

Original Research Article

# Awareness of dental esthetics among dental students: A cross-sectional survey

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## ABSTRACT

**Objectives:** Esthetics play a crucial role in dentistry, influencing personal perceptions of beauty and individual treatment preferences. This study aims to evaluate the awareness of dental esthetics among dental students.

**Material and Methods:** A cross-sectional study was conducted at VSPM Dental College and Research Center, Nagpur, utilizing a pre-validated questionnaire distributed to approximately 300 undergraduate students and interns. The survey assessed sociodemographic data, satisfaction with dental esthetics, and awareness of cosmetic dentistry through yes/no questions on a Likert scale.

**Results:** The majority of students reported satisfaction with their smiles (67.3%) and teeth color (64%). Awareness of dental esthetics was notably high, with 96% recognizing the field of cosmetic dentistry. Students expressed that facial appearance significantly impacts self-confidence (65.3%) and relationships (31.3%). Despite high satisfaction rates, many (73.3%) had not sought dental treatment to improve esthetics.

**Conclusion:** This study highlights that dental esthetics are a significant concern for students, influencing their social interactions and self-esteem. Awareness of cosmetic dentistry is prevalent, underscoring the importance of esthetic considerations in dental education and practice.

**Keywords:** Awareness, Dental, Esthetics, Dental students, Smile

## INTRODUCTION

“As esthetics is a chief aspect in dentistry and could be associated with personal fondness, beliefs, and many other factors and apparent dental management. Esthetics is a division of philosophy which differs with individual preferences which people perceive as attractive. Esthetics is also directly associated with outward appearance, beauty-related methods, or appreciation of beauty.”<sup>[1]</sup>

“The millennials are giving more importance to their esthetics in every way possible to enhance their personalities. Advancements in dentistry have made individuals enthusiastic regarding improving facial esthetics with the help of dentistry. Esthetic or beautifying dentistry attempts to combine attractiveness and purpose of not only dentition but also the surrounding structures with the values and individual requirements of each patient.”<sup>[1]</sup>

“The external, societal, and inner aspects perform a significant role in a person’s life. Most of the population is undertaking

orthodontic management to add to their frowns and outer facial looks. Every dentist should have knowledge about the awareness of dental esthetics. To cure the disease, we first need to understand it; we need to make sure that the students are well versed with the issues people face regarding esthetics.”<sup>[2]</sup>

Self-confidence is also affected by the physical appearance of a person. A person’s own desire is the prime determinant factor for improving dental appearance which influences one’s self-consciousness about their smile, self-confidence, and self-esteem.”<sup>[3]</sup>

“The smile assumes a significant part in the assessment of facial allure and in the general evaluation of a smiling individual’s appeal. The grin significantly affects the actual allure of the individual.”<sup>[4]</sup>

“Grin is one of the fundamental parts of facial allure. For both males and females, facial allure is similarly significant. Grin is a blend of components that rely upon tooth shape, position, size, shading, and gingival showcase.”<sup>[4]</sup>

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“Various factors are associated with dental esthetics, such as teeth color, alignment, and arrangement in the jaw. These features are dependent upon personal predilections, ethnic background, and sociodemographic factors. Some viewers and cultures might find something appealing while other cultures and viewers might not.”<sup>[1]</sup>

Hence, a dentist must be well aware and acquainted with the cultures, fashion trends, and social background of the patient and should know the importance of dental esthetics in any individual's life to provide the patient with quality treatment.

### Aim

The purpose of the study was to evaluate awareness of dental esthetics among dental students.

### Objectives

The objectives are to find the awareness of dental alignment and attractiveness among the students of 2<sup>nd</sup> year, students of 3<sup>rd</sup> year, and the students of the final year and to assess the functional, social, and psychological aspects of students regarding their awareness toward dental esthetics.

## MATERIAL AND METHODS

A cross-sectional study was carried out at VSPM Dental College and Research Center, Nagpur. A pre-validated questionnaire have three questions on sociodemographic status consisting of gender, age, and year of study and five yes-no type of questions and three questions on the Likert scale which were distributed among approximately 300 students including third to final-year undergraduate students and interns of VSPM Dental College and Research Center, Nagpur. Google Forms were distributed through email, WhatsApp groups, and personal invites. About 10–15 days were given to each student to fill up their responses.

## RESULTS

SPSS 11 Version 20 was used for statistical analysis. The study aimed to assess the awareness and perceptions of dental alignment and esthetics among students at VSPM Dental College and Research Center, focusing on different academic years and gender differences. The results provide insights into age distribution, satisfaction levels, treatment-seeking behaviors, and perceptions related to dental esthetics. Table 1 provides details about physical aspects of dental aesthetics awareness.

### Age distribution

Table 2 shows dental aesthetics awareness among dental students as per age distribution. The study population consisted of dental students aged 19–24 years, with the most substantial representation in the 21–22 age group, comprising 38% of the participants. This demographic provides a youthful cohort to assess the evolving perceptions of dental esthetics across various stages of professional training.

**Table 1:** Physical aspects of dental esthetics awareness.

Variable	Gender		Total	P-value
	Female	Male		
Are you satisfied with your smile?				
Maybe	27 (13.2)	17 (17.9)	44 (14.7)	0.394
No	35 (17.1)	19 (20)	54 (18)	
Yes	143 (69.8)	59 (62.1)	202 (67.3)	
Total	205 (100)	95 (100)	300	
Are you satisfied with the color of your teeth?				
Maybe	40 (19.5)	11 (11.6)	51 (17)	0.181
No	40 (19.5)	17 (17.9)	57 (19)	
Yes	125 (61)	67 (70.5)	192 (64)	
Total	205 (100)	95 (100)	300 (100)	
Pigmentation on lips and gums causes unesthetic appearance				
Strongly agree	65 (31.7)	33 (34.7)	98 (32.7)	0.587
Agree	115 (56.1)	48 (50.5)	163 (54.3)	
Neutral	23 (11.2)	12 (12.6)	35 (11.7)	
Disagree	1 (0.5)	0	1 (0.3)	
Strongly disagree	1 (0.5)	2 (2.1)	3 (1)	
Total	205 (100)	95 (100)	300 (100)	
Do you hide your teeth while smiling?				
Maybe	17 (8.3)	4 (4.2)	21 (7)	0.013*
No	173 (84.4)	74 (77.9)	247 (82.3)	
Yes	15 (7.3)	17 (17.9)	32 (10.7)	
Total	205 (100)	95 (100)	300 (100)	

\*significant ( $P < 0.05$ )

**Table 2:** Dental esthetics awareness among dental students.

Age of students	Gender		Total
	Female	Male	
19–20 years	2 (1)	1 (1.1)	3 (1)
20–21 years	27 (13.2)	12 (12.6)	39 (13)
21–22 years	78 (38)	34 (35.8)	112 (37.3)
22–23 years	43 (21)	19 (20)	62 (20.7)
23–24 years	55 (26.8)	29 (30.5)	84 (28)
Total	205 (100)	95 (100)	300 (100)

### Satisfaction with smile and dental esthetics

Table 1 shows, overall satisfaction with smiles was reported by 59% of male students and 69.8% of female students. Satisfaction with tooth coloration was expressed by 70.5% of male students, whereas 61% of female students shared this sentiment. These figures suggest a nuanced view of esthetics, with female students valuing overall smile esthetics more, whereas male students are more content with teeth coloration.

### Awareness of misalignment and its functional impact

Table 3 shows functional aspects of dental esthetics awareness. A significant finding related to dental misalignment, where 49.5% of males and 56.6% of females indicated that misalignment affected their eating and speaking abilities. However, 56% of females and 50.5% of males felt that they did not have misaligned teeth. This awareness ties into the

functional and esthetic importance of alignment in impacting daily life and self-esteem.

**Awareness and engagement in cosmetic dentistry**

Table 4 shows knowledge aspects of dental esthetics and its awareness. Awareness of cosmetic and esthetic dentistry was notably high, with approximately 95% of male students and 96% of female students familiar with these concepts. Despite this, 73% of the student population had not sought any esthetic

**Table 3:** Functional aspects of dental esthetics awareness of misalignment and its functional impact.

Variable	Gender		Total	P-value
	Female	Male		
Do you have malaligned teeth?				
Maybe	13 (6.3)	8 (8.4)	21 (7)	0.414
No	120 (58.5)	48 (50.5)	168 (56)	
Yes	72 (35.1)	39 (41.1)	111 (37)	
Total	205 (100)	95 (100)	300 (100)	
If your teeth are malaligned, does it cause difficulty in eating and speech?				
Strongly Agree	33 (16.1)	20 (21.1)	53 (17.7)	0.259
Agree	116 (56.6)	47 (49.5)	163 (54.3)	
Neutral	27 (13.2)	13 (13.7)	40 (13.3)	
Disagree	26 (12.7)	10 (10.5)	36 (12.0)	
Strongly disagree	3 (1.5)	5 (5.3)	8 (2.7)	
Total	205 (100)	95 (100)	300 (100)	

**Table 4:** Knowledge aspects of dental esthetics and its awareness and engagement in cosmetic dentistry.

Variable	Gender		Total	P-value
	Female	Male		
Are you aware of the branch called cosmetic/esthetic dentistry				
Maybe	4 (2)	3 (3.2)	7 (2.3)	0.698
No	4 (2)	1 (1.1)	5 (1.7)	
Yes	197 (96.1)	91 (95.8)	288 (96)	
Total	205 (100)	95 (100)	300 (100)	

**Table 5:** Improving dental aesthetics by dental treatment.

Variable	Gender		Total	P-value
	Female	Male		
For improving your dental esthetics have you taken any dental treatment?				
Maybe	1 (0.5)	3 (3.2)	4 (1.3)	0.019*
No	159 (77.6)	61 (64.2)	220 (73.3)	
Yes	45 (22)	31 (32.6)	76 (25.3)	
Total	205 (100)	95 (100)	300 (100)	
If yes, explain the type of treatment you have undergone to improve your dental esthetics.				
Cap on incisor because of class 3 fracture	4	Composite		6
Braces	7	Done with scaling		6
Complete oral prophylaxis	6	Orthodontic treatment		40

\*: P<0.05 (Significant)

dental treatments, although orthodontic interventions were the most common among those who did pursue treatment.

**Gender differences in perceptions and treatment seeking**

Table 5 shows responses regarding improving dental esthetics by dental treatment. The study underscored gender differences in both perceptions and behaviors. More females (69.8%) expressed satisfaction with their smiles compared to males (62.1%), whereas males showed slightly higher satisfaction with teeth coloration (70.5%). Notably, a more significant percentage of males (32.6%) sought treatment compared to females (22%).

**DISCUSSION**

In Table 6, social aspects of dental esthetic awareness responses discussed. The study showcases a significant awareness of dental esthetics among students, reflecting a generation keenly attuned to appearance and its implications on personal and professional realms. With 96% familiarity with cosmetic dentistry, students recognize dental esthetics' contribution to self-confidence and social perception. Despite awareness, many have not pursued esthetic treatments, pointing to financial barriers, accessibility, or satisfaction with current esthetics.

One-third of the students disagree with the fact that facial appearance is a hindrance to the career rest all either agree or feel neutral about it. The study signifies that most of the population, including males and females, were aware about the topic while agreeing that the dentist can get involved to bring about transformation in their smiles.

A person's craving for illuminating dental form is the main factor, and the most ordinarily apparent effects of dental esthetics comprised of look, self-perception about their smile, self-assurance, and self-approval. Overall 73% of the study population has not taken any dental treatment to improve their dental esthetics, 4% of them had no idea if any treatment was done in the past, and the rest all had undergone dental treatments such as crown, orthodontic treatment, and complete oral prophylaxis, composite to improve their esthetics.

**Table 6:** Social aspects of dental esthetic awareness.

Variable	Gender		Total	P-value
	Female	Male		
Facial appearance is the hindrance in your career				
Strongly Agree	12 (5.9)	7 (7.4)	19 (6.3)	0.309
Agree	61 (29.8)	24 (25.3)	85 (28.3)	
Neutral	79 (38.5)	43 (45.3)	122 (40.7)	
Disagree	37 (18)	10 (10.5)	47 (15.7)	
Strongly disagree	16 (7.8)	11 (11.6)	27 (9.0)	
Total	205 (100)	95 (100)	300 (100)	
Facial appearance affects your relationship status				
Strongly Agree	62 (30.2)	32 (33.7)	94 (31.3)	0.047*
Agree	28 (13.7)	12 (12.6)	40 (13.3)	
Neutral	75 (36.6)	29 (30.5)	104 (34.7)	
Disagree	18 (8.8)	7 (7.4)	25 (8.3)	
Strongly disagree	22 (10.7)	15 (15.8)	37 (12.3)	
Total	205 (100)	95 (100)	300 (100)	
Facial appearance affects your self-confidence				
Strongly Agree	135 (65.9)	61 (64.2)	196 (65.3)	0.034*
Agree	14 (6.8)	7 (7.4)	21 (7)	
Neutral	25 (12.2)	14 (14.7)	39 (13.3)	
Disagree	14 (6.8)	6 (6.3)	20 (6.7)	
Strongly disagree	17 (8.3)	7 (7.4)	24 (8)	
Total	205	95 (100)	300 (100)	

\*:  $P < 0.05$  (Significant)

Furthermore, it is emphasized that “females contributed to the majority, as the sample contained a majority of female population,” highlighting the skewed gender representation in esthetic concerns, which is indicative of broader societal trends.<sup>[5]</sup> Gender disparities in satisfaction show that females are generally happier with their smiles, yet males are more content with tooth color. This suggests differentiated priorities in esthetic values. The study highlights the critical functional impacts of dental alignment, with nearly half of the participants reporting that eating and speech difficulties are affected by misalignment. It is noteworthy that “average or disturbed dental esthetics have direct proportion with deficiency of self-confidence and are believed to be communally, educationally, and occupationally unfavorable.”<sup>[6]</sup> In addition, the “psychosocial impact of dental esthetics and desire for orthodontic treatment among Chinese undergraduate students” reinforces the global relevance of these findings, suggesting that similar trends may be found in different cultural contexts.<sup>[7]</sup> Overall, these findings reinforce the need for dental professionals to integrate esthetic considerations into patient care dialogs, ensuring a holistic approach that marries functional and esthetic outcomes. Bridging the awareness-action gap could also involve addressing perceived treatment barriers and encouraging proactive engagement in seeking esthetic improvements, particularly among those who recognize the value yet refrain from treatment. This approach could further empower students, enhancing their quality of life and career readiness through improved dental esthetics.

## CONCLUSION

This study clearly states that esthetics matters in building careers and maintaining relationships. The study also signifies that both males and females are aware of cosmetic dentistry and that dentists can change and alter smiles. Neither every artist working in the esthetic industry needs to be esthetically appealing nor every individual who is blessed with decent dentition needs to have a better career and relationship. However, as shown above, we can say that esthetics have a major role in one's psychological development and self-confidence as long as people believe it to be.

### Ethical approval

The research/study approved by the Institutional Review Board at VSPM DCRC NAGPUR, number IEC/VSPMDCRC/54/2021, dated 24<sup>th</sup> July 2021.

### Declaration of patient consent

Patient's consent not required as there are no patients in this study.

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Nil.

### Conflicts of interest

Dr. Jaishree Chahande is on the Editorial Board of the journal.

### Use of artificial intelligence (AI)-assisted technology for manuscript preparation

The authors confirm that there was no use of artificial intelligence (AI)-assisted technology for assisting in the writing or editing of the manuscript and no images were manipulated using AI.

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