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KNOWLEDGE AND AWARENESS OF DENTAL IMPLANT AND PROSTHESES FOR MISSING TEETH REPLACEMENT OF SAUDI POPULATION

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Abstract

Introduction: Having healthy teeth is essential for maintaining self- confidence. The state of a person's teeth has an important impact on their physical health. They have a strong connection, and oral health is largely dictated by an individual's socioeconomic status. Therefore, the stomatognathic system and the masticatory function are affected by tooth loss. Both the psychological distress and the general decrease in quality of life caused by tooth loss have a detrimental effect on morale. Objectives: This study aims to assess the level of knowledge and awareness of people in Saudi Arabia regarding dental implants and prostheses for missing teeth replacement. **Methodology**: This cross-sectional study will be conducted between July 2024 to December 2024 in Saudi Arabia, based on structured questionnaire. The participants will include Saudi males and females aged 18 to 60 years old from all regions of Saudi Arabia. Excluded from the study are dental practitioners and people under 18 years old. After applying a formula based on prevalence estimation with a 95% confidence level and 5% acceptable error, the minimum target sample size of 348 was selected. **Results**: In a study involving 538 participants, findings indicated significant gaps in knowledge and awareness regarding dental implants and prostheses among the Saudi population. While 53.2% reported having lost permanent teeth, a concerning 57.8% demonstrated low knowledge levels about replacement options. Only 18.4% exhibited high awareness of dental implants, with 61.9% showing very low awareness. The study found that older participants (40 and above) and married individuals had notably higher knowledge levels (P=0.0001). Despite the overall lack of awareness, 93.5% expressed a desire for improved public education on dental health. **Conclusion**: In conclusion, the findings of this study underscore a critical need for enhanced public education regarding dental implants and prostheses in Saudi Arabia. While some demographic groups exhibit a better understanding of these treatment options, significant gaps remain, particularly among

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younger and single individual

Keywords: Knowledge, Awareness, Prosthodontic treatment, Dental implant, Saudi Arabia.

Introduction:

The Social and psychological well-being of a patient is highly dependent on the presence of teeth in the oral cavity, and their dental health is therefore quite important [1]. Total dentition loss or edentulism can be caused by trauma, periodontal disease, or caries [2]. A number of prosthodontic treatment options, including complete dentures, removable partial dentures, fixed partial dentures, and dental implants, have therefore evolved as a result of the increasing need to restore the natural [3] Dental implants are artificial roots inserted in the mouth to support dentures, maxillofacial prostheses, or a single prosthesis [4]. Per- Ingvar Brånemark introduced a classic protocol for dental implant therapy in the 1980s [5].

A study conducted in Saudi Arabia by Atieh et al., found a high prevalence of tooth loss affecting approximately 40% of the population. [6]. Among the available treatments for tooth loss are dental implants which introduced in 1965 by Brenmark [7].

56% of participants had a limited understanding of tooth replacement techniques in 2020, while 44.4% were familiar with implants, bridges, and dentures. [8]. Furthermore, participants aged 31-50 showed the highest knowledge level (67.2%). Students demonstrated significantly greater knowledge ($p < 0.001$), while university graduates also exhibited higher knowledge ($p < 0.001$) at 45.3% in 2020.[9]. In addition, approximately 25% were familiar with dental implant therapy in 2021. Over half relied on friends and relatives (57%), while 30% consulted practicing dentists just 15% referenced print or web sources [10].

The several studies have been conducted worldwide and in Saudi Arabia in order to assess the knowledge and awareness about teeth replacement by implant and prosthodontics treatment. However, an important objective of this research that made us conduct this research is to study the extent of people's awareness and development in knowledge of replacing missing teeth with implants and prosthesis relative to previous years.

Objectives:

This study aim to assess the level of knowledge and awareness of people in Saudi Arabia regarding dental implant and prosthesis for missing teeth replacement.

Methodology:

Study design and Setting:

This is a cross-sectional study conducted between July 2024 to December 2024 in Saudi Arabia. Based on a structured questionnaire that developed by authors this study evaluates the knowledge and awareness of people aged 18 and above in Saudi Arabia regarding the dental implants and prostheses

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Sample size:
To determine the bare minimum of responders required to constitute a representative sample for the entire population, sample size calculations were made. The Raosoft sample size calculator was applied to calculate the sample size. The sample size that was determined was 384, with an indicator percentage of 0.50, a margin of error of 5%, and a confidence interval (CI) of 95%.

Inclusion and Exclusion criteria:
Inclusion criteria were Saudi population, males and females, aged 18 to 60 years old from all Saudi provinces, general population subjects in the KSA who have or don't have knowledge of replacing missing teeth through implants and prostheses, and who agree to participate in this study. Exclusion criteria for dental practitioners, males and females under 18 years old.

Method for data collection, instrument and score system:
Structured questionnaire was used as a study tool. This tool was used in a relevant study conducted in Saudi Arabia [11]. The final version of the questionnaire consisted of 24 with 3 sections.
Section 1, starts with briefly describing the study and the consent question. Section 2, includes demographic features such as age, gender, residential area, educational qualifications, and income. Section 3, The participants were asked about their knowledge and awareness of different prosthodontic treatments, sources of information, causes of tooth loss, and reasons for tooth replacement. Also, they were questioned about their perception of implants and their lifespan.

Scoring system:
In all, 24 statements served to assess the participants' attitudes and degree of knowledge. 5 statements for demographics, 10 for knowledge, and 9 for awareness. One point is given for correct answers, and zero points are given for incorrect answers or “I don't know”. For scoring, we utilized Likert scales (Dichotomous,
Three-Point, and Quality Scales) The maximum score was 37 and divided as follows: The original Bloom's cut-off points, 80.0%- 100.0%, 60.0%-79%, and 59.0%, The participants divided into three groups based on their scores.
knowledge score varied from 0 to 17 points and was classified into three levels as follows: those with a score of 9 or below (≤ 10) were classified as having a low level of knowledge, those with scores between 11 and 13 as having a moderate level of knowledge, and those with scores 14 or above (≥14) as a high level of knowledge.
Awareness scores varied from 0 to 20 points and were classified into three levels as follows: those with a score of 12 or below (≤ 12) were classified as having a low level of awareness, those with scores between 13 and 15 as having a moderate level of awareness, and those with scores 16 or above (≥16) as having a high level of awareness.

Pilot test:
The questionnaire was presented to twenty individuals, who were asked to complete it. This was done

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to evaluate the feasibility of the study and the questionnaire's usability. The final analysis of the study did not incorporate the findings from the pilot study.

Analyzes and entry method:
The Microsoft Excel (2016) software for Windows was used to gather and input the results of tests of association between the independent variables of gender, age group, level of education, financial income, and the variables assessing awareness and understanding of dental implants. For statistical analysis, data were examined using (SPSS) program, version 20 (IBM SPSS Statistics for Windows, Version 20.0. Armonk, NY: IBM Corp.)

Results:
Table (1) displays various demographic parameters of the participants with a total number of (538). A large group, at 33.1%, is at or above the age of 40, which shows that senior users might influence how different issues are interpreted. More men participated than women (55.8% vs 44.2%), which might reflect different roles between genders in this situation. Among our group, there are about the same number of single people (48%) as married people (48.5%), showing how different relationship types may shape our results. Our study has many advanced participants, as 53.7% have a bachelor's degree or higher, which means they have the knowledge needed to explore social and economic impacts. Among the participants, a total of 58.7% are employees, and their incomes primarily fall within the 1,000 to 10,000 SAR range, giving us an important look at how they manage their economic resources.

Table (1): Sociodemographic characteristics of participants (n=538)

Parameter		***No.***	***Percent (%)***
Age	23 or less	115	21.4
	24 to 26	116	21.6
	27 to 39	129	24.0
	40 or more	178	33.1
Gender	Female	238	44.2
	Male	300	55.8
Residential region	Northern region	14	2.6
	Southern region	64	11.9
	Central region	193	35.9
	Eastern region	62	11.5
	Western region	205	38.1
Marital status	Single	258	48.0

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	Married	261	48.5
	Divorced	16	3.0
	Widowed	3	.6
Educational level	Primary school	5	.9
	Middle school	15	2.8
	High school	101	18.8
	Diploma	98	18.2
	Bachelor's degree	289	53.7
	Postgraduate	30	5.6
Occupational status	Student	73	13.6
	Employee	316	58.7
	Unemployed	122	22.7
	Freelancer	27	5.0
Monthly income in SAR	Less than 1000	92	17.1
	1000 to 5000	126	23.4
	5000 to 10000	123	22.9
	10000 to 15000	107	19.9
	More than 15000	90	16.7

As shown in figure 1, Looking at the prevalence of missing teeth among the whole sample of 538, the provided data provides us with some interesting insight into oral health in the population. Almost half of the participants, about 46% (231 individuals), claimed to have 1–4 missing teeth, representative of a frequently occurring condition among the subjects with the missing den serving as key influencing variables. However, seven percent (37 individuals) state that they have had five to seven missing teeth. Those figures are further depressed, with just one percent each sharing 8 to 10 missing teeth (six people) and more than 10 missing teeth (eleven people). An amazing thing: a single participant reported their edentulism, and the vast majority—roughly 47 per cent, 252 people—didn't lose any teeth.

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Figure (1): Illustrates number of missing teeth among participants.

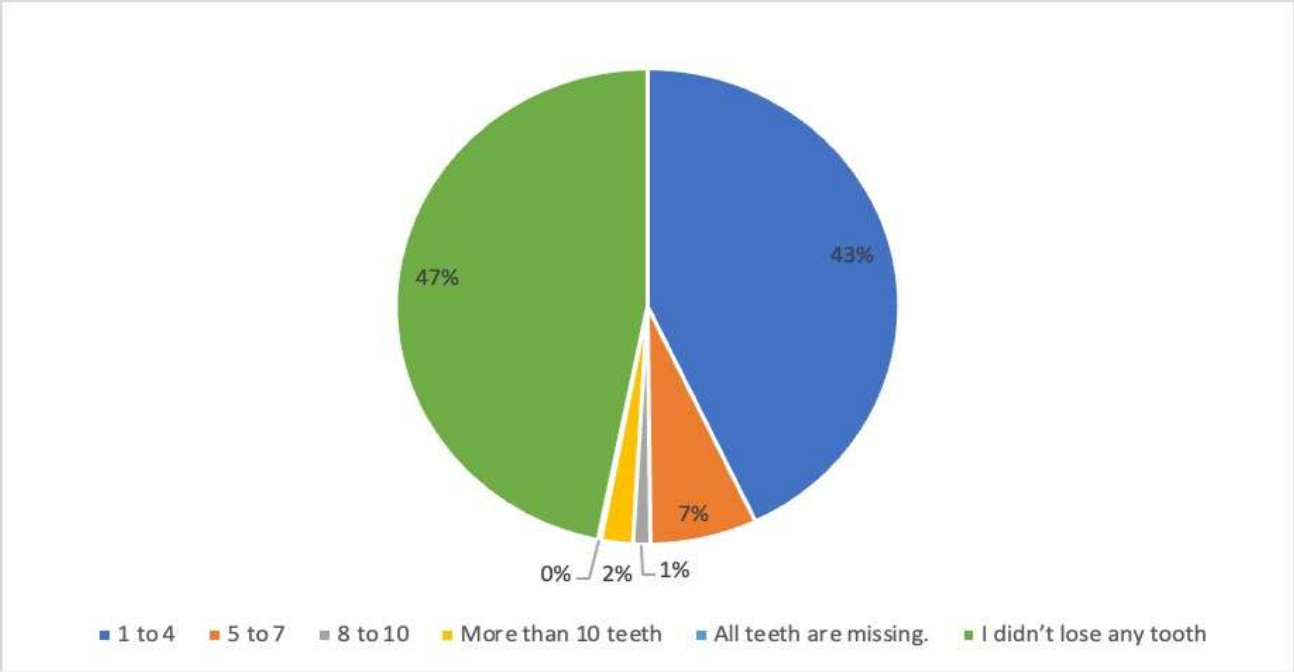

Table 2 reveals valuable information about what people know and think about using dental implants and artificial teeth to replace missing teeth. Out of all respondents, 53.2% said they had lost at least one permanent tooth, and tooth decay caused this tooth loss in 36.2% of cases. Approximately half of the respondents (46.8%) proved their dedication to dental health by saying they haven't lost any teeth yet. When people were asked about their dental treatment knowledge, many showed good understanding: 29.9% rated it excellent, while 18.8% said it was very good. But 17.1% found their knowledge lacking, showing a possible gap in dental education needs. Almost all respondents (93.5%) showed they wanted better public education about dental prosthetics and implants in Saudi Arabia, showing they understand how important this information is.

Table (2): Parameters related to knowledge of dental implant and prostheses for missing teeth replacement (n=538).

Parameter		***No.***	***Percent (%)***
Have you lost one or more permanent teeth before?	No	252	46.8
	Yes	286	53.2
If yes, how many missing teeth do you have?	1 to 4	231	42.9
	5 to 7	37	6.9
	8 to 10	6	1.1

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	More than 10 teeth	11	2.0
	All teeth are missing.	1	.2
	I didn't lose any tooth	252	46.8
If you answered "yes", what is the reason for losing your teeth?	Gum diseases	21	3.9
	Tooth decay	195	36.2
	Trauma	22	4.1
	Chronic diseases (heart diseases, diabetes, etc...)	8	1.5
	Malnutrition	2	.4
	Tooth extraction for orthodontic purposes	38	7.1
	I didn't lose any tooth	252	46.8
How long ago did you lose your teeth?	Less than 1 month	16	3.0
	Less than 6 months	16	3.0
	From 6 months to 1 year	30	5.6
	Fron 1 to 5 years	88	16.4
	More than 5 years	139	25.8
	I didn't lose any tooth	249	46.3
How would you rate your knowledge about the benefits of dental prosthetic treatment and dental implants?	Excellent	161	29.9
	Very good	101	18.8
	Good	130	24.2
	Acceptable	54	10.0
	Weak	92	17.1
What was your source of information about Prosthodontic replacement of missing teeth? (More than 1 choice) *	Social media	187	34.8
	Surf the internet.	137	25.5
	Dentist	243	45.2
	Billboards	34	6.3
	Relatives and friends	169	31.4

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	I do not know of it	92	17.1
What type of teeth you are keen on replacing when a particular tooth is damaged?	Front teeth	114	21.2
	Back teeth	48	8.9
	Both	272	50.6
	I Don't know	104	19.3
Do you have any dentures?	No	475	88.3
	Yes	63	11.7
If yes, which type of dentures do you have?	Removable partial denture	10	1.9
	Fixed partial denture	56	10.4
	Removable complete denture	8	1.5
	Fixed complete denture	8	1.5
	I don't have denture	456	84.8
Do you believe there is a need for a more public awareness campaign regarding dental prosthetic treatment and dental implants in Saudi Arabia?	No	35	6.5
	Yes	503	93.5

***Results may overlap**

As shown in figure (2), A total of 538 respondents comprised the sample of data presented which provides us with an insightful overview of public awareness and perceptions about dental implants. In particular, the number of people considering dental implants primarily as a 'screw' (i.e. 37.5%; 202 individuals) demonstrates a striking awareness of this component's significance in the field of implantology. In addition, 21.5 percent (116 respondents) regarded them as 'screw like metal posts,' suggesting respondents are familiar with the practical aspects of the dental implant, though the names varied. At the other end of the spectrum, 'heard about it' was admitted by 23.8 percent (128 respondents) indicating an awareness of the technology akin to that of a shallow depth about an issue, while 11.3 percent (61 respondents) had never heard of dental implants.

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Figure (2): Illustrates dental implants description among participants.

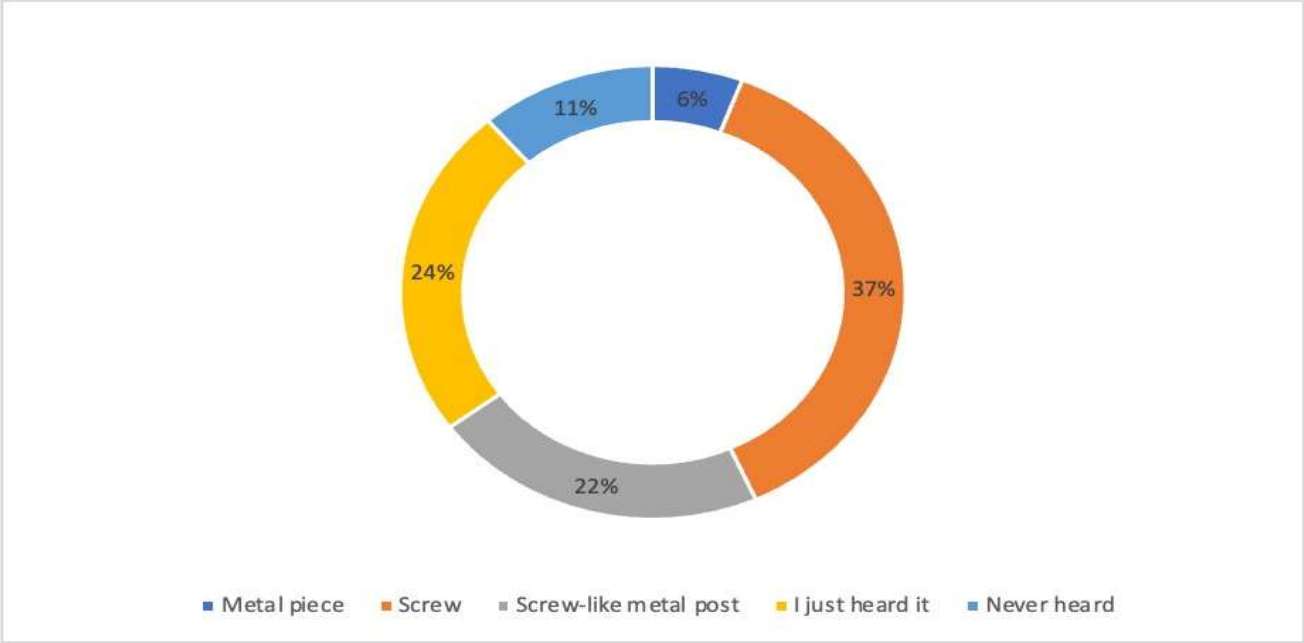

Table 3 shows how 538 participants answered questions about dental implants and prosthetic teeth, showing what they knew and felt about these options for replacing lost teeth. Most people (59.1%) know all the different ways to replace teeth, and dental implants are the most popular option (45.5%), according to them. But alarmingly, about 41% of people don't know what treatment choices they have, showing we need to teach the community better about these options. Two-thirds of respondents (67%) told us their main reason for getting dental work is to improve both how they eat and how they look. The main barrier keeping people from getting prosthodontic solutions was money, indicating a demand for less expensive treatment choices. Over two-fifths (41.8%) of our study's participants were unclear about the lifespan and consequences of dental implants. Most participants didn't fully understand dental implants or replacements, but a big majority said they would suggest these options to others because they're glad they exist.

Table (3): participants' awareness of dental implant and prostheses for missing teeth replacement (n=538).

Parameter		***No.***	***Percent (%)***
Are you aware of various options for prosthodontic replacement?	No	220	40.9
	Yes	318	59.1
	Veneers	229	42.6
	Bridges	189	35.1

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If the answer is yes, what are the dental replacement options that you are aware of, including the following? *	Partial denture	162	30.1
	Complete denture	165	30.7
	Implant	245	45.5
	I have no knowledge of it	198	36.8
Why should a missing tooth be compensated? *	The need to chew	362	67.3
	An aesthetic need	363	67.5
	Speech need	273	50.7
	Maintaining the health of the gums and surrounding tissues	345	64.1
	It is not necessary to replace it	16	2.9
What are the disadvantages of using prosthodontic replacements?	Financial cost	310	57.6
	Difficulty eating and speaking.	19	3.5
	Color differs from the color of the natural tooth.	45	8.4
	Possibility of tooth decay under the crown or denture	32	5.9
	Fear or dread	16	3.0
	Treatment takes a long time	43	8.0
	I don’t know	73	13.6
Is grinding of teeth involved while replacing a tooth?	No	33	6.1
	Yes	308	57.2
	I don’t know	197	36.6
How do you describe dental implants?	Metal piece	31	5.8
	Screw	202	37.5
	Screw-like metal post	116	21.6
	I just heard it	128	23.8
	Never heard	61	11.3

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How long does an Implant last?	Between 5 to 10 years	59	11.0
	More than 10 years	97	18.0
	Lifetime	157	29.2
	Not sure	225	41.8
Are neighboring teeth involved in dental implants?	No	140	26.0
	Yes	162	30.1
	I don't know	236	43.9
Will you suggest these prosthetic replacements to your friends and relatives?	No	69	12.8
	Yes	469	87.2

*Results may overlap

Table 4 revealed that a majority, 57.8%, demonstrated low knowledge levels, while 34.6% presented a moderate knowledge level. Only 7.6% of participants exhibited a high level of understanding regarding dental implants and prostheses.

Table (4): Shows knowledge of dental implant and prostheses for missing teeth replacement score results.

	Frequency	**Percent**
High knowledge level	41	7.6
Moderate knowledge level	186	34.6
Low knowledge level	311	57.8
Total	538	100.0

Table 5 displays the level of awareness in which people are aware of dental implants and prostheses as alternative solutions for missing teeth, which was concerning. Only 18.4% of participants showed high awareness, 19.7% showed moderate awareness regarding dental replacement options. Unsurprisingly, the vast majority—61.9 % of the respondents—took in this major facet of dental health with a very low awareness.

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Table (5): Shows awareness of dental implant and prostheses for missing teeth replacement score results.

	Frequency	**Percent**
High awareness level	99	18.4
Moderate awareness level	106	19.7
Low awareness level	333	61.9
Total	538	100.0

Table (6) shows that knowledge level of dental implant and prostheses has statistically significant relation to age (P value=0.0001), and marital status (P value=0.0001). It also shows that statistically insignificant relation to gender, residential region, educational level, occupational status, and monthly income in SAR. Participants aged 40 years or older and married were found to have higher knowledge level regarding dental implant and prostheses for missing teeth replacement than others.

Table (6): Relation between knowledge level of dental implant and prostheses for missing teeth replacement and sociodemographic characteristics.

Parameters		***Knowledge level***		***Total (N=538)***	***P value****
		High or moderate knowledge level	**Low knowledge level**		
Gender	Female	103	135	238	0.650
		45.4%	43.4%	44.2%	
	Male	124	176	300	
		54.6%	56.6%	55.8%	
Age	23 or less	39	76	115	0.0001
		17.2%	24.4%	21.4%	
	24 to 26	38	78	116	
		16.7%	25.1%	21.6%	
	27 to 39	40	89	129	
		17.6%	28.6%	24.0%	
	40 or more	110	68	178	
		48.5%	21.9%	33.1%	

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Residential region	Northern region	5	9	14	0.060
		2.2%	2.9%	2.6%	
	Southern region	38	26	64	
		16.7%	8.4%	11.9%	
	Central region	79	114	193	
		34.8%	36.7%	35.9%	
	Eastern region	25	37	62	
		11.0%	11.9%	11.5%	
	Western region	80	125	205	
		35.2%	40.2%	38.1%	
Marital status	Single	88	170	258	0.0001
		38.8%	54.7%	48.0%	
	Married	133	128	261	
		58.6%	41.2%	48.5%	
	Divorced	4	12	16	
		1.8%	3.9%	3.0%	
	Widowed	2	1	3	
		0.9%	0.3%	0.6%	
Educational level	Primary school	1	4	5	0.412
		0.4%	1.3%	0.9%	
	Middle school	9	6	15	
		4.0%	1.9%	2.8%	
	High school	42	59	101	
		18.5%	19.0%	18.8%	
	Diploma	47	51	98	
		20.7%	16.4%	18.2%	
	Bachelor’s degree	117	172	289	
		51.5%	55.3%	53.7%	
	Postgraduate degree	11	19	30	
		4.8%	6.1%	5.6%	

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Occupational status	Student	25	48	73	0.133
		11.0%	15.4%	13.6%	
	Employee	131	185	316	
		57.7%	59.5%	58.7%	
	Unemployed	55	67	122	
		24.2%	21.5%	22.7%	
	Freelancer	16	11	27	
		7.0%	3.5%	5.0%	
Monthly income in SAR	Less than 1000	34	58	92	0.634
		15.0%	18.6%	17.1%	
	1000 to 5000	56	70	126	
		24.7%	22.5%	23.4%	
	5000 to 10000	48	75	123	
		21.1%	24.1%	22.9%	
	10000 to 15000	49	58	107	
		21.6%	18.6%	19.9%	
	More than 15000	40	50	90	
		17.6%	16.1%	16.7%	

*P value was considered significant if ≤ 0.05.

Table (7) shows that awareness level of dental implant and prostheses has statistically insignificant relation to gender, age, marital status, residential region, educational level, occupational status, and monthly income in SAR.

Table (7): Awareness level of dental implant and prostheses for missing teeth replacement in association with sociodemographic characteristics.

Parameters		***Awareness level***		***Total (N=538)***	***P value****
		High or moderate awareness level	**Low awareness level**		
Gender	Female	95	143	238	0.441
		46.3%	42.9%	44.2%	

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	Male	110	190	300	
		53.7%	57.1%	55.8%	
Age	23 or less	43	72	115	0.116
		21.0%	21.6%	21.4%	
	24 to 26	53	63	116	
		25.9%	18.9%	21.6%	
	27 to 39	52	77	129	
		25.4%	23.1%	24.0%	
	40 or more	57	121	178	
		27.8%	36.3%	33.1%	
Residential region	Northern region	5	9	14	0.449
		2.4%	2.7%	2.6%	
	Southern region	25	39	64	
		12.2%	11.7%	11.9%	
	Central region	83	110	193	
		40.5%	33.0%	35.9%	
	Eastern region	20	42	62	
		9.8%	12.6%	11.5%	
	Western region	72	133	205	
		35.1%	39.9%	38.1%	
Marital status	Single	112	146	258	0.114
		54.6%	43.8%	48.0%	
	Married	87	174	261	
		42.4%	52.3%	48.5%	
	Divorced	5	11	16	
		2.4%	3.3%	3.0%	
	Widowed	1	2	3	
		0.5%	0.6%	0.6%	
Educational level	Primary school	3	2	5	0.053
		1.5%	0.6%	0.9%	

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	Middle school	8	7	15	
		3.9%	2.1%	2.8%	
	High school	35	66	101	
		17.1%	19.8%	18.8%	
	Diploma	27	71	98	
		13.2%	21.3%	18.2%	
	Bachelor's degree	123	166	289	
		60.0%	49.8%	53.7%	
	Postgraduate degree	9	21	30	
		4.4%	6.3%	5.6%	
Occupational status	Student	35	38	73	0.174
		17.1%	11.4%	13.6%	
	Employee	116	200	316	
		56.6%	60.1%	58.7%	
	Unemployed	47	75	122	
		22.9%	22.5%	22.7%	
	Freelancer	7	20	27	
		3.4%	6.0%	5.0%	
Monthly income in SAR	Less than 1000	35	57	92	0.462
		17.1%	17.1%	17.1%	
	1000 to 5000	51	75	126	
		24.9%	22.5%	23.4%	
	5000 to 10000	52	71	123	
		25.4%	21.3%	22.9%	
	10000 to 15000	33	74	107	
		16.1%	22.2%	19.9%	
	More than 15000	34	56	90	
		16.6%	16.8%	16.7%	

***P value was considered significant if ≤ 0.05.**

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Discussion:

Our research analyzed Saudi citizens' knowledge and awareness about dental implants as replacements for teeth they have lost. Our research has importance because of the sharp increase in missing teeth cases combined with the developing popularity of dental implant treatments. Our research shows how Saudi people understand dental implants compared to earlier studies completed in different settings.

Our research indicated that 53.2% of participants lost one or more permanent teeth because of cavities. Research by Ali et al. in Riyadh Saudi Arabia discovered alike dental caries-related tooth loss rates among participants which our study confirmed. 57.8% of participants showed basic understanding of dental implant and prosthesis facts while our research findings revealed this knowledge gap. According to Maharjan's research 7.6% of patients in their study adopted dental implant knowledge even though they attended a tertiary care center [13]. Our data reveals the necessity to provide better educational programs that help people understand dental health better including tooth replacement methods.

The research found that although 59.1% of participants knew about tooth replacement options only 45.5% identified dental implants as the preferred solution. Research shows that people routinely misunderstand how well they understand tooth replacement options. Efan's research reveals many people mention dental implants but they recognize only basic facts about treatment outcomes [14]. The study reveals how many respondents (41.8%) need proven guidance on how well dental implants work long-term before they can trust this treatment. Kinani and colleagues revealed in their research that those with advanced educational backgrounds know more about dental implants which proves why educational programs should aim dental implant understanding according to [15].

Participants over age 40 had better implant knowledge compared to younger people in our study. Kohli et al.'s research shows that adults aged 45 and older with advanced education gain higher knowledge about dental implants as reported in our study [16]. Our research shows that married people understand dental implants better than others and that knowledge rises with age. Our results confirm Ghanem et al.'s research showing that older participants understand dental implants better because they have more dental health knowledge from their life experiences [17].

Our research showed no direct links between how aware people were about dental implants and their educational level plus other conditionals like gender residence type and yearly income. Study results contrast with the Jeddah results reported by Alghamdi et al. in their study of dental intern and dentist implant knowledge and attitudes [18]. The results show why specific audience groups should receive dental implant education through structured campaigns which begin with younger single adults.

Our research showed that 93.5% of participants wanted better information about dental implants and prostheses. Tripathi et al. agreed with our research by showing that effective education helps patients better understand and deal with dental treatments [19]. Our study findings about money dilemmas blocking access to prosthetics match what Pommer et al. reported about people believing dental implants serve wealthy people [20]. Our society needs educational programs that explain how dental implants benefit people while teaching about implant pricing and availability myths.

Our research contains important limitations that researchers should recognize. The study design as a snapshot of information blocks understanding between knowledge development and individual background. Our study results may contain bias since participants could provide inaccurate data based

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on how they judge their own understanding. Researchers must track patient attitudes and understanding about health issues across different time periods to test medical learning strategies.

Conclusion:
The research shows Saudi Arabia needs better communications about dental implants and prostheses in dental patient education. Our study shows that certain population categories understand dental treatments better than others especially the youth and the unmarried population. Our research results help create specific training efforts to teach the public about dental implant benefits which will result in better oral health treatment for everyone.

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Ethical approval
An informed consent was obtained from each participant after explaining the study in full and clarifying that participation is voluntary. Data collected were securely saved and used for research purposes only.

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Conflict of interests
The authors declare no conflict of interest.

Informed consent:
Written informed consent was acquired from each individual study participant.

Data and materials availability
All data associated with this study are present in the paper.

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