

AWARENESS AND PERCEPTION OF ORTHODONTIC TREATMENT USING INVISALIGN AMONG GENERAL PUBLIC OF QASSIM, SAUDI ARABIA

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ABSTRACT

Invisalign system also boasts improved hygiene over traditional braces. Since this appliance is removable, patients can maintain oral hygiene as they usually would, lowering the prospects of potential discoloration and decay that frequently occur with conventional braces. A Survey-based study was conducted among the public of Qassim region. Convenient sampling was used, and 200 participants were requested to fill out the questionnaire. It was seen that 47% had done orthodontic treatment and 42% had fixed orthodontic treatment. 52.5% reported that orthodontic treatment should be done between 7 to 17 years of age. 96% had visited their dentist, 47% had orthodontic treatment, and 42% had fixed orthodontic treatment. 52.5% reported that orthodontic treatment should be done between 7 to 17 years of age. 63% stated that they knew what Invisalign was, and 74.5% revealed that the effectiveness of Invisalign is high. Overall, the majority of participants had no experience of having Invisalign treatment, and their knowledge is also found to be on the moderate side.

Key words: Invisalign, Orthodontic, Awareness, Perception.

Introduction

Clear aligners have been utilized in the field of dentistry since the mid-1990s. They are constructed from a thin, clear plastic that fits over all the surfaces of the teeth. They are usually used for at least twenty hours daily and are switched in sequence biweekly [1, 2].

Orthodontic improvements, mainly through the previous decade, have led to a substantial rise in patients' esthetic needs. Patients frequently convey the necessity to determine treatment goals with the orthodontist motivated by orthodontic appliances' consequences on their appearance. Traditional orthodontic procedures have been linked with a compromise in facial appearance, which increases concern among patients pursuing orthodontic treatment. Thus, esthetic tools and methods have been launched in clinical practice to surmount these constraints [3, 4].

Invisalign system also boasts improved hygiene over traditional braces. Since this appliance is removable, patients can maintain oral hygiene as they usually would, lowering the prospects of potential discoloration and decay that frequently occur with conventional braces. Food and drink choices are less restrictive, as well. Patients who want to eat sticky candy may do so after removing their clear Invisalign retainer [5, 6].

Several studies have been conducted to assess patients' experiences regarding the use of Invisalign orthodontic treatment. A Germany-based investigation revealed patients' high acceptance of aligners. The adaptation time of one week is insignificant for most patients. Some feel slight pain for 2 to 3 days. Inflammations of the oral mucosa are not to be anticipated in most cases. Most notably, speech impairment becomes less difficult than the linguistic procedure. Thus Invisalign treatment is especially appropriate for patients whose work involves talking a great deal and operating as a spokesperson [7, 8].

Another study demonstrated the periodontal health-related issues among patients using Invisalign appliances. The oral condition of subjects with fixed orthodontics braces was substantially poorer than that of the Invisalign patients. In other respects, no disparities were discovered originally and in the course of treatment between the two types (Invisalign and metallic appliances) [9, 10].

A USA-based study reported that because a high degree of obedience is required for Invisalign to be efficient, it is presently advised only for adults. Teenagers with fully erupted permanent teeth (except third molars) may also be contenders for this method, as long as they have been tested for compliance. The Invisalign System has numerous possible drawbacks. Some patients may not use the aligners sufficiently for therapy to succeed [11, 12].

Justification/rationale of the study

Orthodontic treatment is a preventive dentistry treatment modality used to prevent oral diseases such as dental caries, gingivitis, and periodontitis. Patients opting for orthodontic treatment are reluctant because of the esthetic issues. But with Invisalign, this problem can be solved. Therefore, this study is needed to emphasize the importance of esthetic orthodontic treatment options for patients who fall in the category mentioned above.

Aim of the study

To determine the general public's awareness regarding orthodontic treatment by using Invisalign in Qassim Region.

Objectives of the study

- To determine the percentage of the general public aware of Invisalign and those not aware.
- To determine the number of study participants already using Invisalign.
- To list down factors that may be affecting their decision to opt or not opt for Invisalign orthodontic treatment.

Hypothesis

Knowledge and awareness of the general public regarding Invisalign's use for orthodontic treatment is low.

Materials and Methods

Study design

A survey-based research among the public of the Qassim region involving a survey.

Sample

Convenient sampling was used, and 200 participants were requested to fill out the questionnaire.

Inclusion criteria

Saudis residing in the Qassim region permanently, being older than 15 years, both genders were included in this study.

Exclusion criteria

Non-Saudis, temporary residents, minors were excluded from this study.

Study instrument

A questionnaire was designed, including demographic data and questions linked to knowledge related to Invisalign, public preference, and reasons.

Statistical analysis

SPSS version 22 was used to evaluate the data descriptively and inferentially.

Results and Discussion

A total of 200 participants filled the survey, including 86% Saudis, 88% Qassim residents, 57% males, and 55% single. Regarding their educational level, 36% had a high school degree, and 63% had a bachelor's. 48.5% were employed, 2.5% were retired, 15% were doctors, and 36.5% belonged to other fields (**Table 1**).

Table 2 shows the frequencies of survey responses, which showed that 96% had visited their dentist. 47% had orthodontic treatment, and 42% had fixed orthodontic treatment. 52.5% reported that orthodontic treatment should be done between 7 to 17 years of age. 63% stated that they knew what Invisalign was, and 74.5% revealed that the effectiveness of Invisalign is high.

Table 1. Demographics of the study participants

Demographics	Frequencies (%)
Nationality	Saudis (86%) Non Saudis (14%)
Qassim resident	Yes: 88% No: 12%
Gender	Males: 57% Females: 43%
Age	18 or less: 8.5% 18-24: 36% 25-34: 34% 35-44: 11% 45 or more: 7.5%
Marital status	Single: 55% Married: 45%
Educational level	Below high school: 5% High school: 36% Diploma: 8% Bachelors: 63% Masters: 4.5% PhD: 0.5%
Job status	Student: 28.5% Employee: 48.5% Unemployed: 18.5% Retired: 2.5% Others: 0.5%
Job position	Doctor: 15% Other medical: 4.5% Other field: 36.5% Not applicable: 40.5%
Income per month	1000 or less: 19.5% 1000 to 3000: 20% 3000 to 8000: 15.5% 8000 to 16000: 12.5% 16000 or more: 9%

Table 2. Survey questions with their responses

Survey questions	Responses (%)
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Have you ever visited a dentist?	Yes: 96% No: 4%
Have you been on orthodontic treatment?	Yes: 47% No: 53%
If the answer is yes what type of treatment you're go through?	Fixed: 42% Invisalign: 0.5% Both: 1% None: 25.5%
In your opinion what's the best age for starting orthodontic treatment?	Below 7 years: 1.5% 7 to 17 years: 52.5% 18 or more: 37.5% Don't know: 8%
Do you know about fixed metal orthodontic treatment?	Yes: 65.5% No: 34.5%
If the answer was yes how do know about it?	Family: 22% Friend: 12.5% Social media: 8.5% Dentist: 45% Advertisements: 1.5% Others: 8.5%
Do you know about translucent tray (Invisalign)?	Yes: 76.5% No: 23.5%
If the answer was yes how do know about it?	Family: 7% Friend: 7.5% Social media: 28.5% Dentist: 23% Advertisements: 11.5% Others: 6.5%
What's the effectiveness of Invisalign treatment?	High: 74.5% Moderate: 6% Not effective: 0.5% Don't know: 17%
What's the cost of translucent tray (Invisalign)?	High: 60.5% Moderate: 13.5% Same as fixed: 4.5% Don't know: 19%
What's the average time for translucent tray (Invisalign)?	Long: 15% Longer than fixed: 26% Same as fixed: 23% Don't know: 30%
Does the translucent tray (Invisalign) suitable for all orthodontic cases?	Yes: 5% No: 27.5% Maybe: 38.5% Don't know: 23%
Do you know what Invisalign is?	Yes: 63% No: 9.5% Maybe: 12% Don't know: 9.5%
Is Invisalign better than traditional braces?	Yes: 33.5% No: 8% Maybe: 35% Don't know: 21.5%
Can you switch to Invisalign from traditional braces?	Yes: 23.5% No: 9% Maybe: 35.5% Don't know: 30.5%

Can Anyone Get Invisalign?	Yes: 11% No: 24% Maybe: 35% Don't know: 27.5%
Is Invisalign less painful or more than traditional braces?	More painful: 20% Less painful: 13.5% Equal: 8% Maybe: 14% Don't know: 48%
How to clean it?	With water: 19.5% Toothpaste: 23% Cup of water: 17% Don't know: 38.5%

This study aimed to assess the knowledge and perception of the general public residing in Al-Qassim regarding the use of Invisalign as a treatment option. A study conducted by Almasoud (2018) showed that the patients managed with Invisalign aligners witnessed considerably lesser pain than those treated with metallic fixed appliances [13]. The amount of discomfort was the maximum at 24 hours and reduced to the bottommost intensities by day 7. The use of painkillers also elevated at 24 hours; nevertheless, a smaller quantity of patients treated with Invisalign aligners used painkillers to get rid of their pain. As far as our study findings were concerned, 20% of the subjects reported that Invisalign was more painful than traditional braces.

Another finding by Pacheco-Pereira, Brandelli & Flores-Mir (2018) indicated that patients were generally content with Invisalign treatment [14]. The utmost substantial developments were comprehended in the daily activities categories, with patients retorting confidently to more than half of the queries. Negative exposures were not prominent enough to diminish patients' general positive experiences.

Only 33% of our study participants reported that Invisalign was a better treatment option than traditional braces. A study conducted by Miller *et al.* (2007) demonstrated substantial variances between the two treatment types in how they influence patients during the initial days of treatment [15]. The Invisalign patient's general quality of life was superior to that of the fixed orthodontics patients. Several aspects affect the choice of suitable orthodontic equipment. The outcomes of this investigation provide the orthodontist and the patient supplementary evidence that can be taken into account when selecting appliance variety.

It is imperative to be conscious of the prognostic restrictions of cross-sectional research design. The main constraint of the cross-sectional research design is that since the exposure and outcome are concurrently evaluated, there is usually no indication of a time-based affiliation between exposure and outcome. Devoid of longitudinal numbers, it is not likely to create a true cause and effect association [16].

Conclusion

Overall, the majority of participants had no experience of having Invisalign treatment, and their knowledge is also found to be on the moderate side.

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