

## ORIGINAL RESEARCH



## Arab Societal Awareness of Dental Veneers

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### ABSTRACT

**Aim:** The aim of this study is to assess the Arab society's knowledge, awareness, and attitudes toward dental veneers.

**Materials and methods:** A cross-sectional study was performed by collecting data through an online questionnaire created using the Survey Monkey website and distributed among Middle Eastern societies through social media to ascertain participants' knowledge and awareness regarding dental veneers. The sample included Arab laypeople who were over 18 years old, to represent the awareness of the majority regarding dental veneers.

**Results:** The sample of this study included 1,332 subjects from different Middle Eastern nationalities, mainly Saudis, Kuwaitis, and Emiratis (15.6% of males and 84.4% of females). The results of this study showed that the total knowledge of dental veneers is 50.12%. The respondents with the highest level of knowledge acquired their information mainly from newspapers and magazines, followed by the Internet, then dentists, then social media, and, finally, friends and relatives.

Cost was the only factor limiting 38.4% of subjects from receiving veneers, and 56% of the subjects would receive veneers if they were free of cost. In total, 72.6% of the respondents believed that veneers are currently overused.

**Conclusion:** The knowledge and awareness of dental veneers were below a satisfactory level. Participants who relied on social media as a source of information had lower knowledge levels.

**Clinical significance:** This study emphasized the need for continual societal education regarding dental veneers.

**Keywords:** Arabs, Awareness, Dental veneers, Esthetics, Knowledge, Society.

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### INTRODUCTION

Esthetic dentistry has been lately influenced by the growing accessibility of media and online information and has become highly demanded by patients.<sup>1</sup> The interest in dental ceramics has been increasing due to the recent development of techniques and technologies.<sup>2</sup>

Popular media affect esthetic dentistry by increasing the demand for teeth whitening (77.8%) and veneers (54.8%) due to the influence of television programs.<sup>1</sup> In the United States, the demand for teeth whitening increased 300% among patients aged 20 to 50 years during the period 1995 to 2000.<sup>3</sup>

Ceramic veneers have become one of the most esthetic, predictable, and conservative treatments, as enamel preparation is usually approximately 0.3 to 0.5 mm, which allows for a minimal thickness of porcelain. Ceramic lumineers may be placed without removing the sound tooth structure in certain cases.<sup>4-7</sup>

Veneers are indicated in multiple situations, such as discolored teeth, diastema closure, chipped or cracked teeth, minor misalignments and rotations of the anterior teeth, teeth reshaping, teeth with large cervical lesions or caries in the labial surface, and amelogenesis imperfecta disorder. They provide excellent esthetics, less plaque accumulation, resistance to any permanent stains, and longer clinical longevity compared with resin composites. Furthermore, they have a high level of acceptance by patients and are considered a safe option.<sup>6,8,9</sup>

A possibility of dentinal sensitivity and difficulty of repairing fractured veneers may be a disadvantage for ceramic laminates, and periodontal problems may occur due to overcontouring of the veneers.<sup>6</sup>

Reid et al<sup>10</sup> assessed the gingival health of unprepared teeth after ceramic veneer placement, suggesting that there is no increase in gingivitis risk. The esthetic results

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are variable; some of these restorations appear too bulky and overcontoured.<sup>11</sup>

In the literature, there are no data regarding societal awareness toward dental veneers. Therefore, the aim of this study was to assess Arab societal knowledge and awareness of dental veneers and the viewpoint of the participants regarding the prevalence of dental veneers.

**MATERIALS AND METHODS**

A cross-sectional study was conducted in October 2016 by collecting data through an online questionnaire made using the Survey Monkey website (with an explanatory letter requesting participation and ensuring anonymity) that was distributed among Arab societies through social media to ascertain participants’ knowledge and awareness of dental veneers.

The questionnaire was in Arabic and asked questions in three major areas. The first section gathered demographic data including gender, age, nationality, educational level, and occupation. The second section measured the participants’ general knowledge about dental veneers, such as the indication for veneers and their pros and cons. The third section aimed to determine the participants’ main sources of information regarding attitude toward dental veneers.

The most desired color for the participants was determined by displaying multiple photos of different teeth shades on the same smile adjusted using Adobe Photoshop (CS6 version 13.0, California, USA) to mimic the shades BL1, BL2, BL3, BL4, A1, and A2 (Ivoclar Vivadent shade guide, Schaan, Liechtenstein).

The sample included Arab laypeople, who were over 18 years old, to represent the majority awareness of dental veneers. A pilot study was performed with ten people, and appropriate modifications were made before the implementation of the study.

The Ethical Committee of the College of Dentistry Research Center at King Saud University, Riyadh, approved the study, and the study was conducted in accordance with the principles of the Helsinki Declaration. The questionnaire was distributed together with an explanatory letter requesting participation and ensuring anonymity. The written consent was obtained from all participants involved in the study.

The data were analyzed using Statistical Package for the Social Sciences software (version 21, Chicago, Illinois, USA). Descriptive statistics (mean, standard deviation, frequencies, and percentages) were used to describe the quantitative and categorical study variables. Student’s t-test for independent samples and one-way analysis of variance followed by Tukey’s multiple comparison test were used to compare the mean values of the quantitative variables. Pearson’s Chi-squared test was used to observe

the association between categorical variables. A  $p \leq 0.05$  was used to report the statistical significance of results.

**RESULTS**

In total, 1,332 participants from different Middle Eastern countries answered the questionnaire. Most participant ages were between 18 and 25 years (53.6%), and most participants were females (84.4%). The highest responses were from the Saudi population (81.7%). The questionnaire was completed mainly by participants who had a bachelor’s degree (70.9%); their occupations varied, and most were college students (38.2%). The total knowledge level for all the participants regarding dental veneers was  $50.12 \pm 18.7\%$ . Table 1 shows the comparison mean score % of correct responses for knowledge regarding dental veneers in relation to the characteristics of the participants. The knowledge level was calculated depending on the percentage of correct responses for knowledge regarding dental veneers (Table 2).

**Table 1:** Comparison of mean score (%) of correct responses regarding knowledge of dental veneers in relation to the characteristics of the study subjects

Characteristics	n (Mean score ± SD) %	t-value/ f-value	p-value
<i>Age groups</i>			
18–25	714 (51.3 ± 18.0)	5.93	<0.001
26–35	356 (50.8 ± 19.4)		
36–50	214 (47.1 ± 19.1)		
>50	48 (42.1 ± 18.1)*		
<i>Gender</i>			
Male	208 (44.4 ± 17.6)	-4.843	<0.001
Female	1124 (51.2 ± 18.7)		
<i>Nationality</i>			
Saudi	1088 (50.7 ± 18.6)	2.77	0.041
Emirati	45 (49.0 ± 17.9)		
Kuwaiti	91 (49.5 ± 19.5)		
Other Middle East nationals	108 (45.4 ± 18.5)*		
<i>Education level</i>			
Postgraduate studies	122 (54.4 ± 19.4)	13.05	<0.0001
University bachelor’s degree	945 (50.9 ± 18.5)*		
School level	265 (45.3 ± 18.2)*		
<i>Occupation</i>			
College student	509 (51.4 ± 18.1)	1.32	0.227
Government employees	214 (51.1 ± 19.5)		
Private employees	169 (49 ± 17.9)		
Teachers	76 (47.1 ± 18.6)		
Businessmen/women	23 (51.2 ± 17.4)		
Unemployed	129 (51 ± 18.6)		
Housewife	139 (47.6 ± 20.3)		
Retired	30 (47.4 ± 18.6)		
Other	43 (46.7 ± 19.5)		

\*Statistically significantly lower than other values by Tukey’s multiple comparison test; SD: Standard deviation



**Table 2:** Percentage of correct responses regarding knowledge of dental veneers

<i>Knowledge regarding dental veneers</i>	<i>Correct response</i>	<i>Number of correct responses (%) (n = 1332)</i>
<i>When do you think dental veneers are indicated?</i>		
Badly stained teeth not responding to bleaching	Yes	949 (71.2)
Correction of severely crowded teeth	No	197 (14.8)
Replace missing teeth	No	658 (49.4)
Anterior fractured teeth	Yes	240 (18.0)
Multiple stained anterior restorations	Yes	665 (49.9)
Dental fluorosis (produced by consuming highly fluoridated water)	Yes	439 (33.0)
<i>What are the benefits of veneers that you know?</i>		
Change tooth color	Yes	998 (74.9)
Resist coffee/tea/smoking stains	Yes	446 (33.5)
Do not require teethbrushing and flossing	No	39 (2.9)
Change the tooth shape	Yes	707 (53.1)
Prevent tooth decay/caries	No	83 (6.2)
Closure of slight spaces between teeth	Yes	593 (44.5)
Correction of maligned teeth that require orthodontic treatment	No	263 (19.7)
<i>What are the disadvantages of veneers?</i>		
Require removal of the tooth structure	Yes	819 (61.5)
May present an unpleasant odor (overcontoured)	Yes	536 (40.2)
May negatively affect the gums (overcontoured)	Yes	618 (46.4)
May fracture due to the specific way of eating	Yes	681 (51.1)
Require extensive care and hygiene	Yes	693 (52.0)
Change the voice	No	56 (4.2)
Do you think if you decide to remove your veneers, you can have your original teeth as they were before?	No	130 (9.8)
I do not know	Yes	743 (55.8)
	No	459 (34.5)

The cost of the treatment was not the only barrier to having veneers for almost half of the participants (50.8%), while it was the only barrier for 38.4% of the participants. However, more than half of the participants (56%) would have liked to have veneers if there was no cost, while 44% would not, for various reasons. Their chosen justifications were that "I am satisfied with my smile" (29.1%), followed by "fake smile look" (23.1%), then "causes lip protrusion" (7.4%), then "needs multiple appointments" (5.4%), and finally, other reasons (7.9%).

Participants wanted veneers for different reasons. The major reason was "to have a beautiful smile" (66.5%), followed by "to have a celebrity's smile" (6.7%), then "to be updated" (1.6%), and a minority, "to show people that I have money" (0.6%). In total, 35.7% were satisfied with their smiles.

The most preferred shade for all the participants was BL2 (41.1%), then BL1 (30%), followed by BL3 (20.6%), and finally, BL4 (8.5%); by contrast, hand shades A1 and A2 were not preferred by any participant.

A total of 132 participants had veneers; 50.8% of them did not advise others to receive veneers, while 49.2% advised others to do so. In total, 72.6% of the participants believed that veneers are currently overused, while 27.4% did not.

The main source of information regarding dental veneers for the participants was social media networks (55.4%), followed by friends and relatives (47.2%), then internet websites (41.4%), after that their dentists (18.5%), and, finally, newspaper and magazines (6.3%) with a knowledge level of 57.6% from newspapers and magazines, 55.7% from internet websites, 55.5% from their dentists, 52.9% from social media, and 52.6% from their friends and relatives. Most of the participants (77.2%) could not differentiate between veneers and lumineers; however, 16.2% of the participants believed that veneers require removal of the tooth structure, while only 6.2% thought the opposite for lumineers.

## DISCUSSION

Currently, most people seek an esthetic appearance and are more prone to receive veneers. Consequently, ascertaining the knowledge level and attitude regarding dental veneers in Arab society is considered important to dental practice. The results of evaluating the level of knowledge will help in either assessing or emphasizing on the need to raise awareness.

The participants' general knowledge regarding dental veneers was considered unsatisfactory. This agrees with a study conducted by Farsi et al<sup>12</sup> in Kingdom of

Saudi Arabia, which revealed that oral health knowledge, attitudes, and behaviors need improvement.

The present study involved participants from different Arab countries, and thus, their nationalities varied. The majority were Saudi, Kuwaiti, and Emirati. The minority were Qatari, Bahraini, Sudanese, Jordanian, Yemeni, and Egyptian.

The levels of knowledge varied corresponding to the different age groups. This agrees with the findings of Al-Sadhan,<sup>13</sup> who reported that dental health knowledge varies among different age groups. This might be explained by the differences in interest between age groups. Participants who were older than 50 years had a significantly lower level of knowledge compared with other age groups. This is in agreement with Mariño et al;<sup>14</sup> these researchers evaluated the knowledge and attitudes regarding the oral health of older adults ranging from 55 to 96 years of age and found that the oral health knowledge score was low (24.7).

There was a direct relationship between knowledge level and interest, as the majority of correct responses were from females. This might be clarified by other study results obtained by Vallittu et al,<sup>15</sup> who evaluated the attitude of various groups of patients toward the appearance of their teeth; women were found to be more interested in their dental appearance than men. Furthermore, another study found that gender has an influence on the esthetic perception of the smile.

When considering the nationality and occupation of the participants, no significant difference in knowledge level between groups was found. In contrast, when the education levels were compared among the correct responders, the lowest knowledge scores were found for intermediate and primary school degrees. This emphasizes the findings of Koivusilta et al,<sup>16</sup> these researchers showed that the level of oral health care was directly related to the level of education, with less-educated participants having a low awareness of dental health. Furthermore, a study of students and their parents found a higher frequency of dental health care in the students with highly educated parents.<sup>17</sup>

Regarding the preferred shade color among age groups, there was an indirect relationship between increasing age and preference for a white shade. This agrees with the findings of Vallittu et al,<sup>15</sup> these researchers found that older participants are less interested in tooth appearance. Furthermore, compared with younger age groups, the preference for the white teeth decreases with increasing age. However, another cross-sectional study by Tin-Oo et al<sup>18</sup> found no relationship between age and dissatisfaction.

The main source of information regarding dental veneers was social media networks. This finding agrees

with another study revealing that media were the main source of information about dental information. Another study of a Dutch population found that the internet was their main source of health-related information.<sup>19,20</sup>

When comparing the source of information with the level of knowledge, which was mainly gained from newspapers and magazines, it appeared that the information in newspapers and magazines is usually correct and clear for the audience because it is often written by authorized people. However, the findings showed that participants who depended on social media as an information source had a low level of knowledge; this information may be written by unknown and unprofessional writers. Social media, however, could be used as a fast approach to raise the knowledge and awareness of this population.

Psychological reasons were considered strong; one of the most prevalent reasons to receive veneers was dissatisfaction. Most respondents were not satisfied with their smiles. This is in accordance with the findings of Tin-Oo et al,<sup>18</sup> who found dissatisfaction regarding the dental appearance in more than half of the patients. Furthermore, a study of a Turkish population concluded that many of them desired improved dental esthetics and were dissatisfied.<sup>21</sup> By contrast, Lajnert et al<sup>22</sup> found that nearly half of their participants showed complete satisfaction with their tooth color and appearance.

Reasons that encourage participants to have dental veneers are multiple. The main reason for all age groups was "to have a beautiful smile," and the second reason was "to have a celebrity's smile" for all age groups, except for the age group over 50 years. This might be explained by media exposure, which influences people to undergo cosmetic procedures, as a relationship between cosmetic procedures and media has been found.<sup>23</sup>

The preferred shade by participants was BL2 followed by BL1, which are considered very light shades. A study by Samorodnitzky-Naveh et al<sup>24</sup> found that participants have a tendency to overestimate the darkness of their tooth shade compared with their actual shade. This might explain their preference to choose very light shades, which are available.

## CONCLUSION

Based on the results obtained, the following can be concluded:

- The knowledge and awareness of dental veneers were below a satisfactory level;
- The majority of participants were dissatisfied with the appearance of their teeth;
- Social media were the main source of information; however, participants who relied on this source had lower knowledge levels.

## CLINICAL SIGNIFICANCE

This study emphasizes on the need for continual societal education regarding dental veneers because the knowledge level regarding dental veneers is considered inadequate.

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