

The Influence of Age and Gender on the Esthetic Preference for the Shape of Maxillary Anterior Teeth

HANIF ULLAH¹, FARHAN RAEES², MARYAM DIL³, ROZEENA FAROOQ⁴, HANZALA WAQAR⁵, MUHAMMAD HASEEBULLAH KHAN⁶

¹Senior Registrar, Sardar Begum Dental College, Gandhara University, Peshawar

²Senior Lecturer, Bacha Khan college of Dentistry Mardan

^{3,6}Demonstrators, ⁵Lecturer, Khyber Medical University-Institute of Dental Sciences Kohat

⁴Dental Surgeon, RHC Shinkiani, Health Department KPK

Correspondence to Dr. Hanifullah, E-mail: hanfiwzr325@gmail.com, Cell: 0333-7072401,

ABSTRACT

Background: An esthetic smile comes from various smile elements and requires knowing the complexities that control the equilibrium between teeth and soft tissues. In all dentistry areas, especially in prosthodontics and restorative dentistry, restoring a natural dental appearance has gained a lot of importance. This study's results will lead us to the popular esthetic choices for forming anterior maxillary teeth among Khyber Pakhtunkhwa patients

Aim: To determine the esthetic preference for the shape of maxillary anterior teeth.

Study design: Descriptive cross-sectional study.

Place and duration of study: Department of Prosthodontics, Sardar Begum Dental College & Hospital, Peshawar from 17th July 2021 to 17th January 2022.

Methodology: After taking the study's approval from the hospital ethical review committee board, 196 patients reporting to the Prosthodontics Department who fulfilled the inclusion criteria were invited to participate in the study. Patients were shown photograph displaying only maxillary teeth having three primary forms of five distinct incisor varieties, i.e., square (S), oval (O), triangular (T), and the two different maxillary teeth form: tapered-ovoid (TO) and square- tapering (ST).

Results: The frequency of esthetic preference, 55(28.1%) patients had square incisor 'S', 23(11.7%) patients had ovoid incisors 'O', 44(22.4%) had triangular incisors 'T', 34(17.3%) patients had square tapered 'ST' while 40(20.4%) patients had tapered ovoid 'TO' esthetic preference.

Practical Implication: Dentists preferred square-round incisors. In the study, there are some lay people does not discriminate between incisors shape for women. Dentists preferred square-round incisors. In the study, there are some lay people does not discriminate between incisors shape for women.

Conclusion: Female patients of younger age group were affected by their esthetic perception of the shapes of the maxillary anterior teeth as compared to the male patients of the same group and most of the patients had square incisor 'S' as their choice of esthetic preference.

Key words: Esthetic smile, Esthetic preference, Maxillary anterior teeth

INTRODUCTION

An esthetic smile comes from various smile elements and requires knowing the complexities that control the equilibrium between teeth and soft tissues.¹ In all dentistry areas, especially in prosthodontics and restorative dentistry, restoring a natural dental appearance has gained a lot of importance. Therefore, dental practitioners should always be prepared to meet the architectural specifications and rising expectations of their patients.² In human livelihoods, esthetics are important. Facial appearance has a significant impact on personal beauty and personality as it affects wellbeing and reverberates in social, intuitive, and professional relationships.³ Patients in almost every procedure demand Functions, utility and esthetics. Restoring/maintaining position is considered essential in any restorative dentistry treatment, but any treatment's esthetic aspects should never forget the esthetic part.⁴ Many factors influence an attractive smile as tooth color, position, shape, arrangement, and the teeth orientation, especially of the anterior maxillary teeth. The upper anterior teeth form based on three shapes: square, ovoid, and wedge-shaped. This specific arrangement of teeth enabled individuality and variety. The formation and the size of the tooth are genetically pre-determined during the process of embryogenesis.⁵ The concept of beauty is actually in the subject's eye. The patients' background and social atmosphere determine their choice for smile esthetics rather than dentists or orthodontists' views.⁶

The aesthetic assessment is also considerably impacted by education, social status, and cultural differences.¹ Another similar study where tooth form compared to an artistic smile, orthodontists favored round and square-round incisors in women, whereas general dentists favored square- round incisors. Lay people did not

differentiate between incisor forms for women, but in comparison to the orthodontists, they recommended square-round and square-square incisor patterns.³ In another evaluation of dental appearance between dentists, technicians, and patients showed that triangular tooth shape for both gender was the least preferred although the ovoid tooth form for female patients and the rectangular tooth form for the male patients were preferred amongst all the three groups.⁷

The purpose of the study was to determine the esthetic preference for the shape of maxillary anterior teeth among patients reporting to the Prosthodontics Department at Sardar Begum Dental College and Hospital, Peshawar.

MATERIALS AND METHODS

It was a descriptive cross sectional carried out at the department of Prosthodontics, Sardar Begum Dental College and Hospital, Peshawar from 17th July 2021 to 17th January 2022 after approval by the IRB of the institution. The sample size was 196, keeping 50% true population having shape preference of taper ovoid (TO) with 7% margin of error at 95% of confidence level. The relatively higher margin of error is using because of feasibility concerns. The adult male and female patients in the age range of 20-50 years, patients having no history of any visual impairment and patients who were willing and ready to give consent were included in the study while those patients affiliated with dentistry, i.e., dentists and auxiliaries and patients having any mental disability that affects decision making were excluded.

After taking the study's approval from the hospital ethical review committee Board, patients reporting to the Prosthodontics department who fulfilled the inclusion criteria were invited to participate in the study. After explaining the purpose, procedures, risks, and benefits of the study to participants, written informed consent taken in the study. We assured them of maintaining the

Received on 12-01-2023

Accepted on 27-05-2023

confidentiality of the data collected. We showed a photograph displaying only maxillary teeth having three primary forms of five distinct incisor varieties, i.e., square (S), oval (O), triangular (T), and the two different maxillary teeth form: tapered-ovoid (TO) and square-tapering (ST). Using the upper anterior teeth, we reduce the number of ambiguous parameters in the pictures and exclude other facial features, lip, tongue, or mandibular teeth. Participants chose the images (1 for the most appealing and 5 for the least appealing) by looking at them from a conversational distance of 3 feet, utilizing natural daylight in the ward. To determine consistency, the participants repeated the study after 60 minutes as a washout period to preclude recalled effects altering the findings.

The data was entered and analyzed through SPSS-24. Effect modifiers such as age, gender, education and socioeconomic status was controlled through stratification. Post stratification Chi-square test was performed keeping p value ≤ 0.05 as significant.

RESULTS

There were 127(64.8%) patients were between 20-35 years while 69(35.2%) patients between 36-50 years with mean age was 32.55 ± 7.42 years. Eighty (44.9%) were males and 108(55.1%) were female patients. Eighty nine (45.4%) patients had poor; 84(42.9%) patients had middle while 23 (11.7%) patients had high socioeconomic status (Table 1). As per esthetic preference, 55 (28.1%) patients had square incisor 'S', 23(11.7%) patients had ovoid incisors 'O', 44 (22.4%) had triangular incisors 'T', 34(17.3%) patients had square tapered 'ST' while 40(20.4%) patients had tapered ovoid 'TO' esthetic preference (Table 2). Eighteen (9.2%) patients were illiterate, 16(8.2%) patients were primary, 27(13.8%) patients were middle, 34(17.3%) patients were secondary, 32(16.3%) patients were matric, 34(17.3%) patients were bachelors, 34(17.3%) patients were secondary, 32(16.3%) patients were matric, 34(17.3%) patients were

bachelors while 35 (17.9%) patients were having master's qualification (Table 3). Esthetic preference was stratified with age, gender and educational in Tables 4-6.

Table 1: Demographic information (n=196)

Variable	No.	%
Gender		
Male	88	44.9
Female	108	51.1
Age (years)		
20-35	127	64.8
36-50	69	35.2
Socioeconomic status		
Poor	89	45.4
Middle	84	42.9
High	23	11.7

Table 2: Frequency for esthetic preference (n=196)

Esthetic Preference	No.	%
Square Incisors 'S'	55	28.1
Ovoid Incisors 'O'	23	11.7
Triangular Incisors 'T'	44	22.4
Square Tapered 'ST'	34	17.3
Tapered Ovoid 'TO'	40	20.4

Table 3: Frequency of educational status (n=196)

Education status	No.	%
Illiterate	18	9.2
Primary	16	8.2
Middle	27	13.8
Secondary	34	17.3
Matric	32	16.3
Bachelors	34	17.3
Masters	35	17.9

Table 4: Stratification of esthetic preference with age

Esthetic preference	Age (years)		Total	P value
	20-35	36-50		
Square Incisors 'S'	34 (26.8%)	21 (30.4%)	55 (28.1%)	0.585
Ovoid Incisors 'O'	15 (11.8%)	8 (11.6%)	23 (11.7%)	0.010
Triangular Incisors 'T'	30 (23.6%)	14 (20.3%)	44 (22.4%)	0.593
Square Tapered 'ST'	22 (17.3%)	12 (17.4%)	34 (17.3%)	0.990
Tapered Ovoid 'TO'	26 (20.5%)	14 (20.3%)	40 (20.4%)	0.975

Table 5: Stratification of esthetic preference with gender

Esthetic preference	Gender		Total	P value
	Male	Female		
Square Incisors 'S'	29 (33%)	26 (24.1%)	55 (28.1%)	0.168
Ovoid Incisors 'O'	9 (10.2%)	14 (13%)	23 (11.7%)	0.553
Triangular Incisors 'T'	20 (22.7%)	24 (22.2%)	44 (22.4%)	0.932
Square Tapered 'ST'	17 (19.3%)	17 (15.7%)	34 (17.3%)	0.510
Tapered Ovoid 'TO'	13 (14.8%)	27 (25%)	40 (20.4%)	0.077

Table 6: Stratification of esthetic preference with educational status

Esthetic preference	Educational status							Total	P value
	Illiterate	Primary	Middle	Secondary	Matric	Bachelors	Masters		
Square Incisors 'S'	4 (22.2%)	5 (31.3%)	7 (25.9%)	9 (26.5%)	7 (21.9%)	9 (26.5%)	14 (40%)	55 (28.1%)	0.231
Ovoid Incisors 'O'	3 (16.7%)	2 (12.5%)	5 (18.5%)	-	4 (12.5%)	4 (11.8%)	5 (14.3%)	23 (11.7%)	0.532
Triangular Incisors 'T'	4 (22.2%)	3 (18.8%)	7 (25.9%)	7 (20.6%)	8 (25%)	8 (23.5%)	7 (20%)	44 (22.4%)	0.421
Square Tapered 'ST'	4 (22.2%)	3 (18.8%)	3 (11.1%)	7 (20.6%)	7 (21.9%)	6 (17.6%)	4 (11.4%)	34 (17.3%)	0.245
Tapered Ovoid 'TO'	3 (16.7%)	3 (18.8%)	5 (18.5%)	11(32.4%)	6 (18.8%)	7 (20.6%)	5 (14.3%)	40 (20.4%)	0.782

DISCUSSION

An esthetic smile comes from various smile elements and requires knowing the complexities that control the equilibrium between teeth and soft tissues.¹ In all dentistry areas, especially in prosthodontics and restorative dentistry, restoring a natural dental appearance has gained a lot of importance. Therefore, dental practitioners should always be prepared to meet the architectural specifications and rising expectations of their patients.² In human livelihoods, esthetics are important. Facial appearance has a significant impact on personal beauty and personality as it affects wellbeing and reverberates in social, intuitive, and professional relationships.³

Patients in almost every procedure demand functions, utility and esthetics. Restoring/maintaining position is considered essential in any restorative dentistry treatment, but any treatment's esthetic aspects should never forget the esthetic part.⁴ In the current study, mean age was 32.55 ± 7.42 years. Eighty eight (44.9%) were male patients and 108(55.1%) female patients. 127(64.8%) patients between 20-35 years while 69(35.2%) patients between 36-50 years, most of the peoples belonging to lower class 89(45.4%), middle class 84(42.9%) and high 23(11.7%). The results were consistent with Zoric² and Alvarez-Alvarez⁴. The frequency of Square Incisors 'S' were 55(28.1%), while the Ovoid Incisors 'O' were the least preferred one 23 (11.7%) while this was opposite to

a study conducted in Brazil where the most pleasing shape was ovoid⁸. This study showed that illiterate were 18(9.2%), Bachelors 34(17.3%), and those having Masters degree were 35(17.9%) in a similar an orthodontist, general dentist and lay people took part in study⁹.

In the current study, participant who mostly preferred square incisors 'S' 34(26.8%) while ovoid incisors 'O' the least preferred with frequency of 15(11.8%) were in the age group of 20-35 years. While individuals whose age were in between 36-50 years preferred square incisor 'S' 21(30.4%), a similar study conducted by someone where the younger patients had a preference for white teeth over older patients¹⁰ while in a study where the mean age were 16 years and 6 months ovoid (47.06%), square (31.37%) and triangular (21.57%)⁷.

This study also showed that gender preferences assessed 33% people preferred square incisors 'S' where as overall 108 people say there is no gender preferences found. Our study in accordance with another study where it showed that gender had an impact on the assessment of maxillary teeth and restorations, women were less satisfied with it than men¹¹. Many other studies showed the same results¹² some of them showed that women were reported to be more sensitive to the appearance of the teeth than men, and the importance of teeth decreased with ageing.¹³ The esthetic preferences of illiterate and educated people were assessed where the majority people preferred square incisors 'S' (28.1%) followed by triangular incisors (22.4%) while ovoid incisors 'O' were least preferred (11.7%). Most of the participants were holding bachelor and master degree, while in a study where patients with a low level of education favoured white teeth more than patients with a high level of education¹⁴. In a previous similar studies^{11,15}, orthodontists preferred round and square-round incisors in women, while general dentists preferred square-round incisors. Medical resources, diagnosis and treatment must improve in developing countries. There are limited resources: access to medical and health resources; knowledge about disease; awareness, trainings, and awareness about health. The health literacy is mandatory for any disease and facilitates the patients with resources, databases, and trainings about disease¹⁵⁻²².

Dentists preferred square-round incisors. In the study, there are some lay people does not discriminate between incisors shape for women. For men, unlike orthodontists they preferred square-round and square incisor shapes.

CONCLUSION

Female patients of younger age group were affected by the esthetic perception of shapes of the maxillary anterior teeth as compared to the male patients of the same group and most of the patients had square incisor 'S' as their choice of esthetic preference.

Conflict of interest: Nil

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