

# Survey on the Orthodontic Awareness in MGM Campus, Navi Mumbai, Maharashtra, India

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## ABSTRACT

**Introduction:** Awareness is the state or ability to perceive, to feel, or to be conscious. The decision to go for an orthodontic treatment is influenced by the desire to look attractive, to overcome social pressure, and to enhance self-esteem. The aim of the present survey was to assess the awareness of orthodontics in MGM Campus, Navi Mumbai.

**Materials and methods:** This study was carried out through an online questionnaire of 22 questions which was distributed through various channels, such as personal e-mails and communication through the phone to students of MGM Campus, Navi Mumbai fitting the inclusion criteria. The sample size of 285 represented a population of students in the age group of 18–24 years. The questionnaire was made accessible to the participants for 2 months.

**Results:** Results showed that nearly 78% of the subjects had visited a dentist before while 40% were unaware of the role of an orthodontist, indicating a general lack of awareness of the difference between a general dentist and an orthodontist. The majority of the subjects were able to notice people with irregular teeth around them and 79.6% of the subjects noticed improper positioning of their teeth by themselves, thus indicating that people were conscious about the crowding seen within their dentition. More than 80% of the subjects believed that maintaining oral hygiene is difficult with the presence of crowded teeth, oral habits can have deleterious effects on teeth, and for an esthetic facial appearance, teeth should be well aligned. Nearly 50% of the participants were simply unaware that orthodontic treatment could be performed after the age of 40 years as well. Majority were aware of the various types of braces and >60% of the subjects knew that ceramic and lingual braces are more expensive as compared to traditional metal braces. A lack of awareness about invisible braces options was seen in >60% of the participants. Diet restrictions for better orthodontic results were known to majority of the participants. Nearly 90% of the subjects knew that special care has to be taken of oral hygiene during the orthodontic treatment. Extraction protocol for better treatment results and disadvantages, such as pain and ulcerations, either was known to >80% of the subjects. More than 70% were aware that orthodontic treatment is usually of longer duration as compared to other types of dental treatment. Nearly 46% of the subjects were unaware of the frequency of orthodontic appointments. Only 66% knew that it is necessary to wear retainers after the completion of treatment. More than 50% felt that self-consciousness would majorly influence their decision to go for orthodontic treatment. Nearly 60% felt that social life is not adversely affected by braces.

**Conclusion:** There was less awareness in young adults, about various orthodontic treatment options and in general about orthodontic treatment, hence there is a need to create awareness about the same, which will help us provide a better quality of treatment.

**Keywords:** Awareness, Orthodontic treatment, Survey.

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## INTRODUCTION

Awareness is the state or ability to perceive, to feel, or to be conscious. It sets a foundation for planning oral health, which is a vital part of general health.<sup>1–3</sup> Malocclusion can be considered as any deviation from an ideal occlusion. It can be due to a number of etiological factors like oral habits and anomalies in the dentition like changes in shape, position, number of teeth, and so on. Malocclusions tend to have many adverse effects on patient's routine activities, such as mastication, swallowing, or maintaining oral hygiene.<sup>4,5</sup>

Orthodontics is a branch which aims at correcting malocclusions, improving esthetics, and restoring normal function. Normal alignment of teeth not only contributes to oral health but also helps to achieve overall well-being and better personality for an individual. The decision to go for an orthodontic treatment is influenced by the desire to look attractive, to overcome social pressure, and to enhance self-esteem.<sup>6–9</sup> There have been studies in the past to assess the awareness of orthodontics among the lay population but none have addressed Navi Mumbai as per our layout. The aim of the present survey was to assess the awareness of orthodontics in MGM Campus, Navi Mumbai.

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**Conflict of interest:** None

## MATERIALS AND METHODS

A cross-sectional questionnaire study was conducted at the MGM Campus, Navi Mumbai. This study was targeted to individuals within the age group of 18–24 years. A sample of 300 individuals at the MGM Campus, Navi Mumbai was considered for the survey. Out of 300, there were 15 samples who did not consent to participate for the survey, thus bringing the final sample size to 285.

The sample size of 285 represented population of students in the age group of 18–24 years, who had not undergone any orthodontic treatment in the past. Students from dental field were not included for the study. A total of 22 multiple choice questions related to orthodontic awareness were prepared online using Google Docs (see Appendix). This questionnaire was distributed through various channels, such as personal e-mails and communication through the phone. These Google form links which were provided to the participants were filled and submitted individually by participants online on the Google platform. A follow-up to non-respondents was sent in the form of one reminder e-mail or one telephonic message. The questionnaire was made accessible to the participants for the duration of 2 months. The data generated online was collected and analyzed and its content validity was assessed.

## RESULTS

This survey recorded a total of 285 responses. Results showed that nearly 78% of the subjects had visited a dentist, indicating that a higher percentage were aware of a dentist (Fig. 1). Around 40% were unaware about the role of an orthodontist, indicating a general lack of awareness of the difference between a general

dentist and an orthodontist (Fig. 2). Majority of the subjects were able to notice people with irregular teeth around them (Fig. 3) and 79.6% of the subjects noticed improper positioning of their teeth by themselves (Fig. 4), thus indicating that people were conscious about the crowding seen within their dentition. More than 80% of the subjects believed that maintaining oral hygiene is difficult with the presence of crowded teeth (Fig. 5). Responses on a question with respect to bad breath showed that with daily brushing most of the subjects did not experience halitosis (Fig. 6). Equilibrium between soft tissues and teeth is of utmost importance for a well-aligned dentition and in this study, >80% believed that various oral habits can have deleterious effects on teeth (Fig. 7). Facial appearance of a patient can be majorly influenced by the alignment of the teeth and according to the responses, >80% believed that for an esthetic facial appearance, teeth should be well aligned (Fig. 8). In many cases, extraction of teeth for achieving better orthodontic results has become a commonly followed protocol these days and in the present study, almost >80% were very much aware of this protocol (Fig. 9). Many individuals get influenced for an orthodontic treatment, when they observe others with braces and many subjects in this study had observed people around them

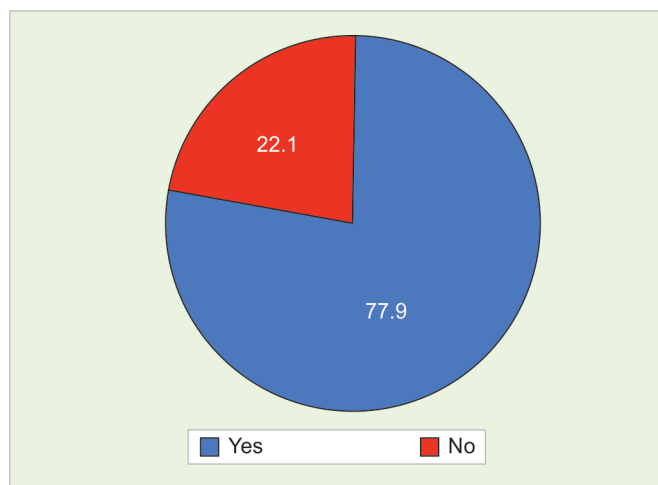


Fig. 1: Percentage of responses when asked whether they have visited a dentist before

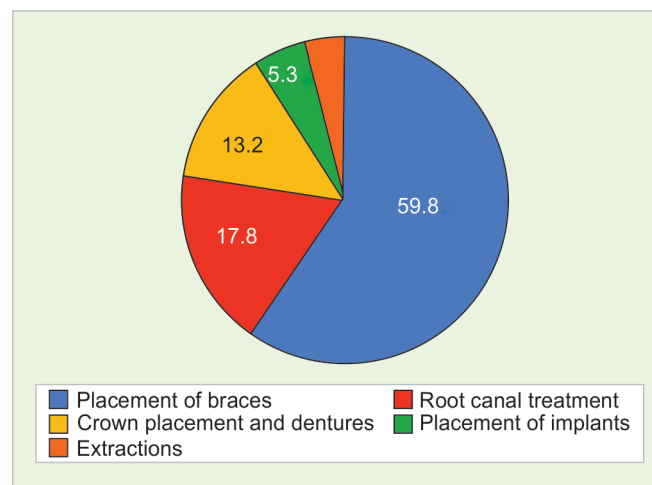


Fig. 2: Percentage of responses when asked about the role of an orthodontist in dentistry

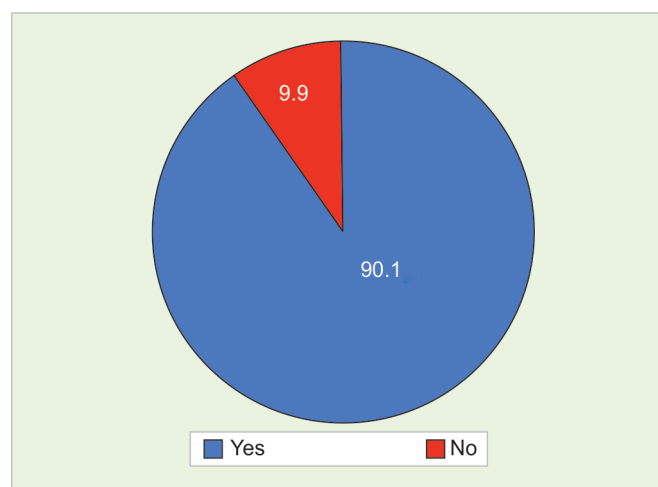


Fig. 3: Percentage of responses when asked if they have noticed people with crooked teeth

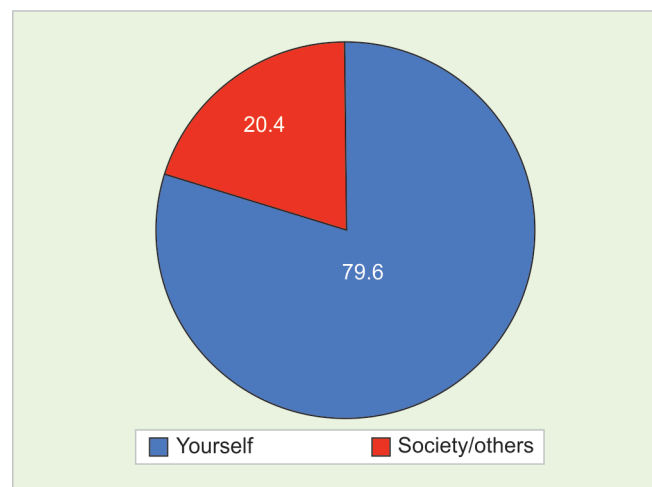
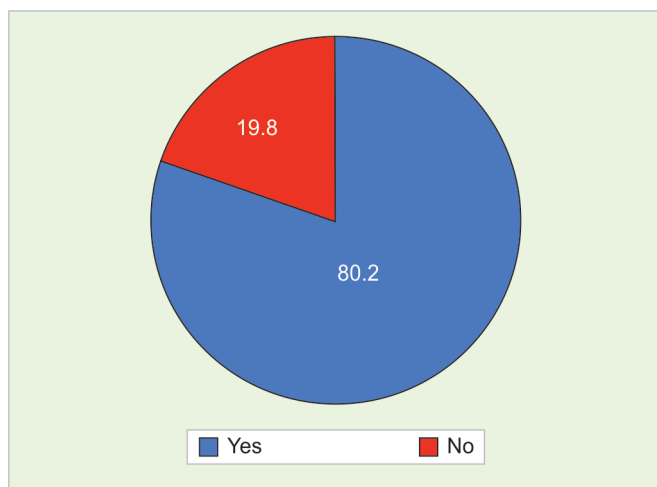
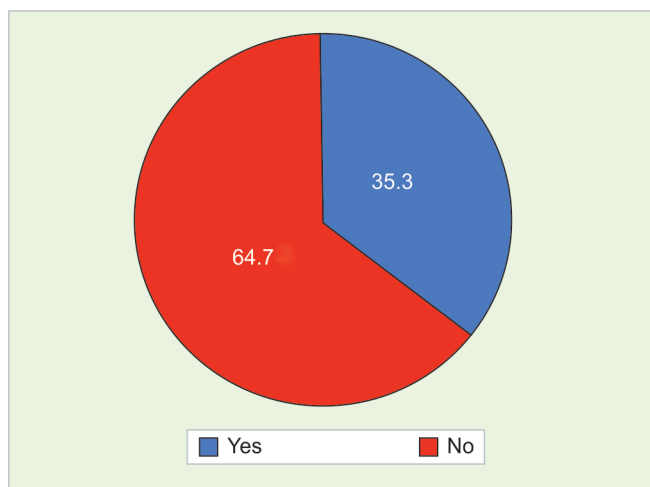


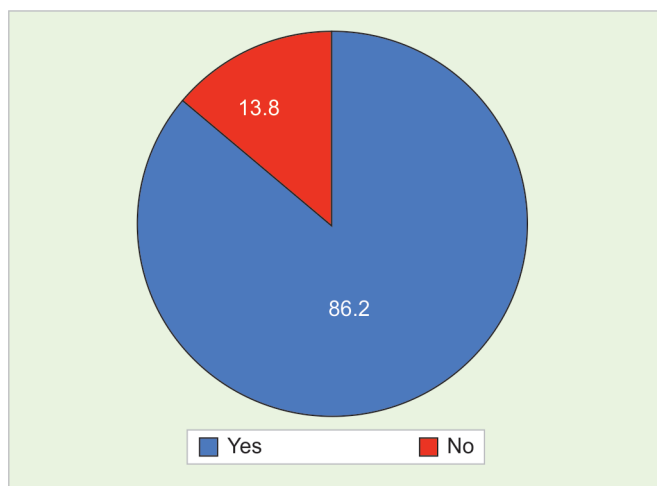
Fig. 4: Percentage of responses when asked if improper positioning of teeth was noticed by themselves or told by society/others



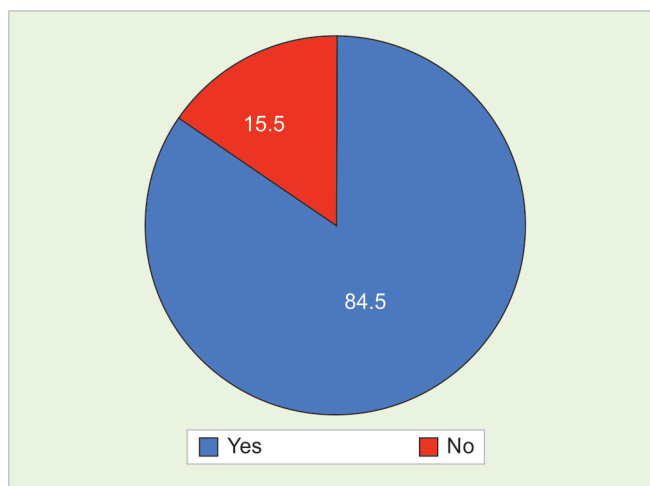
**Fig. 5:** Percentage of responses when asked whether irregular teeth can be a hindrance in maintaining oral hygiene



**Fig. 6:** Percentage of responses when asked whether they experience bad breath despite daily brushing

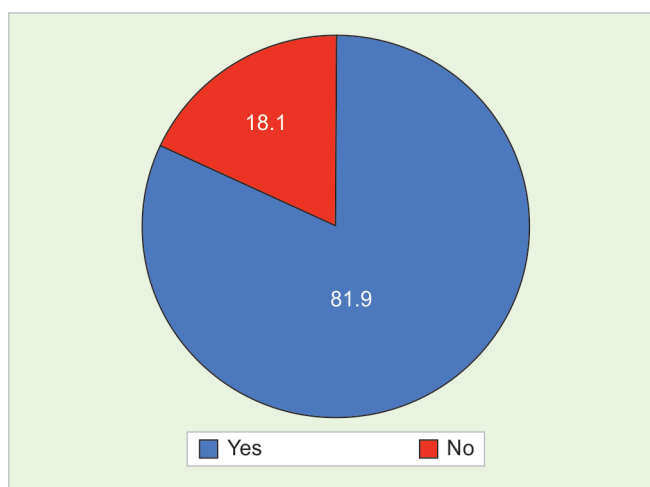


**Fig. 7:** Percentage of responses when asked if they are aware that oral habits can have ill effects on teeth

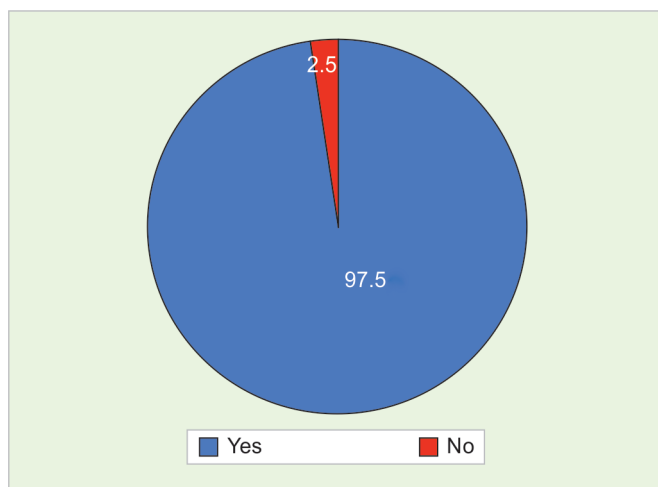


**Fig. 8:** Percentage of responses when asked if they believe that teeth should be properly aligned for better facial appearance

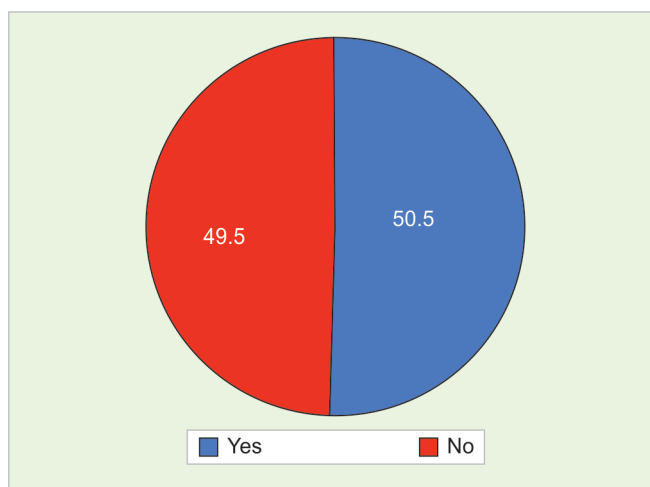
with braces (Fig. 10). For many, age becomes a hindering factor for undergoing orthodontic treatment due to the lack of awareness and this has been very well highlighted with the fact that half a percentage of participants in this study were simply not aware that orthodontic treatment could be performed after the age of 40 years as well (Fig. 11). Providing options of different types of braces is always well appreciated by the patients as they get to choose braces depending on their requirements like esthetics and comfort and in the present study we found that, there were still 23% who were not aware of the various types of braces (Fig. 12). With various options for braces, also comes along is the cost factor, and >60% of the subjects in this study knew that ceramic and lingual braces are more expensive as compared to traditional metal braces (Fig. 13). Non-braces or invisible tray options to align teeth are currently trending, but responses for questions based on knowledge of such invisible options showed a lack of awareness about the same in >60% of the participants (Fig. 14). Diet restrictions are a must to maintain oral hygiene and attain better results while undergoing orthodontic treatment and so were majority



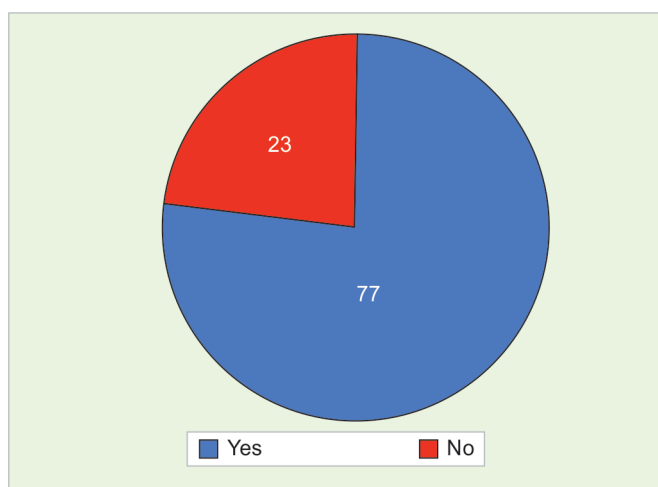
**Fig. 9:** Percentage of responses when asked if they are aware that few teeth may be sometimes removed for aligning irregular teeth



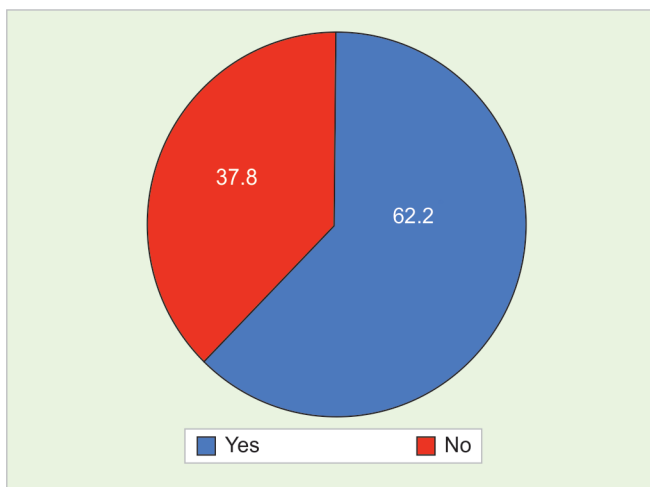
**Fig. 10:** Percentage of responses when asked whether they have seen people with braces/wires



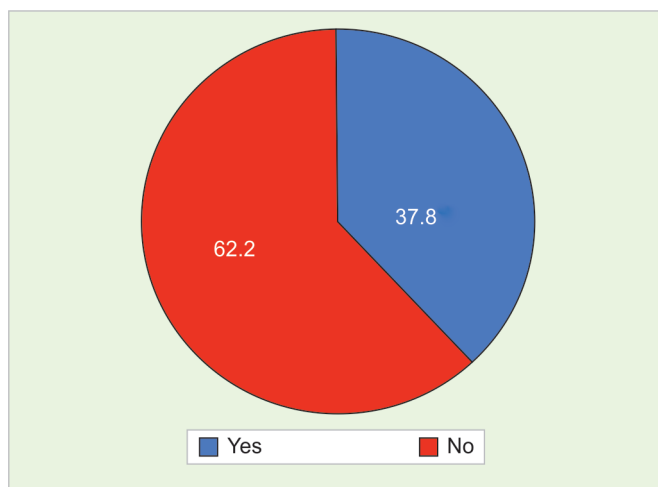
**Fig. 11:** Percentage of responses when asked whether they are aware that the improperly positioned teeth can be corrected after the age of 40 years also



**Fig. 12:** Percentage of responses when asked whether they are aware of the different types of braces available (metal/ceramic/lingual)

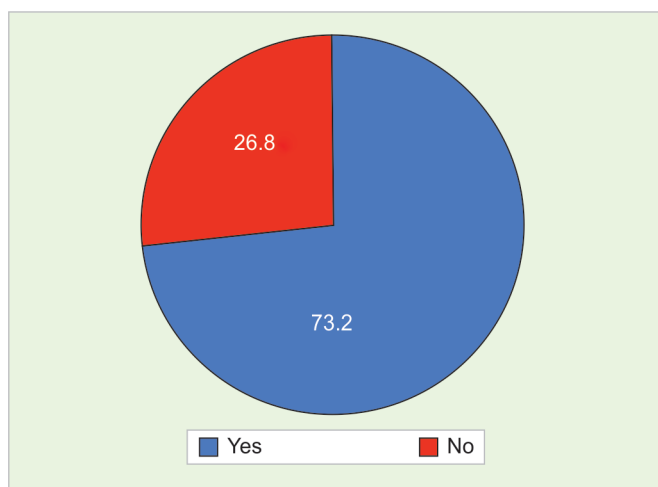


**Fig. 13:** Percentage of responses when asked whether they are aware that ceramic and lingual braces are more expensive as compared to traditional metal braces

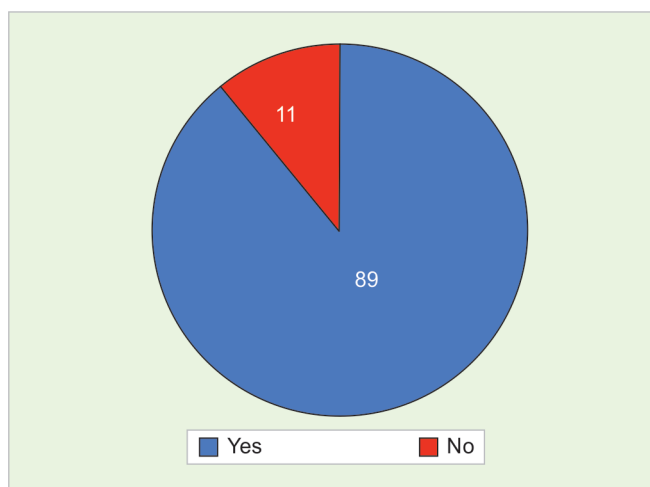


**Fig. 14:** Percentage of responses when asked whether they are aware of the adjuncts to braces, similar to clear trays? (such as Invisalign, ClearPath, Flash, etc.)

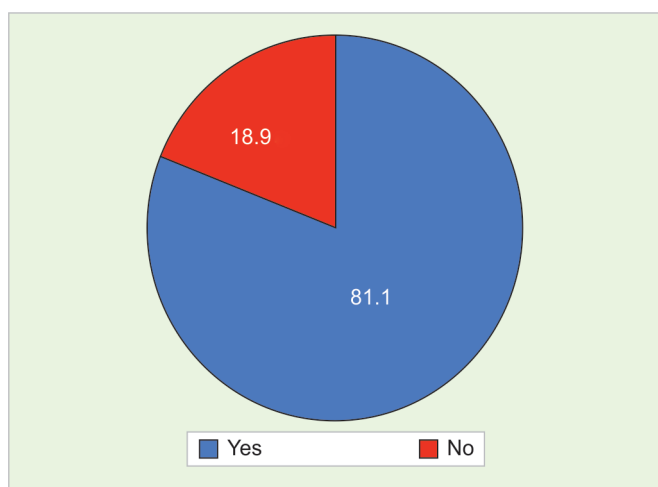
participants aware of this fact (Fig. 15). Oral hygiene maintenance is one of the integral parts of any successful dental treatment, and specially with orthodontic treatment accumulation of plaque is even much higher, hence the patients need to manage their oral hygiene in much better way than usual and nearly 90% of the subjects in this study were aware that special care has to be taken of oral hygiene during the orthodontic treatment period (Fig. 16). Orthodontic treatment comes along with few disadvantages like pain during initial stages, monthly archwire changes or activations, and ulcerations either due the brackets or the wire components like archwire or ligature wire and >80% of the subjects were aware of the above disadvantages (Fig. 17). Unlike other dental treatments, orthodontic treatment usually takes more time, which varies depending on the severity and in the present study >70% were aware that orthodontic treatment is usually of longer duration as compared to other types of dental treatment (Fig. 18). Even though the duration of orthodontic treatment is longer, patients usually have to report only on monthly basis. However, when asked about the frequency of orthodontic appointments, nearly 46% of



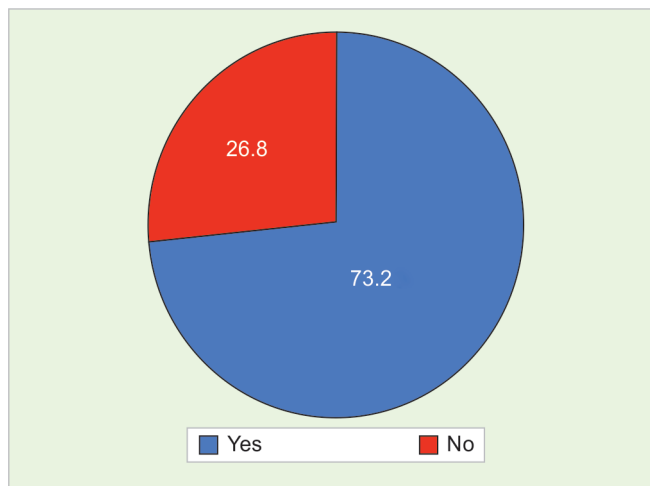
**Fig. 15:** Percentage of responses when asked whether they are aware that orthodontic treatment will require diet restrictions



**Fig. 16:** Percentage of responses when asked whether they are aware that patients with braces require better oral hygiene management as compared to patients without braces

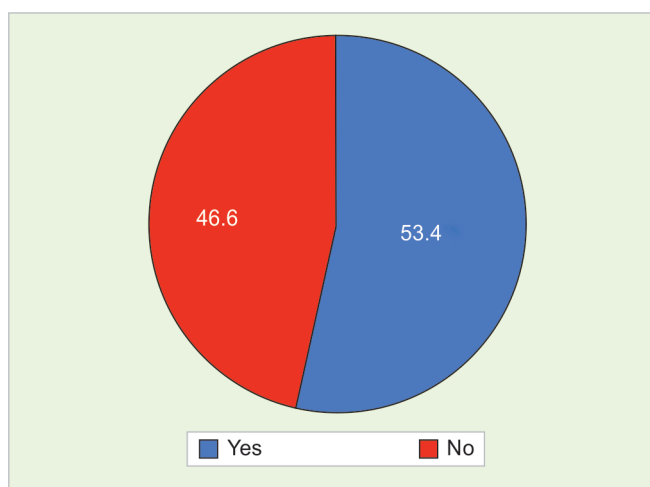


**Fig. 17:** Percentage of responses when asked whether they are aware braces can be painful and might lead to ulcerations



**Fig. 18:** Percentage of responses when asked whether they are aware that orthodontic treatment usually takes more time than other dental treatments

the subjects were unaware of it (Fig. 19). Orthodontic treatment is never completely successful without a proper retention protocol, and hence wearing retainers posttreatment is an important aspect of the entire treatment plan but in the present study only 66% knew that it is necessary to wear retainers after the completion of treatment (Fig. 20). There can be a number of factors that can affect an individual's decision to go for an orthodontic treatment. Factors like self-consciousness where an individual himself considers his smile as unesthetic or external factors like friends and family pointing out the obvious crooked smile or sometimes advertisements and social websites, highlighting the problems with crooked smile and malocclusion. In the present study, nearly 58% felt that self-consciousness would majorly influence their decision to go for an orthodontic treatment while <30% thought family and friends could have some influence and even less percentage of subjects felt, social websites can influence such decision-making (Fig. 21). One of the common concerns, which most of the patients feel during the orthodontic treatment period, is socializing in public, but in the present study nearly 60% felt that social life is not adversely affected with braces (Fig. 22).



**Fig. 19:** Percentage of responses when asked whether they are aware about the frequency of appointments during an orthodontic treatment

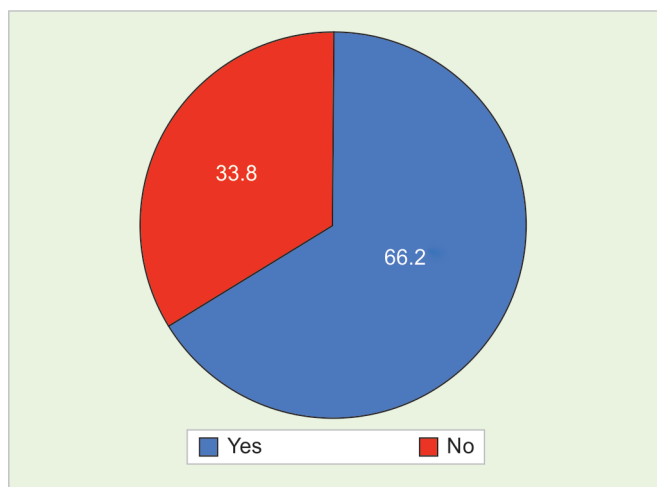


Fig. 20: Percentage of responses when asked whether they are aware about wearing retainers after aligning teeth

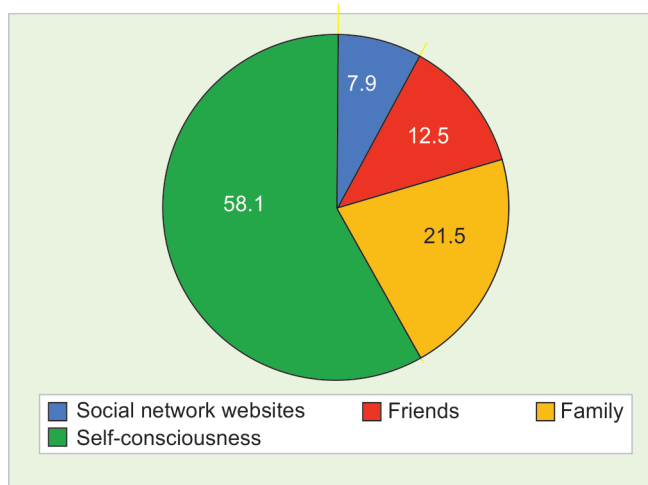


Fig. 21: Percentage of responses when asked what may influence their decision to go for an orthodontic treatment

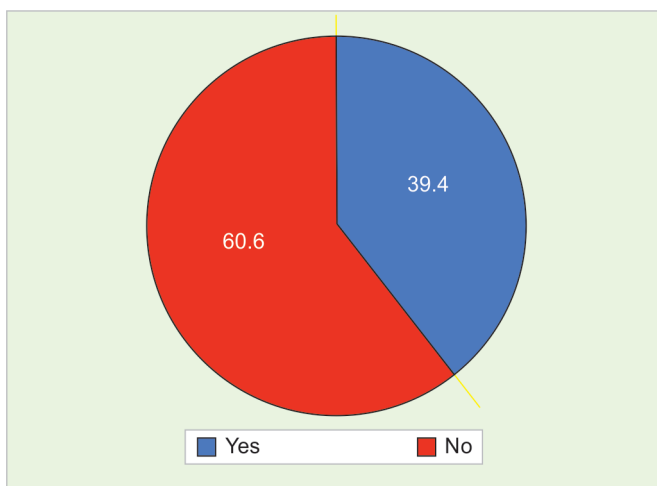


Fig. 22: Percentage of responses when asked if they feel social life is adversely affected with braces

## DISCUSSION

"An ounce of prevention is worth a pound of cure" as quoted by Sir Benjamin Franklin applies to the field of orthodontics as well. It is always wise to initiate orthodontic treatment at the earliest to avoid various side effects of malocclusion, but the patient's lack of awareness becomes one of the hindrances for initiating or even planning an orthodontic treatment.<sup>10-15</sup>

In our present study, the first two questions were regarding awareness about dentist and the role of orthodontist and results showed that >77.9% had visited a dentist while only 59.8% knew the role of an orthodontist. Studies by Mane et al.<sup>6</sup> and Devishree and Sumathi<sup>4</sup> reported similar results regarding awareness about the dentist and the role of orthodontist.

Further, questions about awareness of irregular teeth and oral habits showed that according to 80.2% of the individuals, crowded teeth can be a hindrance in maintaining oral hygiene, 86.2% believed that oral habits can have side effects on teeth, 84.5% were of the opinion that teeth need to be well aligned for better facial appearance, all of these results were similar to those obtained in the study by Siddegowda and Rani<sup>1</sup> but in a different

age group (10–15 years) and Mane et al.<sup>6</sup> 90.1% noticed people with irregular teeth, this was in contrast to the findings in the study by Mane et al.<sup>6</sup> and Atram et al.<sup>16</sup>

Questions with respect to awareness about braces/orthodontic treatment showed that 81.9% were aware about the need for extraction to align irregular teeth, the findings were contrasting to the study done by Faizee et al.<sup>17</sup> and Mane et al.<sup>6</sup>

Almost 49.5% were unaware that irregular teeth can be aligned even after the age of 40 years, Faizee et al.<sup>17</sup> reported that <30% were of the opinion there is an age limit for undergoing orthodontic treatment, similar findings were reported in a study by Atram et al.<sup>16</sup>

In the present study when asked about options like invisible braces, >60% were unaware of it, this was similar to the results of the study by Faizee et al.<sup>17</sup> and Atram et al.<sup>16</sup> where less than half were unaware about invisible braces.

Regarding the duration of the treatment, 73.2% were aware that orthodontic treatment usually takes more time as compared to dental treatments. Similar findings were reported by Atram et al.<sup>16</sup> regarding awareness about duration of orthodontic treatment.

When asked about retainers, 66.2% were aware about wearing retainer's post-orthodontic treatment, this was in contrast to the results obtained in the study by Mane et al.<sup>6</sup>

## CONCLUSION

Patients' awareness about orthodontic treatment or any other dental treatment is of prime importance, as it can be one of the factors which can influence the percentage of patients approaching for the treatment. Initiatives have been taken by the Indian Orthodontic Society through various channels, such as newspapers and social media to create awareness about the hazards of malocclusion and the benefits of getting an orthodontic treatment done from an orthodontist only. With promotions from the leading brands, such as Invisalign through famous celebrities, terms like malocclusion has been recently conveyed in a much better way, especially to youth population. Regular dental camps have also been conducted to impart oral health education and awareness about the effects of malocclusion on routine activities, such as mastication, swallowing, or maintaining oral hygiene at school and college level.

From our present study, it was concluded that there is less awareness in young adults about various orthodontic treatment options and in general about orthodontic treatment, hence there is a need to create awareness about the same, which will help us provide a better quality of treatment. As the survey was conducted among youth population on a small scale, it can definitely form the basis for future studies where in a larger population can be taken into account for evaluating the level of awareness and which can assist the researchers, on various points to be considered for creating awareness about malaligned teeth and orthodontic treatment.

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## APPENDIX: SURVEY QUESTIONNAIRE

- 1) Have you visited a dentist before?
  - a. Yes
  - b. No
- 2) Do you know the role of an orthodontist in dentistry?
  - a. Root canal treatment
  - b. Extractions
  - c. Crown placement and dentures
  - d. Placement of braces
  - e. Placement of implants
- 3) Have you noticed people having crooked teeth?
  - a. Yes
  - b. No
- 4) Have you noticed improper positioning of your teeth by yourself or was it told to you by society/others?
  - a. Yourself
  - b. Society/others
- 5) Do you think irregular teeth can be a hindrance in maintaining oral hygiene?
  - a. Yes
  - b. No
- 6) Do you experience bad breath despite brushing daily?
  - a. Yes
  - b. No
- 7) Do you know that oral habits have ill effects on teeth?
  - a. Yes
  - b. No
- 8) Do you believe that teeth should be properly aligned for better facial appearance?
  - a. Yes
  - b. No
- 9) Are you aware that sometimes few teeth may have to be removed for aligning irregular teeth?
  - a. Yes
  - b. No
- 10) Have you seen people wearing braces/wires?
  - a. Yes
  - b. No
- 11) Are you aware that the improperly positioned teeth can be corrected after the age of 40 years also?
  - a. Yes
  - b. No
- 12) Are you aware of the different types of braces available? (Metal/Ceramic/Lingual)
  - a. Yes
  - b. No
- 13) Are you aware that ceramic and lingual braces are more expensive as compared to traditional metal braces?
  - a. Yes
  - b. No
- 14) Are you aware of the adjuncts to braces, similar to clear trays? (such as Invisalign, ClearPath, Flash, etc.)
  - a. Yes
  - b. No
- 15) Are you aware that orthodontic treatment will require diet restrictions?
  - a. Yes
  - b. No
- 16) Are you aware that patients with braces require better oral hygiene management as compared to patients without braces?
  - a. Yes
  - b. No
- 17) Do you know that braces can be painful and might lead to ulcerations?
  - a. Yes
  - b. No
- 18) Do you know that orthodontic treatment usually takes more time than other dental treatments?
  - a. Yes
  - b. No
- 19) Are you aware about the frequency of appointments during an orthodontic treatment?
  - a. Yes
  - b. No
- 20) Are you aware about wearing retainers after aligning teeth?
  - a. Yes
  - b. No
- 21) Which of the following you feel may have an influence on your decision to go for an orthodontic treatment?
  - a. Social network websites
  - b. Family
  - c. Friends
  - d. Self-consciousness
- 22) Do you feel social life is adversely affected with braces?
  - a. Yes
  - b. No