.7)[a]	60 (81.1)[a]	0.144	10 (76.9)[a,b,c]	35 (66.0)[c]	75 (86.2)[b]	21 (61.8)[a,c]	**0.01***	141 (75.4)
	No	32 (28.3)[a]	14 (18.9)[a]		3 (23.1)[a,b,c]	18 (34)[c]	12 (13.8)[b]	13 (38.2)[a,c]		46 (24.6)
Do you have any information about dental implants?	Enough	21 (18.6)[a]	12 (16.2)[a]	0.482	2 (15.4)[a]	6 (11.3)[a]	20 (23)[a]	5 (14.7) [a]	0.07	33 (17.6)
	Partially	62 (54.9)[a]	47 (63.5)[a]		7 (53.8)[a]	31 (58.5)[a]	55 (63.2)[a]	16 (47.1) [a]		109 (58.3)
	Nothing	30 (26.5)[a]	15 (20.3)[a]		4 (30.8)[a]	16 (30.2)[a]	12 (13.8)[a]	13 (38.2)[a]		45 (24.1)
Are you aware that if you have a missing tooth, a dental implant can be a treatment option?	Yes	96 (85)[a]	69 (93.2)[a]	0.085	9 (69.2)[a]	45 (84.9)[a,b]	84 (96.6)[b]	27 (79.4)[a]	**0.004***	165 (88.2)
	No	17 (15)[a]	5 (6.8)[a]		4 (30.8)[a]	8 (15.1)[a,b]	3 (3.4)[b]	7 (20.6)[a]		22 (11.8)
Would you like dental implant treatment as a treatment option if necessary?	Yes	76 (67.3)[a]	41 (55.4)[a]	0.261	7 (53.8)[a]	38 (71.7)[a]	55 (63.2)[a]	17 (50)[a]	0.255	117 (62.6)
	No	8 (7.1)[a]	7 (9.5)[a]		2 (15.4)[a]	2 (3.8)[a]	9 (10.3)[a]	2 (5.9)[a]		15 (8)
	Possible/I am not sure	29 (25.7)[a]	26 (35.1)[a]		4 (30.8)[a]	13 (24.5)[a]	23 (26.4)[a]	15 (44.1)[a]		55 (29.4)

*p <0.05. Each subscript letter denotes a subset of the categories whose column proportions do not differ significantly from each other at 0.05 level.

Table 2. Comparison of questions according to income and place of residence

Questions	Answers	Income				Residence Area					Total
		Low n (%)	Middle n (%)	High n (%)	p-value	Province n (%)	District n (%)	Town n (%)	Village n (%)	p-value	
Have you heard about of dental implants before?	Yes	41 (78.8)[a]	96 (73.3)[a]	4 (100)[a]	0.376	107 (77)[a]	23 (74.2)[a,b]	0 (0)[b]	11 (78.6)[a,b]	**0.024***	141 (75.4)
	No	11 (21.2)[a]	35 (26.7)[a]	0 (0)[a]		32 (23)[a]	8 (25.8)[a,b]	3 (100)[b]	3 (21.4)[a,b]		46 (24.6)
Do you have any information about dental implants?	Enough	8 (15.4)[a]	23 (17.6)[a]	2 (50)[a]		22 (15.8)[a]	8 (25.8)[a]	0 (0)[a]	3 (21.4) [a]		33 (17.6)
	Partially	28 (53.8)[a]	80 (61.1)[a]	1 (25)[a]	0.287	86 (61.9)[a]	16 (51.6)[a]	1 (33.3)[a]	6 (42.9) [a]	0.343	109 (58.3)
	Nothing	16 (30.8)[a]	28 (21.4)[a]	2 (50)[a]		31 (22.3)[a]	7 (22.6)[a]	2 (66.6)[a]	5 (35.7)[a]		45 (24.1)
Are you aware that if you have a missing tooth, a dental implant can be a treatment option?	Yes	43 (82.7)[a]	118 (90.1)[a]	4 (100)[a]	0.286	124 (89.2)[a]	28 (90.3)[a]	2 (66.7)[a]	11 (78.6)[a]	0.414	165 (88.2)
	No	9 (17.3)[a]	13 (9.9)[a]	0 (0)[a]		15 (10.8)[a]	3 (9.7)[a]	1 (33.3)[a]	3 (21.4)[a]		22 (11.8)
Would you like dental implant treatment as a treatment option if necessary?	Yes	27 (51.9)[a]	86 (65.6)[a]	4 (100)[a]		87 (62.6)[a]	21 (67.7)[a]	2 (66.7)[a]	7 (50)[a]		117 (62.6)
	No	6 (11.5)[a]	9 (6.9)[a]	0 (0)[a]	0.230	12 (8.6)[a]	3 (9.7)[a]	0 (0)[a]	0 (0)[a]	0.600	15 (8)
	Posibble/ I am not sure	19 (36.5)[a]	36 (27.5)[a]	0 (0)[a]		40 (28.8)[a]	7 (22.6)[a]	1 (33.3)[a]	7 (50)[a]		55 (29.4)

$p < 0.05$. Each subscript letter denotes a subset of the categories whose column proportions do not differ significantly from each other at 0.05 level.

Table 3. Comparison of questions according to education level

Questions	Answers	Education Status						Total
		Illiterate n (%)	Primary School n (%)	Secondary School n (%)	High School n (%)	University n (%)	p-value	
Have you heard about of dental implants before?	Yes	6 (66.7)[a]	41 (69.5)[a]	10 (62.5)[a]	29 (72.5)[a]	55 (87.3)[a]	0.095	141 (75.4)
	No	3 (33.3)[a]	18 (30.5)[a]	6 (37.5)[a]	11 (27.5)[a]	8 (12.7)[a]		46 (24.6)
Do you have any information about dental implants?	Enough	2 (22.2)[a]	10 (16.9)[a]	5 (31.3)[a]	3 (7.5)[a]	13 (20.6)[a]	0.066	33 (17.6)
	Partially	5 (55.6)[a]	28 (47.5)[a]	9 (56.3)[a]	25 (62.5)[a]	42 (66.7)[a]		109 (58.3)
	Nothing	2 (22.2)[a,b]	21 (35.6)[b]	2 (12.5)[a,b]	12 (30)[a,b]	8 (12.7)[a]		45 (24.1)
Are you aware that if you have a missing tooth, a dental implant can be a treatment option?	Yes	8 (88.9)[a]	48 (81.4)[a]	15 (93.8)[a]	37 (92.5)[a]	57 (90.5)[a]	0.384	165 (88.2)
	No	1 (11.1)[a]	11 (18.6)[a]	3 (7.5)[a]	3 (7.5)[a]	6 (9.5)[a]		22 (11.8)
Would you like dental implant treatment as a treatment option if necessary?	Yes	5 (55.6)[a]	32 (54.2)[a]	6 (37.5)[a]	28 (70)[a]	46 (73)[a]	0.070	117 (62.6)
	No	2 (22.2)[a]	5 (8.5)[a]	1 (6.3)[a]	2 (5)[a]	5 (7.9)[a]		15 (8)
	Posibble/ I am not sure	2 (22.2)[a,b]	22 (37.3)[a,b]	9 (56.3)[b]	10 (25)[a,b]	12 (19)[a]		55 (29.4)

*$p < 0.05$. Each subscript letter denotes a subset of categories whose column ratios do not differ significantly from each other at the 0.05 level

Table 4. Comparison of the Material from Which the Implants are Produced According to Educational Background

		Education Status					
		Illiterate n (%)	**Primary School n (%)**	**Secondary School n (%)**	**High School n (%)**	**University n (%)**	**Total n (%)**
Which material are dental implants made of?	Titanium	0 (0)a	10 (16.9)a	6 (37.5)a	9 (22.5)a	23 (36.5)a	48 (25.7)a
	Porcelain	**0 (0)a**	**6 (10.2)a**	**2 (12.5)a**	**1 (2.5)a**	**3 (4.8)a**	**12 (6.4)a**
	Stainless steel	1 (11.1)a	8 (13.6)a	0 (0)a	4 (10)a	5 (7.9)a	18 (9.6)a
	Ceramic	**0 (0)a**	**0 (0)a**	**0 (0)a**	**1 (2.5)a**	**0 (0)a**	**1 (0.5)a**
	I don't know	8 (88.9)a	35 (59.3)a	8 (50)a	25 (62.5)a	32 (50.8)a	108 (57.8)a

*Data with the same superscript do not have statistical significance

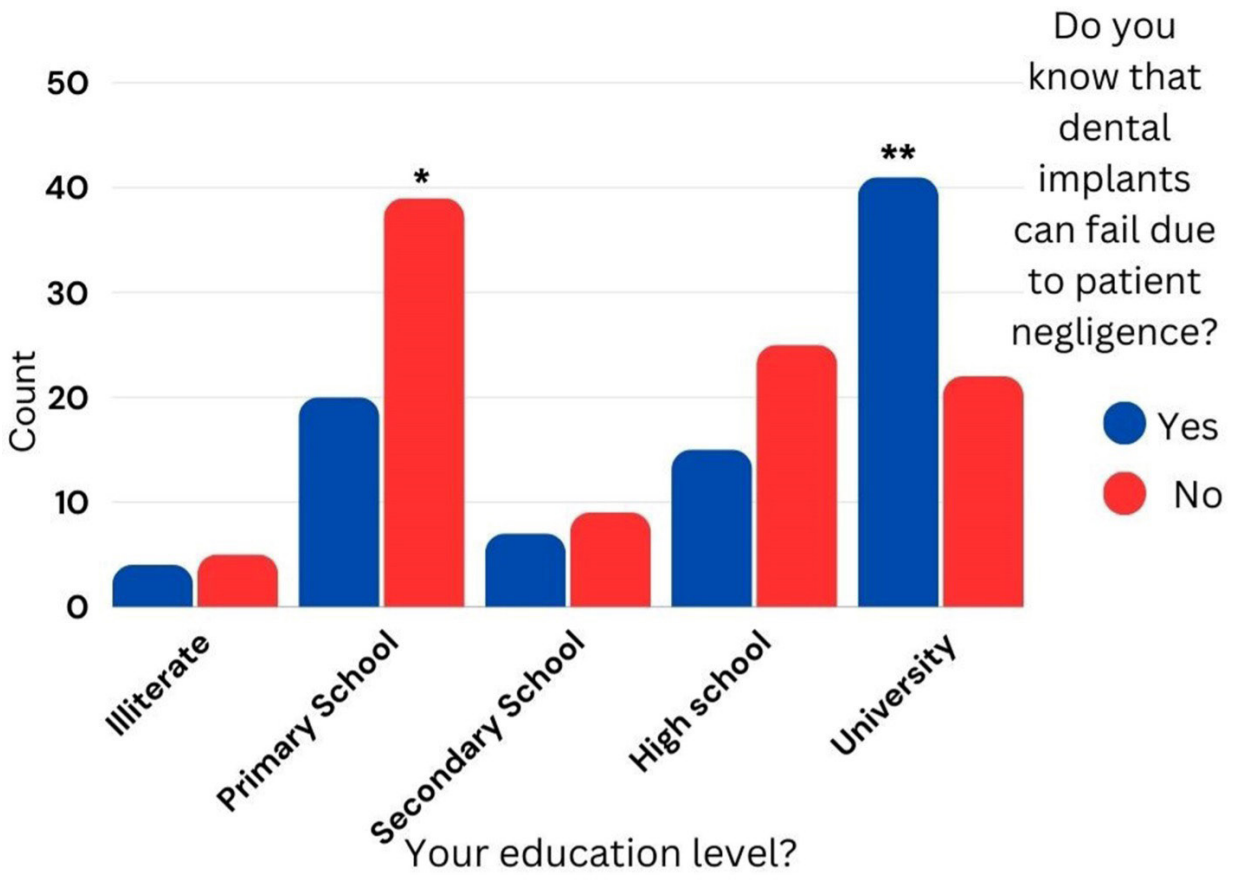
Of patients participating in the survey, 85.6% (160) indicated that the implants were inserted into the jawbone, 3.2% (6) into the gingiva, 1.6% (3) to the adjacent tooth, and 9.6% (18) were unsure of this information (Table 5). It is statistically significant that patients who think that the placement of dental implants is a surgical procedure and those who believe that the implants are inserted into the jawbone are compared to those who have no idea where the implant is inserted ($p < 0.05$).

About the survival of the implants, 21.9% (41) of the participants expected the implants to last a lifetime, 19.3% (36) expected them to last between 10 and 20 years, and 12.3% (23) estimated the survival to be between 5 and 10 years. While 1.6% (3) of the participants estimated the survival to be less than five years, 44.9% (84) had no opinion on this subject (Table 5). The majority of the participants (74.9%) reported that they would have dental implant treatment performed by oral and maxillofacial surgeons. In our study, it was statistically significant that primary school graduates did not know that dental implants can fail due to neglect of oral hygiene and regular check-ups (66.1%), and university graduates knew that dental implants could fail due to neglect of oral hygiene and regular check-ups (65.1%) ($p<0.05$) (Figure 1). Regarding dental implant application, 5.3% (10) of the participants stated that it would prevent MRI, 2.7% (5) said that it would avoid tomography, and 11.2% (21) indicated that it would squeal when passing through the X-ray machine (Table 5). When asked whether dental implant treatment could cause cancer or metal allergy, 5.9% (11) and 12.8% (24) of the participants answered yes, respectively. Additionally, 53.5% (100) and 67.9% (127) of the participants must be aware of this issue. (Table 5). Regarding the question 'Can dental implants be broken or removed?', 44.4% (83) of the participants answered yes, 38% (71) did not know the subject, and 17.6% (17.6%) answered no (Table 5). While 13.9% (26) of the participants thought that the implant was more substantial than the tooth, 65.2% (122) stated that the tooth was substantial (Table 5).

Table 5. Frequency analysis of questions

Questions (Short form)	Answers	f (n)	%	Questions (Short form)	Anwers	f (n)	%
Is placing a dental implant a surgical procedure?	Yes	181	96.8	**Which is stronger, tooth or implant?**	Tooth	122	65.2
	No	6	3.2		Implant	26	13.9
Can dental implants be broken or removed?	Yes	83	44.4		I don't know	39	20.9
	No	33	17.6	**Dental implant prevent MRI scan?**	Yes	10	5.3
	I don't know	71	38.0		No	83	44.4
Where are oral implants inserted?	In the jawbone	160	85.6		I don't know	94	50.3
	In the gum tissue	6	3.2	**Dental implant prevent you from having a CT scan?**	Yes	5	2.7
	To neighboring teeth	3	1.6		No	90	48.1
	I don't know	18	9.6		I don't know	92	49.2
How long do you think a dental implant lasts?	<5 years	3	1.6	**Dental implants trigger alarms X-ray?**	Yes	21	11.2
	5-10 years	23	12.3		No	72	38.5
	10-20 years	36	19.3		I don't know	94	50.3
	For life	41	21.9	**Dental implant cause cancer?**	Yes	11	5.9
	I have no idea	84	44.9		No	76	40.6
What should be the ideal care and cleaning of dental implants?	Less care than teeth	9	4.8		I don't know	100	53.5
	Similar care	111	59.4	**Does a dental implant cause metal allergies?**	Yes	24	12.8
	More care than teeth	67	35.8		No	36	19.3
					I don't know	127	67.9

Figure 1. Crosstab results of education level between implant fail reason.



*Statisticly mean in answer "no"; **Statisticly mean in answer "yes"

Discussion

The generally accepted criteria for evaluating the success of dental implants are successful osseointegration and long-term retention of the implants in the mouth.[11] These criteria depend on many factors, such as the appropriate surgical method, the correct indication, and the experience of the implanting physician. Most dental implant applications performed to compensate for the loss of function, speech, and aesthetics in the oral region are caused by dental caries and irreversible loss of material in the teeth due to poor oral hygiene. In order to prevent implant loss or problems such as peri-implantitis, patients undergoing dental implant treatment should treat their implants with the same care and attention they give to their natural teeth.[12] Therefore, as important as the experience and knowledge of the physicians who apply dental implants are, it is also important how much knowledge the patients who receive dental implants have about dental implants and their oral care in the period after the implants are applied.

This questionnaire assessed the knowledge, sources of information, and attitudes of patients presenting to Pamukkale University Dental Clinics for dental implants regarding the use of dental implants as an option to replace missing teeth. In this study, 141 participants (75.4%) reported having heard of dental implants before. As observed in our study, Alajlan et al. [13] reported that 91.5% of patients surveyed in their study, and Al-Nasser et al. [14] reported that 90% of patients had heard of dental implants.

While 24.1% (45) of the participants stated that they had no knowledge about implants, 17.6% (33) had sufficient knowledge, and 58.3% (109) had partial knowledge. In their survey, Kohli et al. reported that only 8% of the participants had very good knowledge about dental implants, 14% had good knowledge, 27% had moderately good knowledge, and 47% had insufficient knowledge. [15]

According to the survey, 57.2% of participants identified dentists as their primary source of information, which aligns with findings from previous studies by Kohli et al.[15], Pommer et al.[16], Efan et al. [17], and Özçakır Tomruk et al.[18] On the other hand, studies by Awooda et al.[19], Al-Johany et al.[20],and Suwal et al.[21] revealed that friends were the most common source of information. Furthermore, 96.3% of the surveyed patients expressed their preference to receive information about dental implants directly from their dentist. Kohli et al.[15] found that 69.9% of participants desired more information about dental implants, with 72.16% preferring to receive it from their dentist, 16.5% from the Internet, and 2.96% from friends and relatives. Additionally, Özçakır Tomruk et al.[18] reported that 68.3% of respondents wanted more information about dental implants, with 76.9% preferring to receive it from their dentist, 4.6% from friends and acquaintances, and 1.6% from print media. Consequently, it is recommended to integrate comprehensive courses on implant knowledge into undergraduate dental education, with additional postgraduate or advanced implant courses to ensure appropriate implant treatment.

In the study conducted by Memiş[9], the fact that 60% of the patients who chose titanium as the material of dental implants were patients with a master's degree and/or higher education, and 75% of those who marked that they did not know the material were primary school graduates shows that the level of education has a significant effect in terms of research, regardless of the branch. These findings are consistent with our study. In addition, this result is consistent with the study of Suprakash et al.[22], who argued that patient awareness about implants increases with level of education.

In this study, 44.9% (84) of the participants had no idea about implant survival. Furthermore, 21.9% (41) of the participants had the misconception that implants have lifelong survival. This means that patients need more information about dental implants. Regarding the expected longevity of dental implants, Tepper et al.[23] found that 54% of patients perceived the average expected survival of the implant as 10-20 years. Similarly, Faramarzi et al.[24] and Esfahani and Mo Osaali[25] reported that 70.7% and 37.7% of patients, respectively, were unaware of the survival of dental implant treatment.

Faramarzi et al.[24], Alanazi et al.[26], and Tapper et al. [23] reported that the majority of patients believed that the use of implants required more maintenance (33%, 66%, and 46%, respectively), while Alajlan et al.[13] reported that 34.5% reported that implants required more maintenance compared to natural teeth. In the present study, 59.4% of the participants thought implants required a similar level of care to natural teeth, while 35.8% thought implants required more care than natural teeth (Table 5).

In the multiple-choice question about the reasons for the failure of dental implants, the most common response was that 82 patients did not know. Other reasons included inadequate oral hygiene, surgical failure, the patient having a systemic disease, and

the type of implant. The long-term success of dental implant treatment depends largely on the patient's adherence to daily oral hygiene routines and regular professional care programs. [27] Despite technical and surgical advances, biological and technical complications remain frequent and common in dental practice. [27] Therefore, it is extremely important for dentists to explain the importance of oral hygiene to their patients before implant treatment and to educate and motivate them to care for their implants. This approach plays a critical role in prolonging the life of implants and minimizing complications. In the study by Özçakır Tomruk et al., 50% of the patients blamed the dentist for implant loss, while only 16.5% blamed the patient. [18]

Conclusion

It has been observed that patients considering dental implants do not have sufficient knowledge and awareness about the treatment. This highlights the need for efforts to enhance public understanding and awareness of dental implants. As dentists increasingly become the primary source of information for patients, further research is required not only to assess patients' perceptions but also to examine the content of information provided by dentists at each stage of implant treatment. Balancing the data reported by clinicians and patients could provide valuable insights into the gap between patient understanding and the information provided by dental professionals.

Ethical Approval

Ethical approval for this study was obtained from Pamukkale University Non-Interventional Clinical Research Ethics Committee (2023/05)

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Conflicts of Interest

None of the authors of this article has any relationship, connection or pecuniary interest in the subject matter or material discussed in the article

Authors' Contribution

Idea/Concept: NZ, ZÖ, ALA, YG Design: NZ, ZÖ, ALA, YG Control/Supervision: NZ, ZÖ Literature Review: NZ, ZÖ Data Collection and/or Processing: NZ, ZÖ Analysis and/or Interpretation: NZ, ZÖ Writing the Article: NZ, ZÖ, ALA, YG Critical Review: NZ, ZÖ

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