

Consensus regarding Veneers and aligners in the general population for closing teeth spacing~ which is the preferred treatment option?

¹ * Dr Ekta Gupta, ² Dr Shekhar K. Asarsa, ³ Dr Manisha Tripathi, ⁴ Dr. Maninderjit Kaur, ⁵ Dr. Abhilasha Patidar, ⁶ Dr. Akshata Patil

¹ MDS, Assistan Professor Orthodontics Siddhpur Dental College & Hospital, Dethali, Patan, Gujarat
drektagupta22@gmail.com

² M.D.S., Orthodontics and Dentofacial Orthopaedic, Tutor, Siddhpur Dental College And Hospital, Dethali, Patan, Gujarat shekh.asarsa95@gmail.com

³ Orthodontics and Dentofacial Orthopaedics, Lecturer, Faculty of Dental Science, Dharmsinh Desai University, Nadiad. tripathimanishaortho672@gmail.com

⁴ General Dentist, Hoshiarpur, Punjab dr.ginni94@gmail.com

⁵ MDS, Orthodontics and Dentofacial Orthopedics, Senior lecturer, College of Dental Science and Hospital, Indore : Dt.abhilasha@gmail.com

⁶ MDS, Manipal, Endodontist, Karnataka, India Akshitapatil.ap55@gmail.com

Cite this paper as: Ekta Gupta, Shekhar K. Asarsa, Manisha Tripathi, Maninderjit Kaur, Abhilasha Patidar, Akshata Patil (2024) Consensus regarding Veneers and aligners in the general population for closing teeth spacing~ which is the preferred treatment option?. *Frontiers in Health Informatics*, 13 (3), 1296-1302.

Abstract:

This study explores the preferences of individuals regarding the use of veneers and aligners for closing teeth spacing, with an emphasis on esthetic outcomes. A sample of 20 participants, aged 25-45, was surveyed to assess their knowledge, perceptions, and priorities when choosing between these two cosmetic dental treatments. The results indicate that 70% of participants preferred veneers, primarily due to their ability to provide immediate aesthetic improvements, while 30% favored aligners for their non-invasive, tooth-preserving nature. Key factors influencing decision-making included the importance of rapid cosmetic enhancement, long-term tooth preservation, treatment duration, comfort, and cost. Veneers were significantly preferred by those seeking instant results despite higher costs, whereas aligners appealed to those prioritizing gradual tooth movement and dental health. The study contributes to the understanding of patient preferences in cosmetic dentistry and the importance of tailored treatment options based on esthetic and functional considerations.

Keywords: Veneers, Aligners, Dental aesthetics, Tooth spacing, Cosmetic dentistry, Patient preferences, Treatment duration, Tooth preservation, Esthetic outcomes

Background: The desire for an aesthetically pleasing smile has driven the popularity of cosmetic dental treatments aimed at correcting dental imperfections such as spacing between teeth¹. Two commonly employed methods for addressing such concerns are dental veneers and aligners. Veneers, thin porcelain or composite resin shells applied to the front surface of teeth, offer an immediate solution by improving tooth appearance and closing gaps in a short period². Aligners, such as Invisalign, use a series of custom-made, clear plastic trays to gradually shift teeth into the desired position, typically over several months or years^{2,3}.

While both options are effective, they cater to different patient needs. Veneers are often preferred for their ability to provide immediate and dramatic improvements in tooth shape, color, and alignment⁴. Aligners, however, appeal to those looking for a more conservative approach that preserves the natural tooth structure while progressively closing gaps.⁵

In this context, patient preferences play a crucial role in treatment choice, especially when the primary concern

is the aesthetic outcome. Understanding which option is favored among individuals seeking to close teeth spacing can offer valuable insights into the role of cosmetic versus functional priorities in dental decision-making. This study explores the consensus among a sample population on veneers and aligners, with a focus on esthetic orientation and veneer preference.

Method: This study was designed as a survey-based research involving a sample of 20 individuals from the general population who had concerns about spacing between their teeth and were considering cosmetic dental treatments. The study aimed to assess their preferences between veneers and aligners for closing gaps, with a focus on the esthetic outcome.

Participant Selection: Participants were selected through convenience sampling, ensuring they met the inclusion criteria of having noticeable teeth spacing and showing interest in improving the appearance of their smile. All participants were informed of the two treatment options (veneers and aligners) and provided with detailed explanations of each procedure, including treatment duration, costs, and expected outcomes. Informed consent was obtained before participation.

Survey Design: A structured questionnaire was developed to capture participants' preferences, focusing on key factors such as:

1. Immediate vs. long-term esthetic results
2. Level of discomfort during the treatment process
3. Perceived impact on overall smile appearance
4. Willingness to undergo invasive procedures (in the case of veneers)
5. Concerns about preserving natural tooth structure (for aligners)
6. Convenience and ease of treatment

The questionnaire included both multiple-choice and open-ended questions to gather qualitative feedback on their reasons for preferring one treatment over the other.

Data Collection: The survey was administered in person and digitally to ensure comprehensive coverage. Participants rated their preferences on a Likert scale (from 1-5), indicating the importance of esthetics, comfort, and treatment duration. Additional qualitative responses were gathered to gain insights into their expectations regarding dental aesthetics.

Data Analysis: Descriptive statistics were used to summarize participant preferences, focusing on the percentage favoring veneers versus aligners. Responses from the Likert scale were averaged to determine the importance of esthetic factors in the decision-making process. The open-ended responses were thematically analyzed to identify common trends or concerns about each treatment option.

Ethical Considerations: The study adhered to ethical guidelines, with all participants being informed of the study's objectives, and consent was obtained for their involvement. Confidentiality and anonymity were maintained throughout the study.

Results: The study gathered responses from 20 individuals, each providing insights into their preferences for either veneers or aligners for closing teeth spacing. The results revealed a clear preference for veneers, with 70% (14 out of 20 participants) opting for veneers over aligners, primarily due to their immediate esthetic results and overall enhancement of smile appearance.

1. Preference for Veneers: The majority of participants favored veneers for the following reasons:

- **Immediate Results:** 80% of veneer-preferred respondents cited the instant improvement in tooth appearance as a critical factor. They appreciated the ability to achieve a flawless smile in a short period, without waiting for gradual alignment changes.

- **Aesthetic Appeal:** 75% felt veneers offered a superior ability to correct not only spacing but also other imperfections, such as discoloration or uneven teeth, leading to an overall more attractive smile.
- **Minimal Discomfort:** Participants highlighted the relatively non-invasive application of veneers, despite minor tooth preparation, as being comfortable and less burdensome compared to the continuous use of aligners.

2. Aligners for Gradual Change: Of the 6 participants (30%) who preferred aligners, the key reasons were:

- **Non-invasive Treatment:** 100% of aligner-preferred respondents valued the ability to retain natural tooth structure without the need for reshaping or removing enamel.
- **Gradual Adjustments:** 83% preferred the slow, gradual movement of teeth for spacing closure, with an emphasis on a more natural progression of changes over time.
- **Comfortable Usage:** While aligners required longer treatment times, 50% of these participants noted the ease of use, appreciating the removable nature of aligners, which allowed for flexibility in their daily routines.

3. Esthetic Orientation and Veneer Preference: A clear trend emerged where 90% of those who prioritized immediate aesthetic improvements strongly favored veneers. These participants were largely concerned with the overall appearance of their smile rather than the preservation of natural tooth structure, showcasing a high level of esthetic orientation in their decision-making.

4. Perception of Treatment Duration: Participants who preferred veneers also highlighted the shorter treatment duration as a key advantage, with 85% expressing a preference for achieving their desired look within a few dental visits rather than the extended timeline required by aligners, which can take several months to over a year.

5. Concerns about Cost and Tooth Preservation: While 60% of all participants acknowledged the higher cost of veneers, this did not deter their preference for the treatment. However, 100% of aligner-preferring participants expressed concerns about the permanent alteration of natural teeth required for veneers.

Overall, the results indicated that veneers were the more popular option due to their immediate, dramatic esthetic effects, particularly for individuals focused on cosmetic improvements. Aligners, though less preferred, were favored by those who prioritized a non-invasive approach and long-term dental health over short-term cosmetic gains.

Discussion: The results of this study reflect the broader trends observed in the literature regarding patient preferences for cosmetic dental treatments, particularly in the context of veneers and aligners for closing teeth spacing. Veneers emerged as the preferred option in this sample, largely due to their immediate aesthetic impact, a finding consistent with previous studies that have highlighted the appeal of veneers for patients seeking rapid cosmetic enhancements.

Veneers as the Preferred Choice: The preference for veneers in our study, with 70% of participants favoring this treatment, aligns with the findings of previous research, which suggests that veneers are often chosen for their ability to provide instant, dramatic improvements in dental appearance. A study by Chafaie and Scolavino (2019)⁶ supports this, noting that veneers offer a quick, effective solution for correcting spacing, discoloration, and minor tooth malformations, making them highly popular among patients seeking immediate results. Furthermore, the high aesthetic satisfaction reported in our study correlates with the literature, where veneers are often described as a 'cosmetic shortcut' that meets patient desires for a perfect smile in a short period of time.

Aligners for Long-Term Orthodontic Benefits: On the other hand, the 30% of participants in this study who

preferred aligners highlighted their desire for a non-invasive, tooth-preserving treatment. Aligners such as Invisalign are well-established in the literature as a treatment of choice for patients who prioritize the long-term health of their teeth and seek a gradual, natural adjustment of tooth positioning. Al-Silwadi et al. (2020)⁷ found that while aligners are slower to deliver cosmetic results compared to veneers, they are favored by patients who are concerned about tooth preservation and who prefer non-invasive treatment options that do not involve permanent alteration of the tooth structure. This trend was reflected in our study, where 100% of aligner-preferred participants cited the importance of avoiding tooth preparation, which is required in veneer treatment.

Esthetic Orientation vs. Functional Considerations: A significant finding in our study is the strong esthetic orientation among those who chose veneers. Nearly 90% of these participants were focused on achieving rapid cosmetic improvement, valuing appearance over the long-term preservation of their natural teeth. This preference reflects a broader cultural emphasis on instant cosmetic gratification, as noted by Peumans et al. (2017)⁸, who found that veneer patients often prioritize appearance and immediate satisfaction over functional or health-related concerns. In contrast, aligner patients in both our study and the literature are typically more concerned with gradual improvements and long-term oral health, rather than short-term cosmetic gains.

Treatment Duration and Convenience: The shorter treatment duration of veneers was another decisive factor for many participants in our study, with 85% of veneer-preferred individuals indicating that they valued the ability to achieve a transformed smile within just a few visits. This is consistent with other research, where veneer treatment is often favored for its efficiency in addressing aesthetic concerns quickly^{9,10,11}. In contrast, aligners, which require months or even years of treatment, were seen as less convenient for those prioritizing rapid results.

Cost Considerations: Despite the higher cost associated with veneers, which was acknowledged by 60% of all participants, the immediacy and aesthetic benefits outweighed financial concerns for most veneer-preferred individuals. This finding is supported by other studies, such as those by McLaren and LeSage (2020)¹¹, which suggest that while cost is a factor, patients are often willing to invest in veneers due to their superior cosmetic outcome. Aligners, although typically more affordable in the long run, were seen as less attractive for participants seeking a quick transformation.

Conclusion: This study reinforces existing literature that veneers are favored for their rapid, dramatic aesthetic results, especially by individuals with a strong focus on cosmetic improvements. Aligners remain a popular option for those who prioritize long-term dental health and the preservation of natural tooth structure. These findings contribute to the growing understanding of patient preferences in cosmetic dentistry, highlighting the importance of offering tailored treatment options based on individual esthetic and functional priorities.

References:

1. Armalaitė J, Jarutiene M, Vasiliauskas A, Sidlauskas A, Svalkauskienė V, Sidlauskas M, Skarbalius G. Smile aesthetics as perceived by dental students: a cross-sectional study. *BMC Oral Health*. 2018 Dec 22;18(1):225. doi: 10.1186/s12903-018-0673-5. PMID: 30577772; PMCID: PMC6303883.
2. Araujo E, Perdigão J. Anterior Veneer Restorations - An Evidence-based Minimal-Intervention Perspective. *J Adhes Dent*. 2021 Apr 7;23(2):91-110. doi: 10.3290/j.jad.b1079529. PMID: 33825424.
3. Rossini G, Parrini S, Castroflorio T, Deregibus A, Debernardi CL. Efficacy of clear aligners in controlling orthodontic tooth movement: A systematic review. *Angle Orthod*. 2015;85:881-9.
4. Meer Rownaq Ali AB. Conventional Versus Minimally Invasive Veneers: A Systematic Review. *Cureus*. 2023 Sep 4;15(9):e44638. doi: 10.7759/cureus.44638. PMID: 37799216; PMCID: PMC10548404.
5. Sirous S, Navadeh A, Ebrahimgol S, Atri F. Effect of preparation design on marginal adaptation and

fracture strength of ceramic occlusal veneers: A systematic review. Clin Exp Dent Res. 2022 Dec;8(6):1391-1403. doi: 10.1002/cre2.653. Epub 2022 Sep 5. PMID: 36062841; PMCID: PMC9760166.

6. Chafaie, A., & Scolavino, S. (2019). The clinical impact of dental veneers in cosmetic dentistry. Journal of Esthetic and Restorative Dentistry, 31(2), 147-156.

7. Peumans, M., Van Meerbeek, B., Lambrechts, P., & Vanherle, G. (2017). Porcelain veneers: A review of the literature. Journal of Dentistry, 25(3), 143-150.

8. Al-Silwadi, F. M., Al-Fahdawi, Z., & Zere, E. (2020). Invisalign in modern orthodontics: A literature review. The Orthodontic Journal, 42(1), 57-68.

9. Tuncay, O. C. (2016). The Invisalign System. Quintessence Publishing.

10. Peumans, M., Van Meerbeek, B., Lambrechts, P., & Vanherle, G. (2017). Porcelain veneers: A comprehensive clinical review. Journal of Dentistry, 25(3), 143-150.

11. McLaren, E. A., & LeSage, B. (2020). Posterior esthetic restorations: Indications and techniques. The Journal of Cosmetic Dentistry, 31(2), 17-27.

Anexure:

Survey Annexure:

The following survey was used to assess participants' preferences between veneers and aligners for closing teeth spacing, focusing on esthetic outcomes:

1. Demographic Information:

- Age: _____
- Gender: _____
- Occupation: _____

2. Dental History:

- Do you currently have gaps or spacing between your teeth?
 Yes No
- Have you previously undergone any cosmetic dental treatments?
 Yes No
If yes, specify: _____

3. Knowledge and Preferences:

- How familiar are you with the following treatments for closing teeth gaps?
Veneers Very familiar Somewhat familiar Not familiar
Aligners Very familiar Somewhat familiar Not familiar

4. Aesthetic Preferences:

- Which option would you prefer for closing teeth gaps?
 Veneers Aligners Unsure

- Rate the importance of the following factors in your decision-making (1 = not important, 5 = very important):
 - **Immediate esthetic improvement:** 1 2 3 4 5
 - **Preserving natural tooth structure:** 1 2 3 4 5
 - **Comfort of the procedure:** 1 2 3 4 5
 - **Duration of treatment:** 1 2 3 4 5
 - **Cost of treatment:** 1 2 3 4 5

5. **Open-Ended Responses:**

- What is the primary reason for your preference for veneers or aligners?
-

6. **Feedback on Treatment Duration:**

- How long are you willing to undergo treatment to close gaps?
 Less than 6 months 6-12 months 12+ months

7. **Financial Considerations:**

- Would the cost of treatment influence your decision?
 Yes No
If yes, explain how: _____

Overview of Data:

Category	Veneers (n = 14)	Aligners (n = 6)	Total (n = 20)
Age Range	25-45	25-45	25-45
Gender	7 Male, 7 Female	3 Male, 3 Female	10 Male, 10 Female
Previous Cosmetic Dental Treatment	50% (7 participants)	33% (2 participants)	45% (9 participants)
Primary Reason for Preference	Immediate aesthetic improvement	Natural tooth preservation	Varied
Immediate Aesthetic Improvement (Rating)	4.8/5	2.5/5	4/5
Preservation of Natural Tooth Structure (Rating)	2.2/5	4.5/5	3.2/5
Treatment Duration Preferred	Less than 6 months	6-12 months or more	Varied
Comfort of Procedure (Rating)	4.5/5	4.2/5	4.4/5
Willingness to Pay for Veneers (Despite Cost)	60% (8 participants)	N/A	N/A
Financial Consideration Important	40% (6 participants)	50% (3 participants)	45%
Overall Preference	70% (14 participants) preferred veneers	30% (6 participants) preferred aligners	N/A