DOI: https://doi.org/10.53350/pjmhs2115103117

ORIGINAL ARTICLE

The Preferences of the Ideal Veneer Smile Design of a Saudi Sample in Riyadh

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ABSTRACT

Esthetic is considered a prime concern for both the practitioners and patients in the area of dentistry. Dentists should thoroughly understand the factors like beauty, harmony, balance, and proportion as are they perceived by the societies while planning treatment. Aim: The aim of the study is to evaluate how different gender, age groups, marital status, educational level, and previous cosmetic dental experience of the Saudi dental professionals and the laypersons will influence the selection of an ideal veneer smile design with various shapes of anterior maxillary teeth to their esthetic preferences. Methods: The present survey-based study included 282 dental professionals and lay persons as the sample. The patient and the treating doctor were administered the questionnaire and were further asked to rank the images in terms of score and order of preference. They were asked to put a checkmark on the five cells visual analogue scale (VAS) next to each image to define attractiveness, considering that, on the VAS, one indicated the least attractive and 5 showed the most attractive veneer smile design. Results: Out of 282 participants 106 were male and were 176 female participants. The participant ages were between 16 and 53 years. To find the association between categorical variables, the Mann-Whitney U test was used (with statistical significance set at 0.05). When the responses were compared between the dentist and non-dentist, there was only a statistically significant difference (0.013) for picture 11 among all the 12 pictures responses. Conclusion: The Dental professionals and laypersons showed more similarities than differences when esthetic dental values were considered. Dental professionals were more critical than laypersons.

Keywords: Veneer, Dentists, Smile

INTRODUCTION

Esthetic is considered a prime concern for both the practitioners and patients in the area of dentistry.[1] The demand for dental treatment remains more toward elective cosmetics rather than restorations.[2] Although dental professionals are subjected to the same environmental trends and media perspectives, educational experiences might bias the clinicians' esthetic preferences, far away from those of the public [3,4]. Dentists should thoroughly understand the factors like beauty, harmony, balance, and proportion as are they perceived by the societies while planning treatment.[5] The significance of beauty and dental appearance has dramatically influenced other peoples' judgment of any individual's facial attractiveness and the personal characteristics of a person.[6] Physical beauty is thus considered a critical social issue in our culture, and the face is one of its key features. Several authors have reported a hierarchy in the characteristics that determine the aesthetic perception of an individual, with the face being the most important factor amongst all.[5-7] Within the front, the mouth (31%) and eyes (34%) also have their specific importance.[4] Physically attractive people are perceived as kindest, sensitive, engaging, intense, poised, modest, sociable, outgoing, exciting, and responsive.[8] Aesthetic perception, therefore, varies from one person to the other, and it is influenced by their personal experiences besides social environment factors. Due to this reason, professional opinions regarding the evaluation of facial aesthetics might not coincide with the perceptions and expectations of the patients or laypeople[9] A pleasant smile is an advantage on multiple grounds for job interviews, social interactions, and even while selecting a spouse. It is also believed that attractive individuals are more likely to get selected in the job interviews, enjoy a more successful married life. Therefore, they experience comparatively happier and more fulfilling lives. Such societal biases begin early in life and impact an individual's future for a lifetime.[10]

The current study is designed for seeking the importance of the dental esthetic and its contributions to the overall facial attractiveness, rapidly growing number of patients to achieve the esthetic transformations in dental treatment, and due to limited research work on evaluating the preferences of the ideal veneer smile design in Saudi Arabia.

The Aims of the Study:

1. To evaluate how different gender, age groups, marital status, educational level, and previous cosmetic dental experience of the Saudi dental professionals and the laypersons will influence the selection of an ideal veneer

smile design with various shapes of anterior maxillary teeth to their esthetic preferences.
2. To evaluate the differences in the esthetic preferences of the dental professionals and the laypersons.

MATERIALS AND METHODS

The present survey-based study. included 282 dental professionals and lay persons as the sample. This study got the permission of the Commission of Ethical Practices of Riyadh Colleges of Dentistry and Pharmacy. A pilot study was conducted to check the validity and comprehensibility of one questionnaire, which included all the questions and circulated to 60 participants, and its results yielded an acceptable form with minor changes based on the response. Considering the expected proportion of 65.7% from the pilot study, with the relative precision of 5% and desired confidence level of 95%, the calculated sample size came up to 280.

Patient Selection: Control Group: The control group comprised 20 individuals with their anterior teeth free of dental caries, orthodontic defects or developmental /acquired enamel or dentin defects. No dental treatment was performed earlier on the anterior teeth of the patients.

Caries Group: Comprised of 20 individuals with dental caries on two or more anterior teeth and were annoyed with their teeth' appearance.

Orthodontic Group: The orthodontic group comprised of 20 individuals whose chief complaint is an Orthodontic defect in their anterior teeth.

Dental Professionals: Each patient was paired with his or her treating dentist.

Administration of the Questionnaire: The patient and the treating doctor were administered the questionnaire and were further asked to rank the images in terms of score and order of preference.

The images obtained from the Las Vegas Institute for Advanced Dental Studies[11] showed 12 unique veneer smile designs (figure 1) for the six maxillary anterior teeth performed on one person by using the try-in paste. The photos were cropped to reduce the number of confusing variables. All the other esthetic parameters were standardized except for one variable, which is the shape of the incisal line angles. Such veneer designs included three forms based on the incisal line angles of the central and lateral incisors: square, square-round, and round. Three canine incisal line angle shapes were compared: pointed, round, and flat. The judges were informed that the only variable is the shape of the veneers. They were asked to put a checkmark on the five cells visual analogue scale (VAS) next to each image to define attractiveness, considering that, on the VAS, one indicated the least attractive and 5 showed the most attractive veneer smile design.

Statistical Analysis: All statistical analysis was performed using SPSS version 21. To find the association between categorical variables, the Mann-Whitney U test was used (with statistical significance set at 0.05).

RESULTS

A total of 282 participants were enrolled in the study, out of which 106 were male and were 176 female participants. The participant ages were between 16 and 53 years. The demographic data has been depicted in Figure 2. Table 1 illustrates the descriptive statistics of the study participants involving their education level, whether they have gone for esthetic Treatment as well as their preferences of the aesthetic smile (Table 1). Table 2 illustrates the statistical analysis of comparison between the dentists and non-dentists on the picture scale, results of which have been provided in Table 2. When the responses were compared between the dentist and non-dentist, there was only a statistically significant difference (0.013) for picture 11 among all the 12 pictures responses.

Table 1: Descriptive Statistics of the Study Participants

		Gender		
		Male	Female	Total
		Count	Count	Count
Education	Did not Graduate High School	4	6	10
	High School	12	20	32
	College- Bachelor Degree	8	72	80
	Dentist	82	78	160
Undergone Esthetic Treatment	No Esthetic Treatment	32	70	102
	Anterior crowns/veneers	32	36	68
	Composite Restoration	26	34	60
	Orthodontic Treatment	16	36	52
Do you think that the changes of the teeth shapes will affect the preferences of the aesthetic smile?	Yes	94	158	252
	No	12	18	30

Table 2: Comparison between the Dentists and the non-dentists on the Pictures Scale

	Group	N	Mean Rank	Mann-Whitney U	Sig
PIC1	Non Dentist	122	72.97	2082.000	0.604
	Dentist	160	69.50		
PIC2	Non Dentist	122	66.18	2277.500	0.198
	Dentist	160	74.68		
PIC3	Non Dentist	122	66.71	2082.000	0.253
	Dentist	160	74.27		
PIC4	Non Dentist	122	69.76	2277.500	0.745
	Dentist	160	71.94		

PIC6	Non Dentist	122	70.42	2404.500	0.878
	Dentist	160	71.44		
PIC7	Non Dentist	122	76.87	2082.000	0.122
	Dentist	160	66.53		
PIC8	Non Dentist	122	68.34	2277.500	0.479
	Dentist	160	73.03		
PIC9	Non Dentist	122	70.61	2416.500	0.919
	Dentist	160	71.29		
PIC10	Non Dentist	122	65.75	2119.500	0.164
	Dentist	160	75.01		
PIC11	Non Dentist	122	80.52	1859.000	0.013
	Dentist	160	63.74		
PIC12	Non Dentist	122	65.62	2112.000	0.162
	Dentist	160	75.10		

Table 3: Las Vegas Institute for Advanced Dental Studies 12 unique veneer smile designs[11]

Photo No.	Veneer Design	Shape of Centrals	Shapes of Laterals	Shapes of Canines
No.1	Aggressive Style	Squared	Squared	Flat
No.2	Dominant Style	Squared	Short square round	Pointed
No.3	Enhanced Style	Square round	Short square round	Round
No.4	Focused Style	Squared	Short square round	Round
No.5	Functional Style	Square round	Square round	Pointed
No.6	Hollywood Style	Square round	Square round	Flat
No.7	Mature Style	Squared	Squared	Round
No.8	Natural Style	Square-round	Short square round	Pointed
No.9	Oval Style	Round	Short round	Round
No.10	Softened Style	Square round	Square round	Round
No.11	Vigorous Style	Squared	Squared	Pointed
No.12	Youthful Style	Round	Short round	Pointed

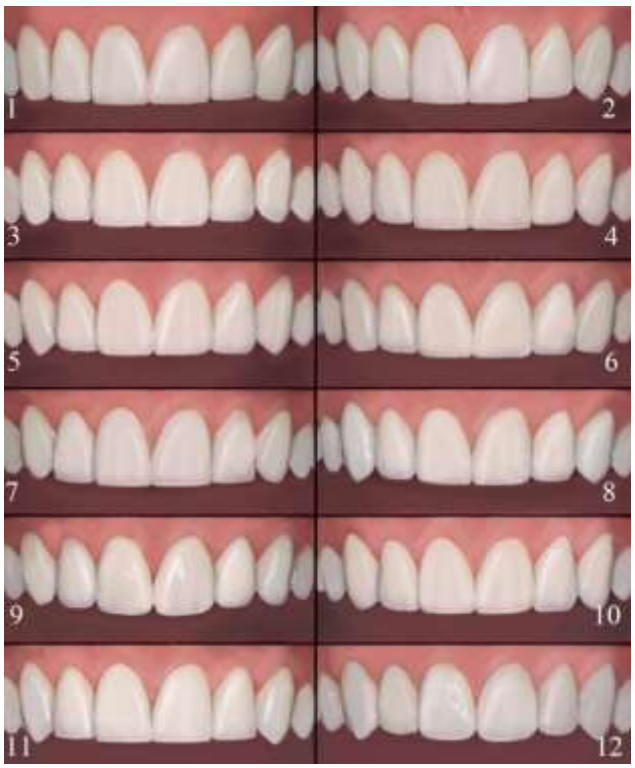

Figure 1: Las Vegas Institute for Advanced Dental Studies 12 unique veneer smile designs[11]

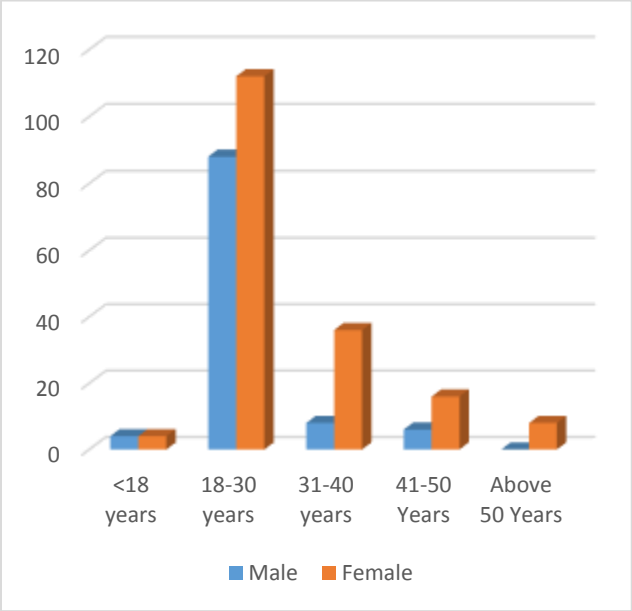

Figure 2: Demographic data

DISCUSSION

This research primarily aimed to evaluate the perception of an ideal veneer using the Las Vegas Institute veneer selection scale[11] and compare this perception among both dentists and non-dentists.

Young adults within the age group of 15 to 35 years are most likely to seek esthetic dental treatment. It was for

this reason that the study remained focused on this group of individuals. Also, the knowledge levels vary amongst distinct age groups. Frush et al.[12] have stated that famous rest methods to select tooth shapes in the past were based on the stereotypes: women should have round, soft, and delicate teeth (tapering/ovoid); men should have square, angular teeth. Anderson et al.[13] evaluated the contributions of tooth shape to the esthetic smile. They found that restorative dentists preferred round incisors for the female images. Orthodontists preferred rounded and square-round incisors for female portraits. Lay people did not express a preference for female incisor shape, and all the three groups chose square-round incisors for the male images. Our study is in accordance with the findings of Al-Sadhan et al.,[14] who has reported in their studies that knowledge regarding dental health varies amongst distinct age groups. The differences in interest amongst age groups can explain it. He has shown that people having their age more than 50 years have lower knowledge than others. Similarly, the findings of Marino et al.,[15] are also in accordance with the above fact who further evaluated the knowledge and attitudes of older people regarding oral health is lower as compared to others. Dentists and non-dentists were looking for the same characteristics in a smile in the broad sense. This finding is different from those of studies done in other countries. One explanation for this phenomenon could be the fact that this study used age and gender-matched controls. Alternately, it is in agreement with most of the findings of the studies as explained by [3,10,12,16]. The results of this study seemed to indicate that dentists and non-dentists do not have a fundamental disagreement on the basic principles of the esthetics of veneers.

The only picture that showed a difference in perception between dentists and non-dentists was the aggressive style. This style involved lateral incisors almost touching the central incisors and sharp angles against the ideal tooth shape being taught in the dental school. It, therefore, might be the reason why dentists scored this style significantly lower than non-dentists. Hussain et al.[17] have explained the same fact explaining that dental professionals are well-trained and boast knowledge about the morphology of tooth and therefore, would be able to cast a critical vision while evaluating the dentition. The finding also supports the results of previous studies by performed by kokich et al[18].

It is interesting to observe that over 90% of the respondents in both the dentist and non-dentist groups believed that tooth shape affected the smile. It agrees with the findings of Alfouzan[19] who demonstrated the reasons for having dental veneers amongst different age groups. They have explained that the primary reason is “to have a beautiful smile, indeed”. “To have a celebrity’s smile” has been quoted as a second major reason in their findings. It is also in accordance with the findings of Tin-Oo et al.[20] who found ‘dissatisfaction’ as one of the most prevalent reasons to get veneers. They have explained that many respondents were dissatisfied with their smiles and considered it as a psychological reason. It also supports the findings of Akarslan et al.[21], who performed a study on Turkish people and concluded that most of them were dissatisfied with their smiles and wished for improved dental esthetics. It is significant in the context of the fact that the scale used relies mainly on the alteration of the form. Therefore, it can be assumed within the limitations of this study that unlike factors such as colour, the shape preferences of individuals are somewhat less prone to be influenced by dental training. The shape of the tooth appears to be an automatic preference rather than a factor trained into the dentist's mind.

CONCLUSION

The Dental professionals and laypersons showed more similarities than differences when esthetic dental values were considered. Essential differences between the different four judging groups were identified. A better understating for these differences and similarities would make the dental professionals set an ideal treatment plan for their patients, considering the esthetic preferences as a common preference by both the patients and the dental professionals. Dental professionals were more critical than laypersons. Female judges were more critical than male judges.

Acknowledgement: The authors extend their appreciation to the Deanship of Postgraduate and Scientific Research at Dar Al Uloom University for their support for this work.

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