

Original Research Article

Parental attitudes towards dental aesthetics and treatment needs in children: a questionnaire study

Garima Bhatt^{1*}, Vasudha Sodani¹, Sowjanya Iyer¹, Harsh Shah², Keyur Dhruv³

¹Department of Pedodontics and Preventive Dentistry, Ahmedabad Dental College and Hospital, Ahmedabad, Gujarat, India

²Department of Public Health Dentistry, Ahmedabad Dental College and Hospital, Ahmedabad, Gujarat, India

³Department of Pedodontics and Preventive Dentistry, Pacific Dental College and Research Centre, Udaipur, Rajasthan, India

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*Correspondence:

Dr. Garima Bhatt,

E-mail: dr.garima.bhatt.212@gmail.com

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ABSTRACT

Background: Dental aesthetics play a crucial role in child's psychological and social development. Parents play a pivotal role in decision making and thus understanding their attitudes can help dental professionals provide tailored interventions to improve pediatric dental health. Thus, the present study was conducted with the aim to assess parental attitudes, perceptions and concerns regarding dental aesthetics and treatment needs of their children and to evaluate the factors influencing their decisions in seeking dental care.

Methods: This cross sectional study utilizes a structured and validated Google questionnaire form that aims to elicit responses regarding parental attitudes, perceptions and concerns about dental aesthetics and treatment needs. After the sample size determination, forms were circulated among parents and a total of 981 responses were obtained which were analyzed statistically.

Results: Among the total of 981 parents, 886 parents (90.5%) strongly believed that tooth color affects their child's confidence, 500 parents (51.1%) expressed concerns regarding the structure of teeth. Majority of parents (877, 89.5%) considered all the factors (aesthetic, durability, cost) in choosing the type of restoration. Results depicted a strong preference for aesthetic treatments with majority of the parents (795, 81.2%) choosing tooth colored restorations, thereby revealing paradigm shift towards aesthetic treatments in pediatric dentistry.

Conclusions: This study highlights growing parental awareness and concern regarding dental aesthetics in children, with an increasing preference for aesthetic solutions. This evolving trend presents a valuable opportunity for clinicians to offer broad spectrum of aesthetic treatment options tailored to individual needs, thereby elevating clinical practice.

Keywords: Dental aesthetics, Parental attitudes, Parental awareness, Pediatric dentistry

INTRODUCTION

Dental health in pediatric dentistry is not just about shiny bright teeth but is also about fostering confidence and self-esteem in children. Good dental health supports essential functions such as nutrition, speech, development and is closely linked to a child's self-esteem, school performance and social confidence. Poor oral health can negatively

affect daily life and contribute to long-term physical and psychological consequences.¹

A child's appearance is often associated with social acceptance, quality of life, psychological development and physiological wellbeing.² Factors such as malocclusion, tooth discoloration and dental anomalies can impact child's self-esteem and social interactions, often prompting parents to prioritize aesthetic dental treatments.

Parents play pivotal role in shaping their child's attitude towards dental care. They serve as the primary decision-makers when it comes to seeking dental care, choosing treatment modalities and maintaining oral hygiene. Their perception of dental aesthetics, concerns about treatment outcomes and understanding of oral health significantly impact the timing and nature of dental interventions pursued for their children. Moreover, social and economic factors shape parental awareness and willingness to pursue dental care, highlighting the need for a better understanding of how these factors influence treatment choices.^{3,4}

Considering this the present study was designed to assess parental attitudes, perceptions and concerns regarding dental aesthetics and treatment needs in children. It seeks to evaluate the extent to which aesthetic considerations influence parental decision-making and to explore the factors that shape their awareness and preferences regarding their child's dental treatments. Thus, this study underscores the critical role of parents in shaping their child's dental health and self-confidence.

METHODS

The present study employs a cross-sectional survey design to assess parental attitude towards dental aesthetics and treatment needs in children. The survey was carried out at Ahmedabad Dental College and Hospital over a period of 3 months from November 2024 to January 2025. The study population included parents and guardians of children from various educational and community centres to ensure a diverse representation of participants.

Ethical clearance for the study was obtained from the Institutional Ethics Committee (IECADC/0101/2024). A sample size of 893 participants was determined based on 33% of satisfaction rate regarding patients' satisfaction with 10% of relative precision and 95% confidence and sample selection was done using a convenience sampling method. Parents or guardians willing to participate were included in the study, whereas those unwilling or who had previously completed the survey were excluded from the study.

The structured questionnaire form consisting of 28 multiple choice questions was prepared using Google forms to qualitatively assess parents' knowledge regarding their child's dental aesthetics and their attitude towards seeking dental treatment for their child's oral health needs. The questionnaire highlighted following information: Demographic details of parents or guardians of children, concerns regarding the color, size, structure, crowding and spacing of their child's teeth, preferences about the type of restoration and awareness regarding the available treatment options, attitude over seeking information about the available options, prioritization of aesthetic over conventional treatments and impact of aesthetic dental treatment on child's psychological, social and emotional wellbeing.

For validation of the questionnaire the created draft survey instrument was provided to 10 faculty members who were randomly chosen to evaluate the validity and readability of the survey instrument. Thirty parents were randomly chosen to evaluate the survey instrument to ensure its clarity, relevance and acceptance. The reliability of the questionnaire was assessed using the Test-Retest method, yielding a Cohen's Kappa value of 0.89, indicating high consistency.

The questionnaire was distributed to 1000 parents in order to attain the required sample size. A brief introduction to the study was presented at the beginning of the questionnaire and informed consent was obtained through digital signature from all participants. Participation was voluntary, responses were anonymous and only one parent per household was permitted to complete the survey. Repeated reminders were sent at regular intervals through email and social media platforms which led to a total of 981 responses. These repeated reminders led to a response rate exceeding the initially estimated sample size. The collected data was subjected to statistical analysis.

Statistical analysis

The statistical package for the social science program (SPSS version 22.0) for Microsoft Windows was used to statistically analyze the data. Using Pearson's Chi-squared test, the inferential statistical comparison of the categorical variables was examined. A 95% confidence level was used in the investigation and p value of <0.05 was considered statistically significant.

RESULTS

A total of 981 parents from across India participated in the study. The demographic characteristics related to the children and their parents revealed that majority of parents (63.6%) were from low-income group (annual income <5 lakh), 39% of parents were working professionals and 41.9% of the parents were educated upto the postgraduate level. Other parameters such as gender and age of the parents and child showed almost equal distribution of the participants (Figure 1).

The results regarding parental perceptions towards their child's dental aesthetics and treatment needs (Figure 2) revealed that majority of parents (93.1%) were satisfied with the color of their child's teeth and 90.5% parents believed that tooth color had a direct impact on their child's confidence. In terms of overall dentition, 51.1% parents were concerned about the size and structure of the teeth, while 87% parents expressed concerns regarding spacing irregularities, including gaps and crowding. 69% parents believed that undergoing dental aesthetic treatment would positively influence their child's happiness. Majority of the parents (87.9%) were aware about the available aesthetic treatment options yet majority of them (89.3%) were keen on receiving more information regarding the same.

Moreover 67% parents had previously sought advice about dental aesthetics from pediatric dentist.

Parents were questioned regarding the influence of dental aesthetics on their child's social interactions and overall well-being. The findings revealed that a majority of parents perceive dental appearance as having little to no significant role in shaping their child's social life or contributing to their overall quality of life (Figure 3).

The results indicated that 81.2% of participants preferred tooth-colored restorations and demonstrated a strong inclination towards aesthetic treatment options (Figure 4). The majority reported considering multiple factors such as cost, durability and aesthetic outcomes, while selecting appropriate dental treatment options for their child (Figure 5).

The survey identified significant age-related differences in parents' perceptions of children's dental aesthetics and treatment preferences. Younger parents (≤ 40 years) expressed greater concern regarding tooth color ($p=0.011$), visibility ($p=0.009$), and its impact on the child's confidence ($p=0.032$) which was statistically significant. Significant differences were also noted in treatment priorities ($p<0.001$), preferred restorations ($p<0.001$), awareness, and prior dental consultations, whereas

concerns about tooth size, spacing, and social challenges showed no variation ($p>0.05$). These findings emphasize the role of parental age in shaping treatment decisions and highlight the importance of incorporating age-sensitive counselling strategies and communication approaches to enable better decision-making among parents for pediatric dental care (Table 1).

The analysis based on parental income revealed marked differences in perceptions of children's dental aesthetics. Parents with higher annual incomes ($>₹5$ lakh) reported lower satisfaction with tooth color ($p<0.001$), expressed greater concern about spacing ($p<0.001$), and were more likely to associate dental appearance with their child's confidence and social interactions. This group also demonstrated higher awareness of aesthetic treatment options, a stronger desire for additional information, and a greater preference for advanced treatment modalities. In contrast, parents with lower incomes ($\leq ₹5$ lakh) reported higher satisfaction with basic dental attributes and placed comparatively less emphasis on aesthetic considerations. These findings indicate that rising income levels are linked to heightened aesthetic expectations, emphasizing the need for communication strategies that address varying aesthetic perceptions across different income groups (Table 2).

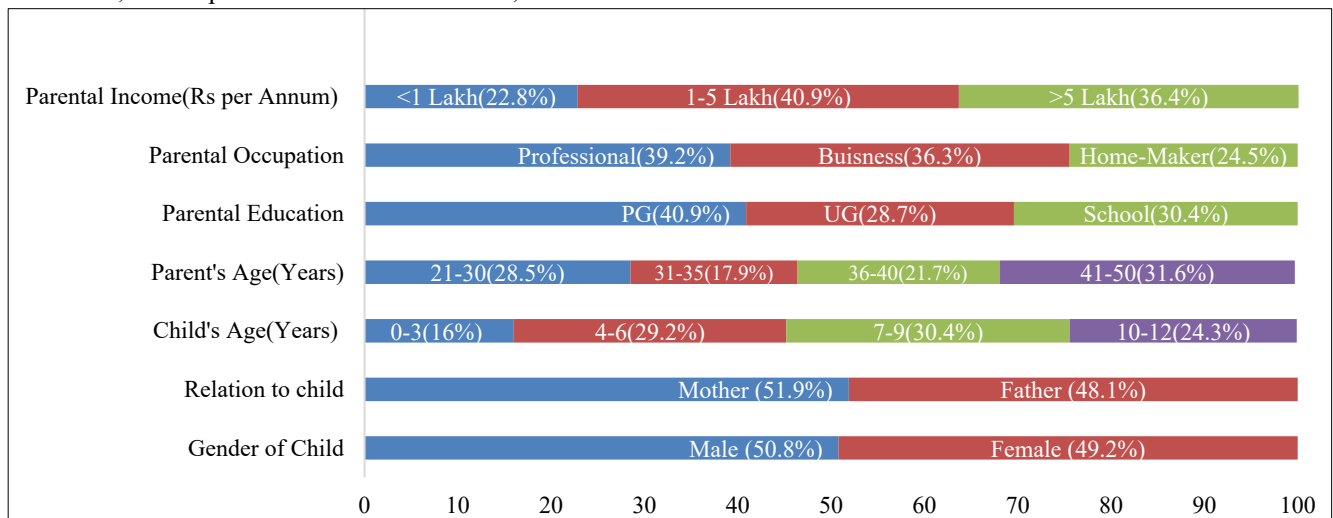


Figure 1: Demographic characteristics related to children and their parents.

Table 1: Intergroup comparison of parental awareness regarding aesthetic treatment options based on age of the parents.

Survey question and response	≤₹1 lakh (n=224) (%)	₹1–5 lakh (n=401) (%)	>₹5 lakh (n=356) (%)	Total (N=981) (%)	Chi-square (χ^2 , df)	P value
Concerns regarding gaps/spacing						
Yes	211 (94.2)	372 (92.8)	269 (75.6)	852 (86.8)	$\chi^2=62.603$ df=2	<0.001**
No	13 (5.8)	29 (7.2)	87 (24.4)	129 (13.2)		
Dental appearance affects the social interactions						
Yes	43 (19.2)	65 (16.2)	85 (23.9)	193 (19.7)	$\chi^2=12.133$ df=4	0.016
No	139 (62.1)	283 (70.6)	214 (60.1)	636 (64.8)		
Not sure	42 (18.8)	53 (13.2)	57 (16.0)	152 (15.5)		

Continued.

Survey question and response	≤₹1 lakh (n=224) (%)	₹1–5 lakh (n=401) (%)	>₹5 lakh (n=356) (%)	Total (N=981) (%)	Chi-square (χ^2 , df)	P value
Preferred type of restoration						
Metal based	14 (6.3)	14 (3.5)	37 (10.4)	65 (6.6)	$\chi^2=40.132$ df=4	<0.001**
Tooth colored	190 (84.8)	353 (88.0)	252 (70.8)	795 (81.0)		
Doesn't matter	20 (8.9)	34 (8.5)	67 (18.8)	121 (12.3)		

**P<0.001 - highly significant, *p<0.05 – significant, p>0.05 - not significant

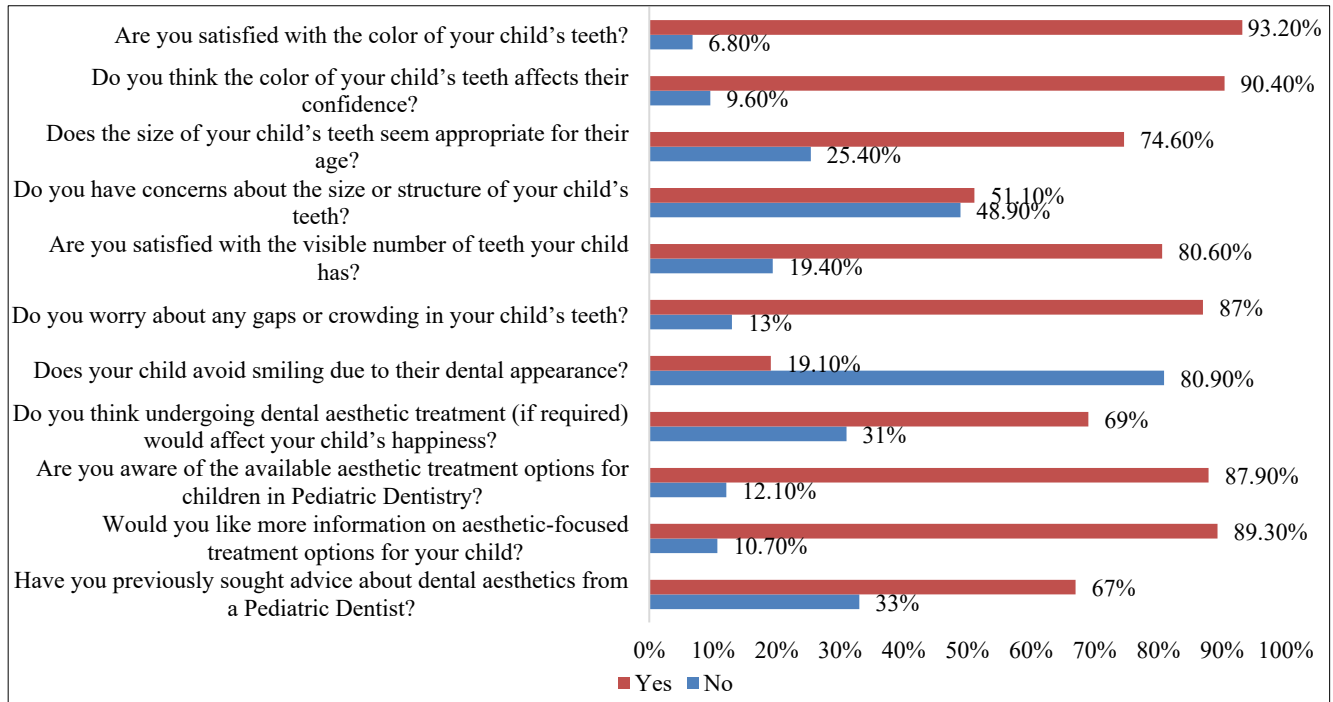


Figure 2: Parental perceptions and awareness on dental aesthetics in children.

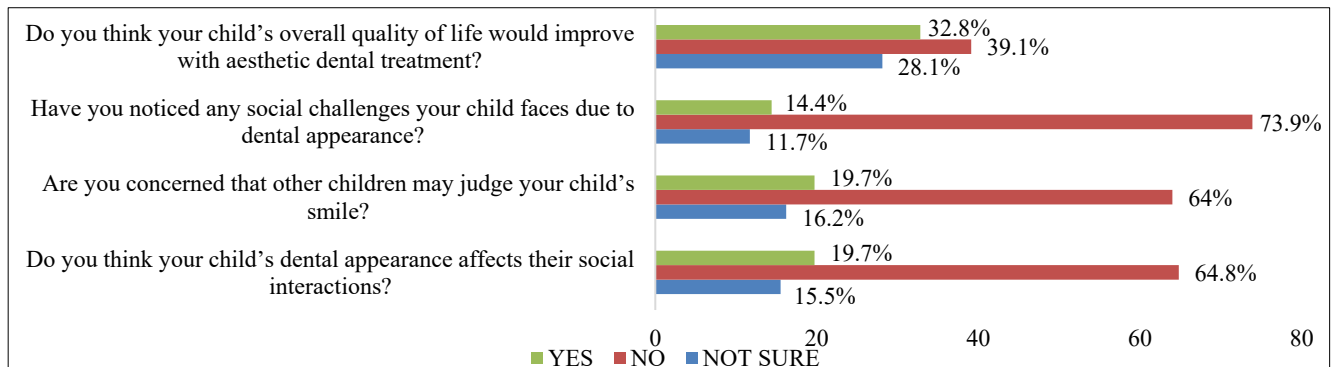


Figure 3: Parental perceptions regarding the impact of dental aesthetics in child's social life.

Table 2: Intergroup comparison of parental awareness regarding aesthetic treatment options based on income of parents.

Survey question and response	21–25 years (n=93) (%)	26–30 years (n=190) (%)	31–35 years (n=176) (%)	36–40 years (n=212) (%)	41–45 years (n=205) (%)	46–50 years (n=105) (%)	Total (N=981) (%)	Chi-square (χ^2 , df)	P value
Factors prioritized in restorative treatment									
Aesthetics	5 (5.4)	10 (5.3)	12 (6.8)	3 (1.4)	7 (3.4)	3 (2.9)	40 (4.1)	$\chi^2=82.102$ df=15	<0.001**
Cost	1 (1.1)	2 (1.1)	4 (2.3)	24 (11.3)	1 (0.5)	1 (1.0)	33 (3.4)		
Durability	4 (4.3)	1 (0.5)	2 (1.1)	7 (3.3)	7 (3.4)	10 (9.5)	31 (3.2)		

Continued.

Survey question and response	21–25 years (n=93) (%)	26–30 years (n=190) (%)	31–35 years (n=176) (%)	36–40 years (n=212) (%)	41–45 years (n=205) (%)	46–50 years (n=105) (%)	Total (N=981) (%)	Chi-square (χ², df)	P value
All of the above	83 (89.2)	177 (93.2)	158 (89.8)	178 (84.0)	190 (92.7)	91 (86.7)	877 (89.3)		
Preferred type of restoration									
Metal based	10 (10.8)	10 (5.3)	7 (4.0)	28 (13.2)	5 (2.4)	5 (4.8)	65 (6.6)	χ²=34.107 df=10	<0.001**
Tooth colored	75 (80.6)	164 (86.3)	149 (84.7)	155 (73.1)	170 (82.9)	82 (78.1)	795 (81.0)		
Doesn't matter	8 (8.6)	16 (8.4)	20 (11.4)	29 (13.7)	30 (14.6)	18 (17.1)	121 (12.3)		
Awareness of aesthetic treatment options									
Yes	89 (95.7)	179 (94.2)	151 (85.8)	176 (83.0)	176 (85.9)	91 (86.7)	862 (87.8)	χ²=12.160 df=5	0.002*
No	4 (4.3)	11 (5.8)	25 (14.2)	36 (17.0)	29 (14.1)	14 (13.3)	119 (12.1)		

**P<0.001 - highly significant, *p≤0.05 – significant, p>0.05 - not significant.

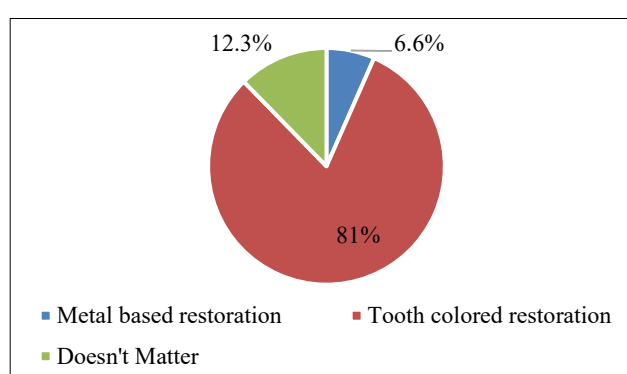


Figure 4: Parental preference while choosing restorative material.

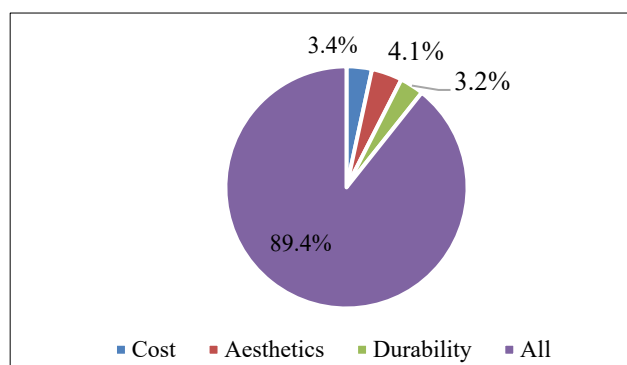


Figure 5: Factors considered by parents while choosing restorative dental treatment for the child.

DISCUSSION

Dental aesthetics significantly impact child's social and emotional wellbeing. Parents play a pivotal role in shaping their child's oral health, as their perceptions of dental aesthetics and treatment needs significantly influence treatment choices. Understanding parental attitude towards dental aesthetics and treatment needs in children is crucial for guiding clinical decision-making and improving treatment acceptance. However, limited research has explored how these attitudes vary across different

demographics, social and economic factors. The present study addresses the gap by providing valuable insights into parents' perceptions of their child's dental health, particularly in relation to tooth color, size and structure and by highlighting the increasing preference for aesthetic over conventional treatment options in children.

In the present study it was observed that parents with higher education levels were more likely to recognize issues related to dental aesthetics and psychosocial well-being, influencing a preference for aesthetic dental treatments for their children. These findings underscore the significant impact of parental education on treatment preferences and decision-making in pediatric dental care which is consistent with the findings of the study conducted by Vallittu et al in 1995.⁵

The study also revealed that significant number of parents were concerned about dental irregularities, particularly spacing and crowding in their child's teeth, which played a crucial role in their inclination to seek early functional and aesthetic dental interventions. These observations align with the findings reported by Abreu et al, who demonstrated that severity of malocclusion negatively impacts oral health quality of life.⁶

It was observed that majority of the parents believed that color of child's teeth influences their confidence, suggesting that improved dental aesthetics are associated with enhanced self-confidence and positive social perceptions. This underscores the role of dental appearance in boosting a child's self-confidence and positively shaping social interactions. Thus, decisions regarding child's dental treatment extend beyond functional needs to encompass overall psychosocial well-being. Similar observations were reported by Afroz et al in 2013, who reported that dissatisfaction with dental aesthetics, particularly tooth color, adversely affects individuals' self-confidence and social interactions.⁷

The findings of the present study demonstrated a relatively high level of parental awareness regarding dental aesthetics and available treatment modalities. Despite the

existing awareness, parents expressed a desire for more information regarding aesthetic treatments, highlighting the growing interest in such treatments which aligns with the findings of the study conducted by Alsurayyi et al in 2022 in which they documented high public interest in aesthetic dental procedures, particularly the “Hollywood smile”.⁸ In the current study parental acceptance of treatment options was influenced by various factors such as aesthetics, cost and invasiveness, aligning with the observations of Al-Batayneh.⁹

When presented with treatment options, most of the parents prioritized aesthetic treatments over conventional approaches, valuing superior visual outcomes and their potential to enhance a child’s self-esteem and social confidence. This preference aligns with findings by Salama et al, who reported higher parental satisfaction with zirconia crowns compared to pre-veneered stainless-steel crowns due to their superior esthetics and color match.¹⁰ Similarly, Samorodnitzky-Naveh et al in 2007 identified tooth color as a key determinant of perceived dental aesthetics.¹¹

The high acceptance of aesthetic treatment to enhance their child's appearance, along with parents' proactive approach in seeking related information, provides dentists with an opportunity to deliver tailored dental care.

Limitations

The present study was conducted through an online survey, which may have inadvertently excluded populations with limited or no access to digital platforms, potentially leading to selection bias. Additionally, the questionnaire was administered solely in English, which may have restricted participation from non-English-speaking parents and could have influenced the generalizability of the findings.

CONCLUSION

In the present study most parents prioritized aesthetic treatments, expressed a clear preference for tooth-colored restorations and demonstrated awareness about the available treatment options. They also expressed a strong willingness to choose such treatments for their children, highlighting a noticeable shift in parental priorities towards the aesthetic aspects of pediatric dental care over conventional treatment options. These findings suggest that contemporary parents are aligned towards treatments that combine functionality with aesthetic benefits, aligning with contemporary standards of dental appearance. This trend may be driven by the fact that improved dental aesthetics can contribute positively to a child’s self-esteem and social interactions, potentially impacting their overall quality of life.

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Conflict of interest: None declared

Ethical approval: The study was approved by the Institutional Ethics Committee

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