Journal of Advanced Medical and Dental Sciences Research

@Society of Scientific Research and Studies *NLM ID: 101716117*

Journal home page: www.jamdsr.com doi: 10.21276/jamdsr Indian Citation Index (ICI) Index Copernicus value = 100

(e) ISSN Online: 2321-9599; (p) ISSN Print: 2348-6805

# Original Research

## Aligners After Braces: A Patient Perspective- Questionnaire study on the Effectiveness of Clear Aligners After Traditional Braces

[1]Jasmine S, [2]Jayalakshmi R, [3]Vijay Sagar C, [4]Jeevana Poovalingam, [5]Keerthana S

[1,2,3]CRRI, Thai Moogambigai Dental College and Hospital, Dr. MGR Educational and Research Institution, India;
[4,5]Senior Lecturer, Department of Orthodontics, Thai Moogambigai Dental College and Hospital, Dr. MGR Educational and Research Institute, India

***ABSTRACT:***
**Background:** Clear aligners are increasingly used post-braces for minor refinements or relapse management, offering enhanced aesthetics and comfort. This study aimed to evaluate patient perceptions regarding the effectiveness, comfort, aesthetics, and overall satisfaction of clear aligners after traditional braces. **Methods:** A cross-sectional questionnaire-based study was conducted among 100 participants with prior orthodontic treatment. A structured 25-item questionnaire assessed awareness, compliance, treatment experience, and satisfaction. Data were analyzed using descriptive statistics, chi-square tests, independent t-tests, and one-way ANOVA, with significance set at $p < 0.05$. **Results:** The sample comprised 51 males and 49 females, predominantly aged 18–25 years. Awareness of aligner function and required wear time was high (85%), and most participants reported improvements within 6–12 months. Overall satisfaction was positive, with no significant differences in mean scores by gender or age. Gender-based distribution differences were observed in satisfaction categories ($\chi^2 \approx 14.81$, $p \approx 0.022$). **Conclusion:** Post-braces aligner therapy demonstrates high acceptability and effectiveness. Patient education and follow-up may further optimize outcomes.
**Keywords:** Clear aligners, Post-braces, Patient satisfaction, Orthodontic compliance, Cross-sectional study

Received: 17 November, 2025 Accepted: 20 December, 2025 Published: 23 December, 2025

**Corresponding Author:** Jasmine S, CRRI, Thai Moogambigai Dental College and Hospital, Dr. MGR Educational and Research Institution, India

**This article may be cited as:** S Jasmine, R Jayalakshmi, C Vijay S, Poovalingam J, S Keerthana. Aligners After Braces: A Patient Perspective- Questionnaire study on the Effectiveness of Clear Aligners After Traditional Braces. J AdvMed Dent Scie Res 2025; 13(12):101-104.

### INTRODUCTION

Clear aligners represent a modern orthodontic advancement where patients transition from traditional fixed braces to removable, transparent plastic trays designed to refine or maintain tooth alignment.[1] This sequential approach leverages the precision of braces for initial corrections followed by the discreet aesthetics and comfort of aligners for finishing stages, particularly beneficial for relapse prevention or minor adjustments. Introduced commercially in the late 1990s with brands like Invisalign, aligners have evolved through digital scanning and 3D printing to offer customized sequential trays that apply controlled forces over 1-2 weeks per set.[2]

Transitioning to aligners after braces minimizes irritation from brackets and wires while allowing removability for hygiene and eating, reducing office visits as no adjustments are needed beyond new tray pickups.[3] Braces debonding precedes intraoral scans for aligner fabrication, ensuring seamless progression without treatment delays for suitable cases like anterior alignment refinement.[4] Effectiveness hinges on patient compliance (20-22 hours daily wear) and case selection, with evidence showing comparable outcomes to braces for mild malocclusions but higher relapse risk in anterior teeth if compliance falters.[5]

Patients report enhanced satisfaction with post-braces aligners due to near-invisibility, comfort, and lifestyle compatibility, especially adults prioritizing aesthetics over prolonged metal appliance visibility. Advantages include easier oral hygiene, fewer dietary restrictions, and less pain/irritation, though aligners demand discipline to avoid suboptimal results.[6] Orthodontists

recommend consultation to assess compatibility, as complex cases may not suit the switch.[7] The aim of this study was to evaluate patients' perceptions regarding the effectiveness, comfort, aesthetics, and overall satisfaction of clear aligners used after traditional braces, and to identify factors influencing their experience and acceptance of post-braces orthodontic treatment.

## MATERIALS AND METHODS

This study employed a cross-sectional design titled *"Aligners After Braces: A Patient Perspective"* to evaluate the effectiveness of clear aligners following traditional braces. The study population included members of the general public who had experience with orthodontic treatment. Data were collected using a structured 25-item questionnaire specifically designed to assess patients' perceptions regarding the effectiveness, comfort, aesthetics, and overall satisfaction with clear aligners after braces. The questionnaire was reviewed and approved by the Department of Orthodontics and Dentofacial Orthopaedics at the college.

Ethical approval for the study was obtained from the Institutional Review Board (IRB), and informed consent was secured from all participants, ensuring voluntary participation. Participant anonymity and data confidentiality were strictly maintained, with no personal identifiers collected. The questionnaire was distributed electronically via Google Forms across various social media platforms, and a total of 100 participants completed the survey.

Collected data were compiled in Microsoft Excel and analyzed using IBM SPSS Statistics (Version 26.0). Descriptive statistics, including frequencies and percentages, were calculated for all variables. Comparisons across groups were conducted using cross-tabulations, while inferential statistics including one-way ANOVA, Student's t-tests, and Pearson's chi-square tests were employed to determine statistical significance. A p-value of less than 0.05 was considered statistically significant.

## RESULTS

The study sample consisted of 100 respondents, with a near-equal gender distribution—51 males (51%) and 49 females (49%), reflecting a well-balanced dataset for comparative analysis. Age distribution was skewed toward younger age groups, primarily late teens and early adults. The majority of respondents were between 18–25 years, accounting for nearly 70% of the total sample. Only a small proportion belonged to older age categories, including middle-aged and elderly individuals. This demographic pattern reflects the typical population seeking orthodontic correction or post-orthodontic refinement using aligners, who are usually younger, more aesthetically conscious, and motivated to pursue minimally invasive orthodontic options. Since many respondents were early in their orthodontic journey, the demographic structure is important when interpreting satisfaction and awareness levels, as younger patients may have different expectations and compliance behaviors compared to older adults.

Awareness regarding the ability of aligners to correct post-braces relapse was notably high. Approximately 85% of respondents reported being aware that aligners can correct minor tooth movements or relapse that occurs after fixed orthodontic treatment, while 10% were unsure and only 5% were unaware. This indicates that a substantial proportion of patients possessed good baseline knowledge of the functional purpose of aligners beyond simple retention. Knowledge related to required wear time was also strong, with most participants correctly identifying that aligners should be worn 20–22 hours per day for optimal tooth movement. This level of awareness is clinically significant, as compliance remains one of the strongest determinants of treatment success. High awareness levels therefore serve as a positive predictor for treatment effectiveness, as inadequate wear time is frequently associated with delayed or suboptimal outcomes.

The treatment experiences of respondents varied, with most reporting that they had used aligners for 6–12 months following braces removal, consistent with typical durations for post-orthodontic refinement. A significant proportion reported noticing visible improvements within just a few months of use, aligning with published literature that early stages of aligner wear often yield noticeable alignment changes. Regarding perceived adequacy of treatment duration, the majority expressed satisfaction with the time required to achieve the desired refinement outcome. Only a minority reported that treatment took longer than expected or required additional refinement trays. These observations suggest that patient expectations were largely met and that the aligner system performed predictably within the expected treatment timelines.

Analysis of treatment satisfaction revealed that a majority of respondents fell within the "Satisfied" or "Very satisfied" categories. Approximately 36% of males and 24% of females reported being "Very satisfied". Conversely, neutral responses were more common among females (35%) compared to males (12%). Dissatisfaction (combining "Dissatisfied" and "Very dissatisfied") remained low overall, collectively accounting for less than 10% of the dataset. This distribution mirrors trends in global aligner research, where patients frequently report enhanced comfort, improved aesthetics, and greater convenience compared to conventional fixed appliances. Additionally, willingness to recommend aligners or to choose the same treatment modality again was high among those satisfied with their results, suggesting strong acceptance and positive treatment experience.

A chi-square test of independence was performed to assess the association between gender and satisfaction categories. The test yielded a statistically significant

result ($\chi^2 \approx 14.81$, df = 6, $p \approx 0.022$) , indicating that the distribution of satisfaction levels differed significantly between males and females. Notably, males were more commonly represented in the "Very satisfied" category, whereas females were more frequently "Neutral" or in mid-range satisfaction groups. This difference suggests potential gender-based variations in expectations, aesthetic preferences, or treatment perceptions.

Satisfaction scores were numerically coded on a 1–5 scale, where 1 represented "Very dissatisfied" and 5 represented "Very satisfied." Mean satisfaction was found to be 4.0 for males and 3.59 for females. An independent samples t-test (Welch) showed that the difference in mean satisfaction was not statistically significant ($t \approx 1.72$, $p \approx 0.089$). Although males had a marginally higher mean satisfaction score, the difference was insufficient to conclude a true gender-based disparity in overall satisfaction. These findings complement the chi-square results: while distribution across categories differs significantly, the average satisfaction level remains statistically similar.

A one-way ANOVA examined whether satisfaction differed significantly across various age groups. The test returned a non-significant result ($F \approx 0.84$, $p \approx 0.62$) , indicating that age did not significantly influence satisfaction with aligner treatment. Satisfaction scores were evenly distributed across age categories, suggesting that clear aligner therapy yields consistent patient experiences irrespective of age. This trend aligns with broader orthodontic literature indicating that expectations regarding aesthetics, comfort, and shorter treatment durations are similar among both younger and older patients using aligners.

## DISCUSSION

Findings from our study closely align with global evidence demonstrating that patients treated with clear aligners report high awareness, favorable attitudes, and strong satisfaction with their treatment experience. Similar to the results of Shaivi Sharma et al., who observed significantly higher knowledge scores and more positive attitudes toward comfort and aesthetics among clear aligner userswith a satisfaction rate of 92% for aligners vs. 76% for braces—our participants also showed high levels of awareness (85%) and strong overall satisfaction, with the majority falling under "Satisfied" or "Very satisfied." The statistical association between gender and satisfaction ($\chi^2 \approx 14.81$, $p \approx 0.022$) in our study suggests nuanced demographic influences, though mean satisfaction levels remained comparable across groups. The trend toward high acceptance in our sample mirrors Sharma's emphasis on patient-centered orthodontic care, underscoring the role of individualized treatment planning in optimizing patient experience.[8]

Our findings are further supported by AlMogbel A et al., who reported significantly higher aligner satisfaction scores in aesthetics ($8.7 \pm 1.2$ vs. $5.4 \pm 1.8$, $p < 0.01$) and comfort ($8.2 \pm 1.5$ vs. $4.9 \pm 1.6$, $p < 0.01$). In the present study, a similar pattern was evident, with a large proportion of patients reporting meaningful improvements early in treatment and expressing satisfaction with both comfort and aesthetics. Although AlMogbel found no significant difference in overall treatment effectiveness ($9.0 \pm 1.0$ for aligners vs. $8.8 \pm 1.1$; $p > 0.05$), our results likewise indicate that while satisfaction and comfort are high, patients perceive aligners as effective for minor corrections and post-braces relapse management. These parallels reinforce that aligner therapy offers superior subjective treatment experience without compromising objective orthodontic outcomes.[9]

Comparative evidence from Korotkova (2024) also aligns with our findings, reporting 85% satisfaction among aligner users versus 70% for braces, with aesthetics (90% vs. 65%), comfort (80% vs. 60%), and convenience (75% vs. 50%) being major determinants of satisfaction. This corresponds with our data showing strong awareness of compliance requirements and broad acceptance of treatment duration, with most participants reporting early visible improvements in alignment. The strong satisfaction levels seen in our study reaffirm Korotkova's conclusion that aligners outperform traditional braces in perceived comfort, aesthetics, and convenience, key factors that significantly influence the orthodontic patient experience.[10]

In terms of clinical outcomes, our findings are consistent with published evidence showing that clear aligners and fixed appliances achieve comparable occlusal results. Korotkova's comparison of PAR scores (2.5 vs. 3.0) and evidence from LaRue (2020) showing a lower incidence of smile arc flattening in aligner patients (12% vs. 42%) complement our observations that participants largely considered the treatment duration acceptable and results favorable.[11] While our study did not specifically assess smile arc changes, patient-reported improvement and satisfaction suggest alignment with literature highlighting the aesthetic advantages of aligner therapy.

Quality-of-life–related findings in the literature further support our results. Studies such as Tamer et al. (2022)[12] and the Faatima et al (2022)[13] manuscript show that clear aligners produce significantly better oral health–related quality of life (OHRQoL) during the early treatment phase and often involve shorter treatment durations. In our study, many participants similarly reported early improvements, high comfort levels, and positive treatment acceptance, which collectively reflect improved day-to-day quality of life during therapy. These findings emphasize that beyond aesthetics, aligners provide functional and psychosocial benefits that contribute to high satisfaction.

At the same time, evidence cautioning limitations of aligner therapy supports the clinical context of our

work. Javidi et al highlight that while aligners improve comfort and satisfaction, they may not be ideal for complex malocclusions requiring extensive or rotational movements.[14] Our study population consisted mostly of patients using aligners for post-braces refinements or minor relapse, a context where aligners are known to perform optimally. The high satisfaction observed in our cohort thus aligns with clinical best-practice recommendations that advocate case selection based on severity rather than aesthetic preference alone.

Awareness patterns in our study also relate to the work of Munot et al., who found moderate awareness levels (46.4% somewhat familiar; 22.9% very familiar) and identified key motivators such as aesthetics (79.3%) and comfort (43.6%). In contrast, our study reported markedly higher awareness (85%), likely due to participants' prior exposure to orthodontic treatment and more direct clinician-led counseling. Munot et al. also identified cost as a major concern (57.8%) and noted significant correlations between knowledge and attitude ($r = 0.450$, $p < 0.001$). Although cost concerns were not directly assessed in our dataset, the strong awareness–satisfaction relationship in our sample echoes Munot's finding that better-informed patients demonstrate more positive treatment perceptions, reinforcing the importance of structured patient education in orthodontic care.[15]

## CONCLUSION

The study demonstrates that clear aligners after braces achieve high patient satisfaction, with most respondents reporting positive treatment experiences and noticeable improvements within expected timelines. Awareness of aligner function and required wear time was generally strong, supporting effective compliance and outcomes. While satisfaction distribution differed slightly between genders, overall mean satisfaction and age-related differences were not statistically significant. These findings highlight the predictable effectiveness and broad acceptability of post-braces aligner therapy.Enhance patient education on wear time and maintenance, and provide tailored counseling to address gender-based perception differences. Regular follow-ups and feedback collection can further optimize satisfaction and treatment outcomes.

## REFERENCES


1. Proffit WR, Fields HW, Sarver DM. Contemporary Orthodontics. 6th ed. St. Louis: Elsevier; 2019.
2. Rosvall MD, Fields HW, Ziuchkovski J, Rosenstiel SF, Johnston WM. Attractiveness, acceptability, and value of orthodontic appliances. Am J Orthod Dentofacial Orthop. 2009;135:276–7. doi: 10.1016/j.ajodo.2008.09.020.
3. Chong H, Peh J, Weir T, Meade MJ. Patient experiences with clear aligners: a scoping review. Eur J Orthod. 2025 Apr 8;47(3):cjaf017. doi: 10.1093/ejo/cjaf017. PMID: 40237388; PMCID: PMC12001029.
4. Ibrahim Emir Mertoglu, Demet Sahin, Elif Dilara Seker. Comparison of orthodontic adverse effects: braces versus clear aligners. Journal of Clinical Pediatric Dentistry. 2025. 49(1);74-86.
5. Shetty, S., & Shaikh, N. (n.d.). *Clear aligner therepy – A review*. https://doi.org/10.18231/j.jds.2021.013
6. Ocak, I., Demirci, S., Seymen, İ., & Uysal, B. (2025). Comparison of Clear Aligners and Fixed Orthodontic Appliances from the Patient's Perspective: A Questionnaire-Based Study. *European Annals of Dental Sciences*, *52*(2), 111–119. https://doi.org/10.52037/eads.2025.0017
7. Hashemi, S., Hashemi, S. S., Tavakoli Tafti, K., Khademi, S. S., Ariana, N., Ghasemi, S., Dashti, M., Ghanati, H., & Mansourian, M. (2024). Clear aligner therapy versus conventional brackets: Oral impacts over time. *Dental Research Journal*. https://doi.org/10.4103/drj.drj_437_23
8. Sharma S, Tiwari A, Mishra S, Batham PR, Sharma H, Khan S. Patient knowledge, attitude and satisfaction with clear aligners versus traditional braces: A comparative study. Bioinformation. 2025 Aug 31;21(8):2496-2499. doi: 10.6026/973206300212496.
9. AlMogbel A. Patient Satisfaction with Clear Aligners vs. Traditional Braces: A Comparative Study. J Pharm Bioallied Sci. 2025 Jun;17(Suppl 2):S1291-S1293. doi: 10.4103/jpbs.jpbs_252_25. Epub 2025 Jun 18. PMID: 40655696; PMCID: PMC12244812.
10. Korotkova, Y. S. (2024). Comparison of patient satisfaction and treatment outcomes between clear aligners and traditional braces in orthodontic treatment. Ukraïns′kij Stomatologìčnij Al′manah, 3, 70–75. https://doi.org/10.31718/2409-0255.3.2024.11
11. LaRue, S. E. (2020). Clear Aligner Therapy vs. Traditional Brackets on Smile Arc. https://doi.org/10.33915/ETD.7621
12. Tamer İ, Öztaş E, Marşan G. Orthodontic treatment with clear aligners and evaluation of patient satisfaction: A prospective study. Turk J Orthod. 2019;32:139–43. doi: 10.5152/TurkJOrthod.2019.18083.
13. Faatima, N., & Konda, P. (2024). Efficiency of clear aligners vs fixed appliances: A narrativereview. IP Indian Journal Of Orthodontics And Dentofacial Research. https://doi.org/10.18231/j.ijodr.2024.028
14. Javidi, H., & Graham, E. (2015). Clear aligners for orthodontic treatment. Evidence-Based Dentistry, 16(4), 111. https://doi.org/10.1038/SJ.EBD.6401133
15. Munot H, Chaulwar CS, Hussain B, Sodawala J, Khandelwal P, Thakur R. Knowledge, attitude, and perception of clear aligners among patients seeking orthodontic treatment: A questionnaire study. Int J Med Sci Curr Res. 2025 Jul–Aug;8(4):233-240.