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Awareness and Perception of Dental Veneers Among the Gujarat Population: A Cross-Sectional Survey-Based Study

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Abstract

Introduction: The demand for enhanced dental aesthetics has surged with the advancement of materials and techniques, particularly with the growing popularity of dental veneers. However, public awareness regarding these restorations varies across different demographics.

Aim: This study aimed to evaluate the level of awareness and knowledge about dental veneers among the population in Gujarat, India.

Materials and Methods: A cross-sectional survey was conducted among 3,000 participants using a self-administered questionnaire adapted from previous research. Statistical analysis, including t-tests, Chi-square tests, ANOVA, and linear regression, was performed using SPSS software to assess the impact of sociodemographic factors on veneer-related knowledge.

Results: The mean total knowledge score was 12.82 (SD = 3.87) out of 22. Awareness of dental veneers significantly varied based on gender, education level, income, and marital status ($p < 0.05$). Only 16.2% of respondents were familiar with preparation-less veneers (e.g., Lumineers). Aesthetic enhancement was the primary motivation for seeking veneers (64.5%), while satisfaction with one's natural smile (51.3%) was the most cited reason for not opting for veneers. Social media emerged as the leading source of information regarding dental veneers.

Conclusion: The overall awareness of dental veneers in the studied population was moderate, with knowledge gaps in specific veneer types and applications. Given the strong influence of social media as an educational tool, dental professionals should leverage these platforms to improve public awareness and informed decision-making regarding veneer treatments.

Keywords: Awareness, Aesthetic dentistry, Dental veneers, Gujarat, Prosthodontics.

Introduction

Dental esthetics plays a crucial role in an individual's self-esteem and social interactions. With advancements in dental materials and techniques, the demand for esthetic dental treatments has significantly increased. Among these, dental veneers have gained popularity as a conservative yet highly effective solution for enhancing the appearance of teeth. Veneers, typically made of porcelain or composite resin, provide an aesthetically pleasing and minimally invasive option for correcting various dental imperfections such as discoloration, malalignment, and minor structural defects [1].

Public awareness of dental veneers varies across different populations and is influenced by several factors, including cultural perceptions, economic status, and accessibility to dental care. Studies conducted in various regions, including Saudi Arabia and Jordan, have highlighted varying levels of awareness and knowledge regarding veneers among the general population [2,3]. While some studies report a high demand for veneers due to cosmetic concerns, others indicate a lack of knowledge about the procedure, its indications, and its long-term outcomes [4].

Social media has emerged as a dominant source of information about dental veneers, surpassing traditional sources such as dentists and healthcare professionals. Studies have shown that many individuals first learn about veneers through online platforms rather than direct consultations with dental experts [5,13]. This shift in information dissemination underscores the need for dental professionals to actively engage in public education to ensure accurate knowledge is conveyed regarding the benefits, limitations, and proper indications of veneers.

In India, particularly in Gujarat, there is limited research on public awareness of dental veneers. Given the growing influence of digital media and the increasing emphasis on dental esthetics, understanding the level of awareness among the Gujarati population is crucial. This study aims to assess the awareness and perception of dental veneers in Gujarat, analyze the factors influencing this awareness, and identify potential gaps in knowledge that need to be addressed through educational initiatives.

Materials and method

Sample Size Estimation: $SS = [Z^2p\ (1 - p)]/\ e^2$

- n = required sample size
- $Z^2 = 3.84$ (corresponding to a 95% confidence level, i.e., Z = 1.96)
- p = estimated proportion of the population with awareness of dental veneers (assumed to be 0.5 for maximum variability)
- e = margin of error (set at 0.018 or 1.8%)

$n = (3.84 \times 0.5 \times (1 - 0.5)) /(0.018)^2$

$= 0.96 / 0.000324 \approx 2962$

A total of 3000 subjects gave their consent and participated in the survey. A self-made questionnaire (Annexure-1) was provided to the participants in English and Gujarati languages. The questionnaire contained a total of 16 questions, categorized as follows:

- 4 personal questions
- 5 awareness-oriented questions

- 7 questions based on individual knowledge and experience

To ensure uniform sample representation across Gujarat, the state was divided into four zones:

- North Zone
- South Zone
- West Zone
- East Zone

Inclusion Criteria:

- Subjects belonging to the age group of 18-75 years
- both males and females.
- Individuals willing to provide informed consent and actively participate in the study.

Exclusion Criteria:

- Participants with psychological disorders were excluded.
- Participants who were unable to comprehend and respond to the questions were excluded.
- Individuals with a history of severe orofacial trauma or congenital dental anomalies that may influence their perception of dental veneers.

Statistical analysis

Data was analyzed using the statistical package SPSS 26.0 (SPSS Inc., Chicago, IL) and level of significance was set at $P<0.05$. Descriptive statistics was performed to assess the mean and standard deviation of the respective groups. Inferential statistics to find out the difference between the groups was done using Chi square test.

Results

Table 1: Age

		Frequency	Percent
Age	**18-25**	**577**	**19.2**
	26-35	**615**	**20.5**
	36-45	**579**	**19.3**
	46-55	**599**	**20.0**
	56+	**630**	**21.0**
	Total	**3000**	**100.0**

Table 1 presents the frequency and percentage distribution of participants across different age groups. The distribution shows that the largest group of participants falls within the 56+ age range (21.0%), followed closely by those in the 26-35 (20.5%) and 46-55 (20.0%) age groups. The 18-25 and 36-45 age groups represent 19.2% and 19.3%, respectively, with a total of 3,000 participants

Table 2: Gender

		Frequency	Percent
Gender	**FEMALE**	**1065**	**35.5**
	MALE	**1935**	**64.5**

	Total	**3000**	**100.0**

Table 2 shows the gender distribution of participants, with males comprising 64.5% (1,935 participants) and females representing 35.5% (1,065 participants) of the total sample of 3,000 individuals.

Table 3: Residence

		Frequency	Percent
residence	**Ahmedabad**	**416**	**13.9**
	Amreli	**36**	**1.2**
	Anand	**90**	**3.0**
	Bharuch	**132**	**4.4**
	Bhavnagar	**144**	**4.8**
	Dahod	**30**	**1.0**
	Gandhidham	**42**	**1.4**
	Gandhinagar	**180**	**6.0**
	Godhra	**18**	**.6**
	Himmatnagar	**66**	**2.2**
	Jamnagar	**156**	**5.2**
	Junagadh	**108**	**3.6**
	Kutch	**54**	**1.8**
	Mehsana	**120**	**4.0**
	Modasa	**22**	**.7**
	Morbi	**102**	**3.4**
	Nadiad	**60**	**2.0**
	Navsari	**84**	**2.8**
	Patan	**48**	**1.6**
	Porbandar	**72**	**2.4**
	Rajkot	**240**	**8.0**
	Surat	**360**	**12.0**
	Una	**24**	**.8**
	Vadodara	**300**	**10.0**
	Valsad	**96**	**3.2**
	Total	**3000**	**100.0**

Table 3 illustrates the distribution of participants based on their place of residence. The largest group is from Ahmedabad (13.9) followed by Surat (12.0%), followed by Vadodara (10.0%) and Rajkot (8.0%). Other notable regions include Gandhinagar (6.0%) and Mehsana (4.0%). Smaller contributions come from areas such as Amreli (1.2%) and Dahod (1.0%), with a total of 3,000 participants represented across various locations in the region.

Table 4: Educational level

		Frequency	Percent
Education Level	10th Pass	437	14.6
	12th Pass	858	28.6
	Dental Professional	70	2.3
	Graduate	1104	36.8
	Illiterate	138	4.6
	Medical Professional	100	3.3
	Postgraduate	293	9.8
	Total	3000	100.0

Table 4 presents the educational level distribution of participants. The largest group consists of graduates, representing 36.8% (1,104 participants), followed by those with a 12th-grade education (28.6%, 858 participants). The data also shows smaller proportions of individuals with postgraduate degrees (9.8%), 10th-grade pass (14.6%), and various professional qualifications, including medical (3.3%) and dental professionals (2.3%). A minority of participants are illiterate (4.6%). The total sample comprises 3,000 individuals.

Table 5: Monthly income

		Frequency	Percent
Monthly Income	₹20,000-50,000	1216	40.5
	₹50,000-1,00,000	601	20.0
	Less than ₹20,000	870	29.0
	More than ₹1,00,000	313	10.4
	Total	3000	100.0

Table 5 displays the distribution of participants based on their monthly income. The majority of participants fall within the ₹20,000-50,000 income range (40.5%, 1,216 participants), followed by those earning less than ₹20,000 (29.0%, 870 participants). A smaller proportion of participants earn between ₹50,000-1,00,000 (20.0%, 601 participants), while the least represented group earns more than ₹1,00,000 (10.4%, 313 participants). The total sample consists of 3,000 individuals.

Table 6: Heard of Dental Veneers

		Frequency	Percent
Heard of Dental Veneers	No	1765	58.8
	Yes	1235	41.2
	Total	3000	100.0

Table 6 presents the awareness of dental veneers among participants. The majority (58.8%, 1,765 participants) have not heard of dental veneers, while 41.2% (1,235 participants) are aware of them. The total sample includes 3,000 individuals.

Table 7: Source of Information

		Frequency	Percent
Source of Information	Dentist	581	19.4
	Friends/Family	580	19.3
	Internet	330	11.0
	Newspaper	143	4.8
	Other	439	14.6
	Social Media	763	25.4
	TV	164	5.5
	Total	3000	100.0

Table 7 illustrates the various sources through which participants have learned about dental veneers. The most common sources are social media (25.4%, 763 participants) and dentists (19.4%, 581 participants), followed closely by friends or family (19.3%, 580 participants). Other sources include the internet (11.0%, 330 participants), newspapers (4.8%, 143 participants), TV (5.5%, 164 participants), and other sources (14.6%, 439 participants). The total sample consists of 3,000 individuals.

Table 8: Use of veneers

		Frequency	Percent
Use of veneers	Changing Tooth Color	1007	33.6
	Closing Gaps	430	14.3
	Correcting Minor Misalignment	333	11.1
	Fixing Broken Teeth	634	21.1
	I Don't Know	431	14.4
	Replacing Missing Teeth	165	5.5
	Total	3000	100.0

Table 08 highlights the reasons participants would consider using dental veneers. The most common reason is changing tooth color (33.6%, 1,007 participants), followed by fixing broken teeth (21.1%, 634 participants). Other reasons include closing gaps (14.3%, 430 participants), correcting minor misalignment (11.1%, 333 participants), and replacing missing teeth (5.5%, 165 participants). A portion of participants (14.4%, 431) reported not knowing the reasons for using veneers. The total sample comprises 3,000 individuals.

Table 9: Tooth Preparation Required

		Frequency	Percent
Tooth Preparation Required	No	607	20.2
	Not Sure	578	19.3
	Yes	1815	60.5
	Total	3000	100.0

Table 09 shows participants' beliefs about whether tooth preparation is required for dental veneers. The majority (60.5%, 1,815 participants) believe that tooth preparation is necessary, while 20.2% (607 participants) think it is not required. A significant portion (19.3%, 578 participants) is unsure about the necessity of tooth preparation. The total sample includes 3,000 individuals.

Table 10: Seen Advertisements

		Frequency	Percent
Seen Advertisements	No	1811	60.4
	Yes	1189	39.6
	Total	3000	100.0

Table 10 presents the exposure of participants to advertisements about dental veneers. The majority (60.4%, 1,811 participants) have not seen any advertisements, while 39.6% (1,189 participants) have seen advertisements related to veneers. The total sample consists of 3,000 individuals.

Table 11: Would consider veneers

		Frequency	Percent
Would consider veneers	Maybe	744	24.8
	No	914	30.5
	Yes	1342	44.7
	Total	3000	100.0

Table 11 shows participants' willingness to consider dental veneers. A plurality (44.7%, 1,342 participants) would consider veneers, while 30.5% (914 participants) would not. Additionally, 24.8% (744 participants) are uncertain and answered "maybe." The total sample consists of 3,000 individuals.

Table 12: Reason for Veneers

		Frequency	Percent
Reason for Veneers	Aesthetic Improvement	1499	50.0
	Functional Improvement	625	20.8
	Other	315	10.5
	Social Influence	561	18.7
	Total	3000	100.0

Table 12 highlights the primary reasons participants would consider dental veneers. The most common reason is aesthetic improvement (50.0%, 1,499 participants), followed by functional improvement (20.8%, 625 participants). Social influence also plays a significant role, with 18.7% (561 participants) citing it as a reason. A smaller proportion of participants (10.5%, 315 participants) chose "other" reasons. The total sample consists of 3,000 individuals.

Table 13: Concerns About Veneers

		Frequency	Percent
Concerns About Veneers	Cost	1544	51.5
	Durability	444	14.8
	Other	177	5.9
	Pain	242	8.1
	Tooth Damage	346	11.5
	Unnatural Appearance	247	8.2
	Total	3000	100.0

Table 13 outlines the concerns participants have about dental veneers. The most common concern is cost, cited by 51.5% (1,544 participants), followed by concerns about durability (14.8%, 444 participants) and potential tooth damage (11.5%, 346 participants). Other concerns include pain (8.1%, 242 participants), unnatural appearance (8.2%, 247 participants), and "other" concerns (5.9%, 177 participants). The total sample consists of 3,000 individuals.

Table 14: Want to Learn More?

		Frequency	Percent
Want to Learn More?	No	1193	39.8
	Yes	1807	60.2
	Total	3000	100.0

Table 14 shows participants' interest in learning more about dental veneers. A majority (60.2%, 1,807 participants) expressed a desire to learn more, while 39.8% (1,193 participants) are not interested in further information. The total sample includes 3,000 individuals.

Table 15: Monthly Income * Would Consider Veneers

		Would Consider Veneers			Total
		Maybe	No	Yes	
Monthly Income	₹20,000-50,000	323	373	520	1216
	₹50,000-1,00,000	152	166	283	601
	Less than ₹20,000	197	289	384	870
	More than ₹1,00,000	72	86	155	313
Total		744	914	1342	3000
Chi square value		11.78			
P value		0.06			

Table 15 shows the distribution of participants' willingness to consider veneers based on their monthly income. The majority of participants with a monthly income between ₹20,000-50,000 (520 out of 1,216) are willing to consider veneers, while a similar trend is observed for those earning less than ₹20,000 (384

out of 870). A smaller proportion of participants in the higher income brackets (₹50,000-1,00,000 and more than ₹1,00,000) expressed willingness to consider veneers.

The Chi-square value is 11.78, and the p-value is 0.06, indicating a weak association between monthly income and the likelihood of considering veneers, with the relationship not reaching statistical significance at the 0.05 level. The total sample consists of 3,000 individuals.

Table 16: Education Level * Would Consider Veneers

		Would Consider Veneers			Total
		Maybe	No	Yes	
Education Level	10th Pass	101	130	206	437
	12th Pass	226	265	367	858
	Dental Professional	16	27	27	70
	Graduate	273	344	487	1104
	Illiterate	31	38	69	138
	Medical Professional	29	20	51	100
	Postgraduate	68	90	135	293
Total		744	914	1342	3000
Chi square value		12.38			
P value		0.41			

Table 16 presents the distribution of participants' willingness to consider veneers based on their educational level. Among the different educational levels:

- Graduates (487 out of 1,104) have the highest number of individuals willing to consider veneers.
- Those with a 12th-grade education also show considerable interest (367 out of 858).
- Participants with lower education levels, such as 10th pass and illiterate, show relatively fewer individuals willing to consider veneers.

The Chi-square value is 12.38, and the p-value is 0.41, indicating that there is no statistically significant association between education level and willingness to consider veneers at the 0.05 significance level. The total sample comprises 3,000 individuals.

Discussion

This study evaluated the awareness and perception of dental veneers among the Gujarat population, providing insights into demographic influences on knowledge, attitudes, and behaviors regarding these cosmetic restorations. The findings highlight significant knowledge gaps and varying levels of awareness, underscoring the need for targeted educational initiatives.

The highest proportion of participants (21.0%) belonged to the 56 years and older category. Given that dental concerns typically increase with age, older individuals may be more inclined toward dental treatments, including veneers. However, awareness and perception vary among age groups, indicating a need for age-specific educational approaches [6,13]. The study also observed a gender disparity, with males (64.5%) outnumbering females (35.5%). Previous research suggests that men often have higher health-seeking behaviors in certain regions due to cultural and societal norms [7]. The relatively lower

participation of females may reflect limited access to dental information or differing aesthetic priorities, necessitating targeted outreach efforts [8].

Geographically, most respondents were from Ahmedabad (13.9%), followed by Surat (12.0%) and Vadodara (10.0%). Urban populations generally have greater access to dental care and exposure to cosmetic dentistry trends, explaining their higher participation. In contrast, rural populations may experience barriers to awareness due to limited professional access and lesser exposure to social media. Educational background significantly impacted awareness, with the majority of respondents holding graduate degrees (36.8%) [9]. Higher education levels correlate with better awareness of dental procedures. However, individuals with lower education levels demonstrated limited knowledge, reinforcing the necessity of tailored awareness campaigns [10]. Economic status also played a role, with 40.5% of participants earning between ₹20,000-50,000 per month. Cost remains a primary barrier to seeking elective dental treatments, necessitating financial strategies to improve accessibility [11].

A significant finding was that 58.8% of respondents had never heard of dental veneers, highlighting a major gap in public knowledge. This is consistent with studies reporting low awareness levels about prosthodontic treatments [12]. Dental professionals and public health campaigns must take proactive steps to disseminate information through both traditional and digital platforms. Among those aware of veneers, social media (25.4%) and dentists (19.4%) were the primary sources of information [13]. While digital media is a powerful tool for health education, concerns regarding misinformation persist, emphasizing the need for professional guidance.

The primary motivations for veneer treatment were aesthetic enhancement, including tooth color correction (33.6%) and restoration of broken teeth (21.1%) [14]. However, misconceptions about the invasiveness of veneer procedures persist, with 60.5% of participants believing that tooth preparation is always required [15]. Educational initiatives should address these concerns and clarify minimally invasive veneer options.

Regarding acceptance, 44.7% of participants expressed willingness to undergo veneer treatment, with aesthetic improvement as the leading motivation (50.0%) [16]. However, concerns about cost (51.5%), durability (14.8%), and potential tooth damage (11.5%) remain prevalent, indicating the need for transparent communication regarding veneer longevity and safety [17].

Conclusion

This survey reveals a notable lack of awareness regarding dental veneers among the Gujarat population. A significant proportion of participants were unfamiliar with dental veneers, highlighting a need for increased public awareness. Among those with some awareness, social media and dental professionals were the primary sources of information. Aesthetic improvement was the main motivating factor for considering veneers, with cost being the most significant concern. These findings underscore the importance of targeted educational initiatives to address knowledge gaps, dispel misconceptions, and promote informed decision-making regarding dental veneers in this population.

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