

Self-Perception of Dental Appearance and Apprehension towards Orthodontic Treatment and Knowledge about Clear Aligners among Undergraduates and Interns-A Questionnaire Study

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Abstract

Original Research Article

Background: The present survey aimed to assess self-perception and apprehension towards orthodontic treatment and knowledge about the ongoing trend of clear aligners among undergraduate dental students and interns. **Material and Methods:** A web-based survey and the questionnaires consisted of 23 questions which were sent to 249 dental students studying at HKES's Nijalingappa dental college Gulbarga through google Forms. **Results:** A total of 249 students participated in this study out of which 204 females and 45 were males. 103 were interns and 146 were undergraduate students. chi-square test was used to evaluate the responses of dental students. The results showed that females were more enlightened about the aligner therapy than their male peer group and were more prone to choose aligners as the treatment of choice. Among undergraduates and interns, interns were well-versed regarding the aligner therapy and the treatment that could be carried out using the aligners. **Conclusion:** Study concluded that Dental students and interns had a good knowledge about aligners and positive attitude towards orthodontic treatment. Even though aligners are cost effective, majority of Dental students preferred aligners as it gives aesthetic appearance over conventional fixed appliance with females being more aware of the same.

Keywords: Assessment; attitude; knowledge; orthodontic treatment.

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INTRODUCTION

Patient generally undergo orthodontic treatment for enhancing their facial and dental appearance. The main factor that influences the decision for treatment are esthetic improvement and psychological aspect. Patients are now more conscious about their facial esthetics and they want a perfect smile. It is always difficult to measure what exactly dental esthetics means as there is variability in individual judgement regarding esthetics. The decision to provide and accept orthodontic treatment are not only defined by orthodontist but patient perception of own facial appearance, dental esthetics, self-esteem, self-concept is more important contributing factor. Gender, Age, self-esteem, education and socioeconomic condition may affect the self-perception of dental appearance and attitude towards orthodontic treatment.

The present rise in the number of people seeking orthodontic treatment, there has been comparable rise in demand for appliances that are both more aesthetic and comfortable than traditional fixed appliances. Clear aligners are orthodontic appliance that are a clear, plastic version of dental braces used to correct teeth. Growth in the accesibility of orthodontic clear aligners to the general practitioners has grown in recent years. Initially traditional orthodontic practice was done by specialised orthodontist based on the referrals from the general dentists. But due to various companies supplying the aligners directly to non-specialists, an increased number of these non-specialised practitioners have started providing orthodontic treatment. The dentist sets an appointment for the patient to get his impressions of upper and lower arches and the intraoral and extraoral photographs. These records are then submitted to the company which

plans the treatment and sends the aligner sets accordingly. Although this enables any general dentist to perform orthodontic treatment, the safety and efficacy of such treatment modality is questionable. Also the risk of potential side effects due to treatment without supervision of orthodontist increases [10]. This study was done to assess self-perception and apprehension towards orthodontic treatment and knowledge about the ongoing trend of clear aligners among undergraduate dental students and interns.

MATERIALS AND METHODS

A 23 web based questionnaire survey was prepared and distributed to the dental students studying at H.K.E.S. Nijalingappa dental college using Google Forms. A total of 275 forms were distributed out of which 249 students responded to the survey questionnaire. The target population included second year, third year, and final year dental students as well as interns in the age group of 18-25 years. The response rate was 89.28%. The results tabulated in Microsoft Excel/ spreadsheet by google was exported to SPSS 20 software and statistical analysis was carried out. Categorical variables were evaluated using a chi-square test for statistical difference between the gender. Statistical significance was set at $P < 0.05$.

This survey was designed to evaluate (1) awareness about the problems related with malocclusion, (2) preference between aligners and traditional orthodontic treatment and (3) treatment modalities possible with aligner therapy.

Following were the components of questionnaire

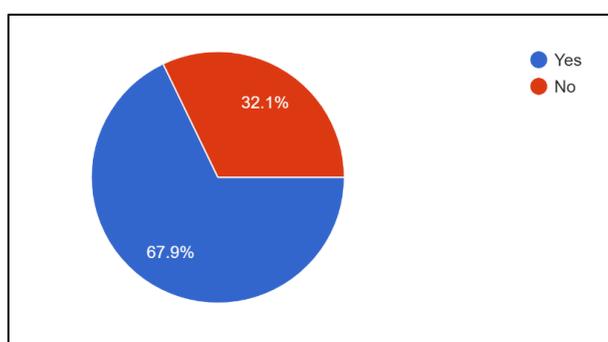
1. Name
2. Age
3. Gender
4. Year of study
5. Are you satisfied with the arrangement of your teeth. (yes/no)
6. Have you ever felt lack of confidence or avoid smiling because of the appearance of your teeth. (yes/no)
7. Do you find difficulty in maintaining oral hygiene. (yes/no)

8. Do you frequently encounter bleeding from gums near irregularly placed teeth. (yes/no)
9. Do you think you should take orthodontic treatment. (yes/no)
10. Do you readily agree to orthodontic treatment, if orthodontist suggest. (Agree/disagree)
11. What will be your preference of choice among the following appliances. (yes/no)
12. Do you think orthodontic appliance may interfere with speech and mastication. (yes/no)
13. Are you aware about the dietary modification during the course of the treatment. (yes/no)
14. Are these dietary modifications are trying to stop you from taking orthodontic treatment. (yes/no)
15. Do you think orthodontic treatment can bring about major aesthetic improvement. (yes/no)
16. Do you think orthodontic treatment is painful and lengthy procedure. (yes/no)
17. Are you aware that orthodontic treatment may require tooth removal in few cases. (yes/no)
18. Do you know the purpose of aligners. (yes/no)
19. Are Aligners cost effective. (yes/no)
20. Do you think oral hygiene can be better maintained using aligners than braces. (yes/no)
21. Do aligners provide favourable aesthetic appearance. (yes/no)
22. Do you think aligners are better in treatment efficiency as compared to conventional fixed appliance. (yes/no)
23. Do you think aligners can be used for all kinds of malocclusion. (yes/no)

RESULTS

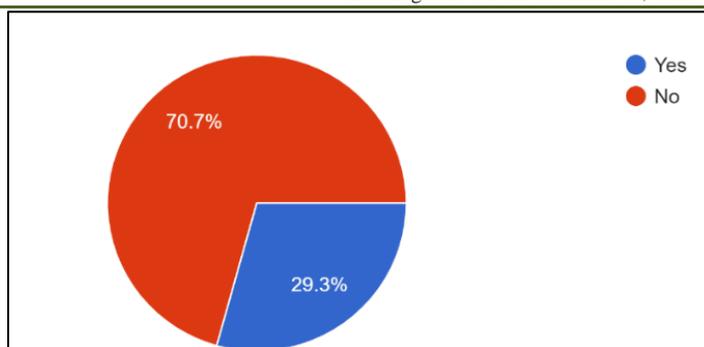
The study included 250 participants and there were 23 questions the results of the study is as follows.

When asked about whether they are satisfied with the arrangement of their teeth 67.9% of students said yes and 32.1% students weren't satisfied with the treatment n

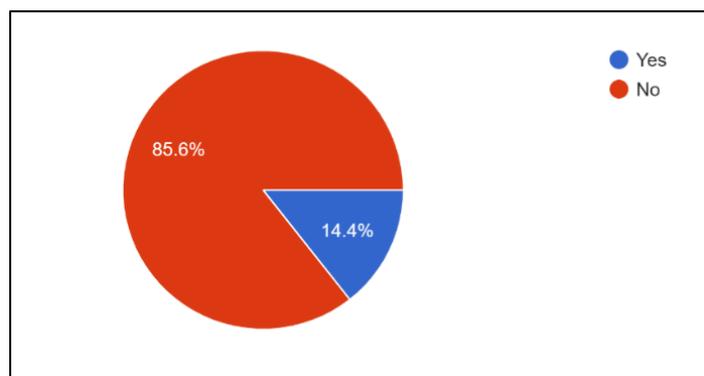


When the students were asked about lack of confidence or whether they avoided smiling because of the appearance of their teeth, 70.7% students said no

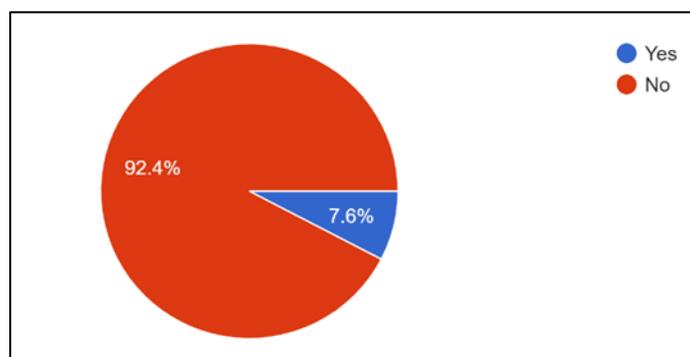
and 29.3% students faced the lack of confidence to smile due to their appearance of the tooth.



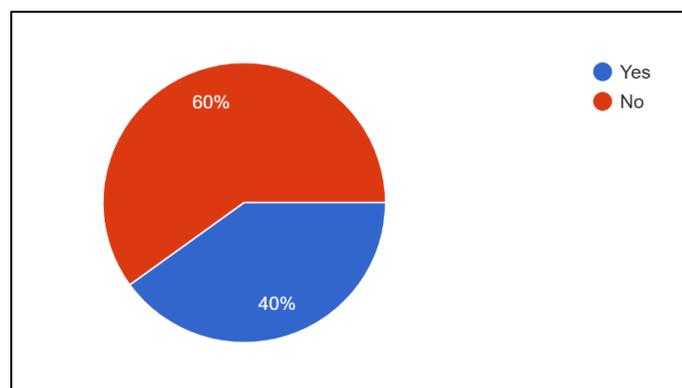
14.4% had problem in difficulty to maintain oral hygiene and 85.6% didn't face the problem to maintain oral hygiene.



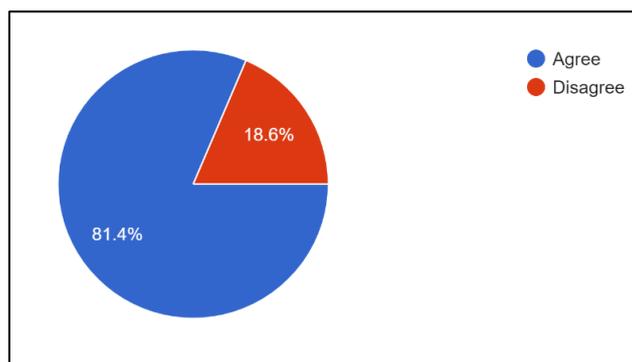
Among 250 responses 7.6% of population had bleeding from their gums due to irregularly placed tooth



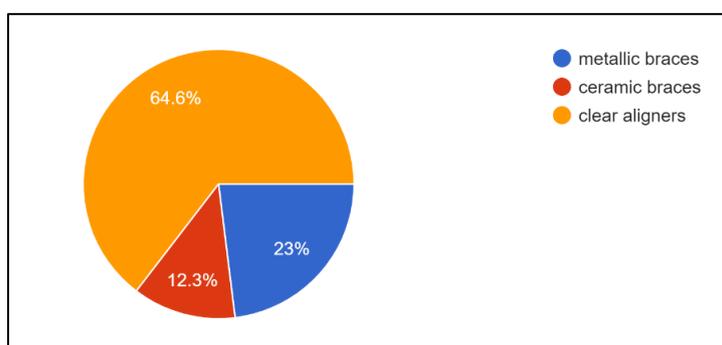
When they were asked about whether they should take orthodontic treatment 40% of the students responded yes while 60% of the population said no.



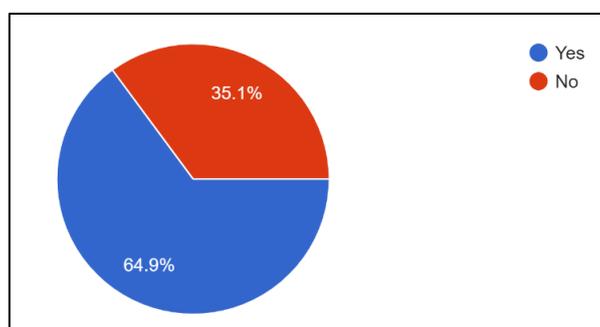
When they were asked if they readily agree for orthodontic treatment if an orthodontist suggest 81.4% of students responded to agree for the treatment



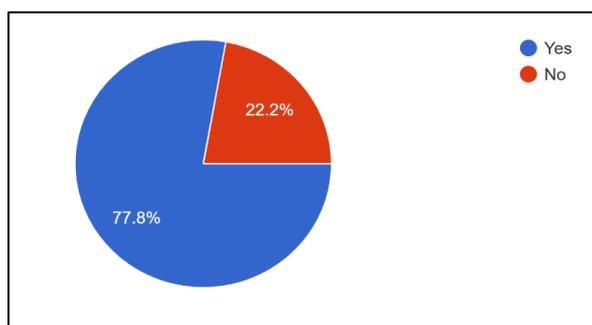
Most of the students choose clear aligners as the orthodontic appliance ie.,64.6% and 23% choose metallic appliance and 12.3% choose ceramic appliance.



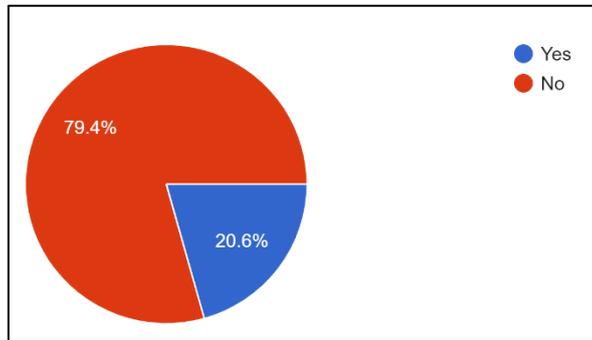
When they were asked whether orthodontic appliance may interfere with speech and mastication 64.9% of the responders responded yes



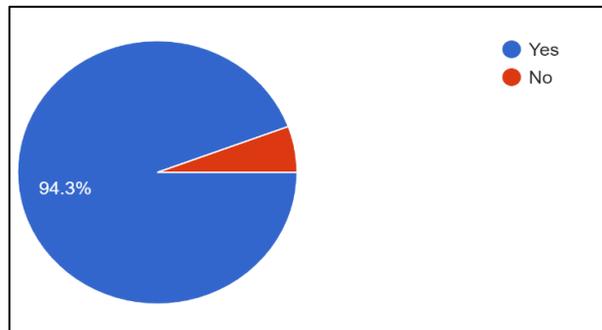
When they were asked about the dietary modification during the course of the treatment 77.8% agreed yes while 22.2% were unaware about the same



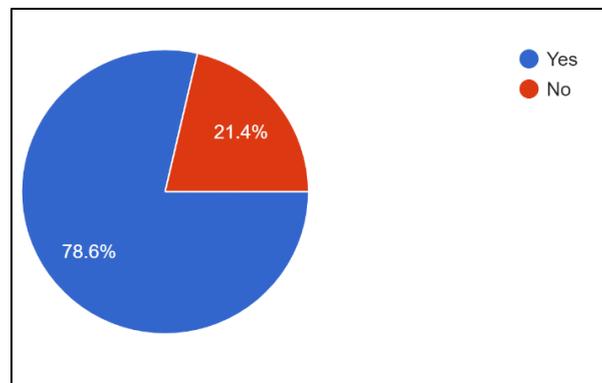
Are these dietary modifications are trying to stop you from taking orthodontic treatment
Yes 20.6%
No 79.4%



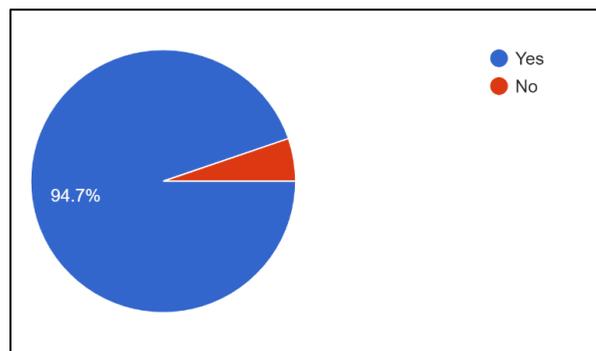
94.3% of the responders responded that orthodontic treatment brings major aesthetic improvement



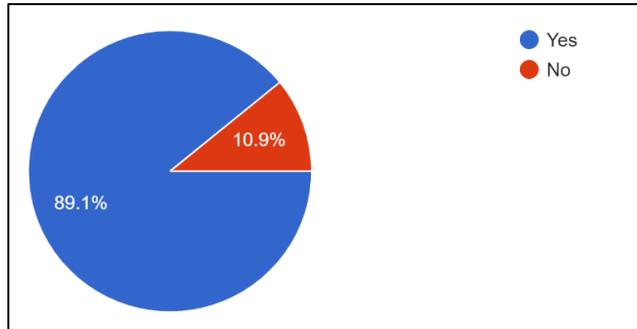
78.6% responders thought that orthodontic treatment is painful and lengthy procedure



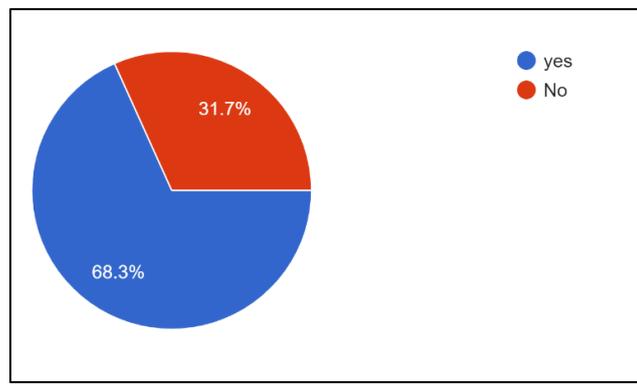
94.7% of the responders knew that orthodontic treatment would require tooth removal in few cases



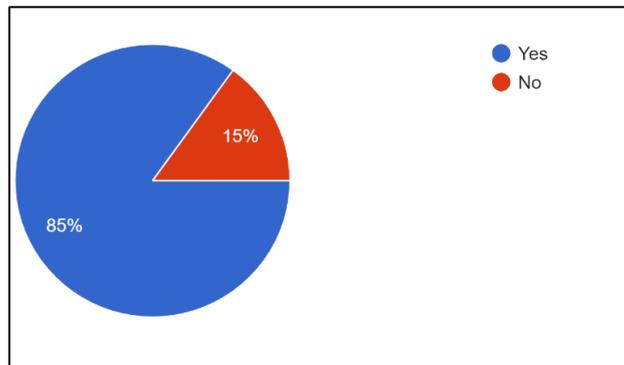
When asked about the purpose of aligners 89.1% responders knew the purpose of aligners while 10.9% of responders were unaware of the same



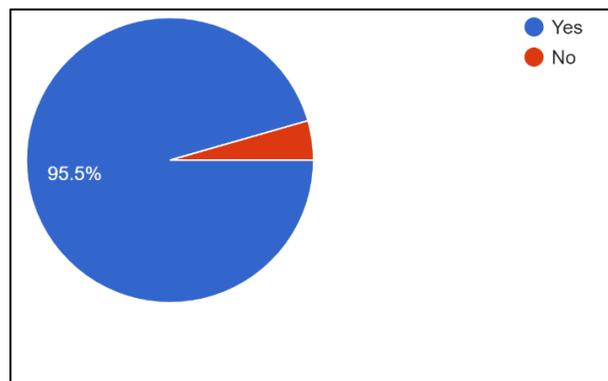
Aligners are cost effective? 68.3% agreed that aligners are cost effective



85% of the population agreed that oral hygiene can be better maintained with aligners than with braces

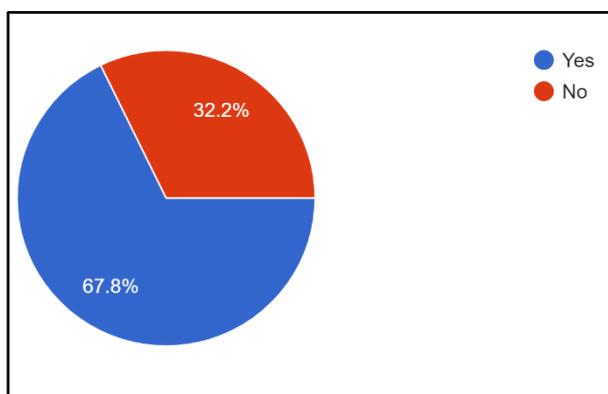


95.5% responders thought that aligners provide favorable aesthetic appearance

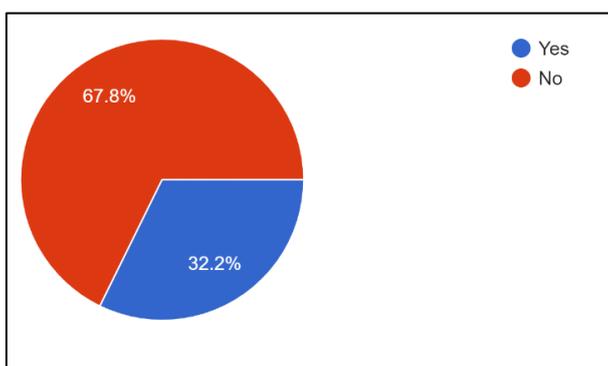


When they were asked about the better treatment efficiency with aligners compared to conventional fixed appliance 67.8% of the population

responded yes while 32.2% were aware that treatment efficiency with aligners was not better compared with conventional fixed appliances.



When asked whether the aligners can be used for all kind of malocclusion 67.8% responded yes while 32.2% responded no



DUSCUSSION

- Patient may be aware of the malocclusion but they may not identify the need for treatment to the same level as the professionals. Also, the evaluation of the facial esthetics from the professionals may not coincide with the perception and expectations of the patients and lay persons. Some people are contended even with the severe malocclusion others can be more concerned about the minor irregularities. So, self-perception is of significant important in delivering the treatment demand and cooperation. Moreover, evaluating a dental esthetic perception is crucial for dentists to understand their needs and manage their expectations regarding the treatment outcome.
- Also Orthodontic aligner therapy has gained increased recognition within the dental community in the past decade. In 1945, Kesling introduced the orthodontic aligners, which enabled the clinicians to perform minor tooth moments during the finishing stage of the treatment.

In the present survey, 250 students studying at hkes nijalingappa dental college Gulbarga karnataka, India, in the age group of 18-25 years, were given a prestructured questionnaire consisting of 23 questions out of which 5 for demographic data collection. This sample does not represent the dental students in the whole of India but rather gives a relative assessment about the apprehension between conventional orthodontic treatment and orthodontic aligner therapy among dental students. It also judged the perception among dental students about the various treatment modalities that can be carried out with aligners. Chi-square test was also evaluated to find association between males and females as well as between the undergraduates and interns regarding the awareness of aligners' therapy. It was observed that females on an average have more apprehension about orthodontic aligner therapy as well as the different treatment that could be performed using aligners. When given a choice, majority of the students chose aligners over braces. Among the respondents, undergraduates were more satisfied with their smile than interns. Majority of the undergraduates (67.9%) did not find any problems related to irregularities of the teeth. However, (29.3%) were dissatisfied with their smile due to irregularities of

teeth. Most of the undergraduate and interns (89.1%) were aware about the use of aligners. Correlation between males and females showed that majority had knowledge about orthodontics and aligners therapy. Among the respondents, females (88.4%) were more aware about the purpose of aligners than males (73.3%). This is in accordance with the study done by d' Apuzzo *et al.*, [6], in which orthodontic aligner treatment was mainly performed in females than in males. Also maximum number of responders believed that (85%) were of the opinion that oral hygiene could be better maintained using aligners. A study conducted by Kumar MD *et al.*, among the general population in Chennai, Tamil Nadu, concluded that though the population was moderately aware of the orthodontic aligners, they lack knowledge regarding when to choose aligners for their orthodontic treatment [7]. In another study conducted by Gaurav Acharya *et al.*, among dental students and interns in KIST medical college, it was found that both had a good knowledge about orthodontic treatment but awareness about aligners was not evaluated [8].

CONCLUSION

Following points can be concluded from the survey,

- Dental students and interns had a good knowledge about orthodontic treatment and positive attitude towards it. Compared to 1st years, Interns has more positive attitude and readily agree for orthodontic treatment if suggested by orthodontist
- Statistically significant difference was found in preference of different types of braces in students of different years and interns. Given a choice dental students preferred aligners over braces
- Gender difference exists regarding the awareness of orthodontic treatment. Females were more aware about orthodontic aligner therapy
- Majority of the students were of the opinion that oral hygiene can be performed better with aligners with favourable aesthetic appearance and better treatment efficiency.

There are many studies undertaken to know the awareness of general population regarding

orthodontic treatment with aligners throughout India. Increasing number of general dentists providing Orthodontic aligner therapy, which necessitates the need to increase the awareness about it at the undergraduate level as well as a basic idea and knowledge about which cases are ideal for treatment with aligners.

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