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Research Article

Survey study on patient's expectations and opinions of fixed orthodontic treatment.

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ABSTRACT

Aim: This study is to report patient's orthodontic treatment expectations and opinions during the course of treatment by utilizing a questionnaire**.**

Materials required: A preverified questionnaire was used to study the patient's expectations and opinions regarding fixed orthodontic treatment. Sample size was determined using value of P obtained from the previous study. The minimum sample size required for the study was estimated to be 185. Study was conducted in department of Orthodontics and Dentofacial Orthopaedics of SRMKDC. Patients who came for their monthly review for fixed orthodontic treatment were included in the study.

Result: Most of the patients expected the braces to be fitted in the first orthodontic visit. Patients were aware about the different treatment options and most of them were practical and wanted the treatment to be economic. Most of them are concerned cosmetically than functionally. The treatment process did interfere mildly with speech and moderately with eating habits, oral hygiene maintenance and did cause moderate ulcers in mouth. Most of them felt the treatment process to be cumbersome. The treatment results do have a positive impact on patient's self-confidence which was reflected in their smile and profession.

Conclusion: Patients had unrealistic expectations regarding orthodontic treatment. They wanted an economic treatment satisfying their cosmetic concern. The orthodontic treatment did affect their speech, masticatory habits, and caused ulcers in the oral cavity. The treatment outcomes positively influence patient's self-confidence, as evidenced by improvements in their smile and professional life.

Keywords: Opinion, Orthodontic treatment, Survey, Patient expectations, Treatment outcome

MAIN TEXT ORIGINAL RESEARCH

Introduction

One of the main difficulties in orthodontic treatment is gauging parents' expectations. It is crucial from both a psychological and legal perspective since the patient may feel the outcomes of the therapy to be disappointing. Therefore, it is essential to comprehend patient expectations. Before beginning any orthodontic treatment, it is important to determine whether these expectations can be met [1]. The viewpoints of patients on their oral health condition and oral healthcare systems have received more attention recently from researchers and practitioners [2,3]. Understanding patients' expectations is vital for comprehending their oral health needs, ensuring their satisfaction with healthcare, and ultimately shaping their perception of overall health quality.
Malocclusion and dentofacial abnormalities have long been acknowledged to cause significant physical, social, and psychological distress in the patients [4]. More and more patient-centered metrics are now being utilised to evaluate these arbitrary characteristics in identifying orthodontic necessity and evaluating the results of treatment [5].
Recognizing and acknowledging patients' expressed desires is crucial, as healthcare providers frequently underestimate the significance of these desires in delivering proper care. Clinicians who are attuned to their patients' needs are in a better position to meet their legitimate expectations and engage in honest conversations about any unrealistic expectations, thereby fostering more effective clinical interactions [6].
Good treatment outcomes and delighted patients at a fair price should be the ultimate goals of orthodontic therapy. In order to accomplish this, it is critical that the standard of treatment be constantly and methodically assessed and recorded with the help of experts, diagnostic evaluations and patient interviews or questionnaires [7].

Materials and methods

A preverified questionnaire was used to study the patient's expectations and opinions regarding fixed orthodontic treatment. Sample size was determined using value of P obtained from the previous study. The minimum sample size required for the study was estimated to be 185.
Study was conducted in department of Orthodontics and Dentofacial Orthopaedics of SRMKDC. Patients who came for their monthly review for fixed orthodontic treatment were included in the study.

Inclusion criteria:

- Age: above 18
- Patients undergoing orthodontic treatment for a period of at least 6 months
- Patients undergoing fixed orthodontic therapy with MBT prescription

Exclusion criteria:

- Patients below 18 years of age.
- Patients who have completed the orthodontic treatment or orthognathic surgeries.
- Patients undergoing removable orthodontic treatment

The questionnaire consisted of 2 parts. First section contains demographic data. Second section included questions based on expectations of patients in orthodontic treatment.
A multiple-choice printed questionnaire was given to the patients and they were asked to mark the most relevant option among the choices.

Results

113 patients expected braces to be fitted in the first visit to the orthodontic clinic.27 patients expected to have check-up and diagnosis. 28 patients expected to have impressions. 17 patients expected to have oral hygiene checked (Fig.1).

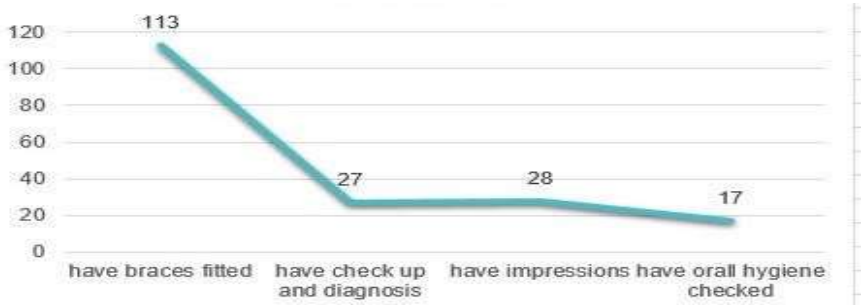

FIGURE 1- Patients expectations on first visit

124 patients anticipated that orthodontic care would last two years.One year of orthodontic therapy was anticipated by 24 individuals.20 patients anticipated that their orthodontic care would last three years.17 patients anticipated their orthodontic care would last four years (Table 1).

TABLE 1- Amount of years patients thought the orthodontic treatment will continue

YEAR	Number of patients
1	24
2	124
3	20
4	17
GRAND TOTAL	185

The fixed orthodontic approach was favored by 111 patients. 10 patients preferred removable appliances over Invisalign, which was desired by 32 patients. The available treatments were unknown to 32 patients.(fig 2)

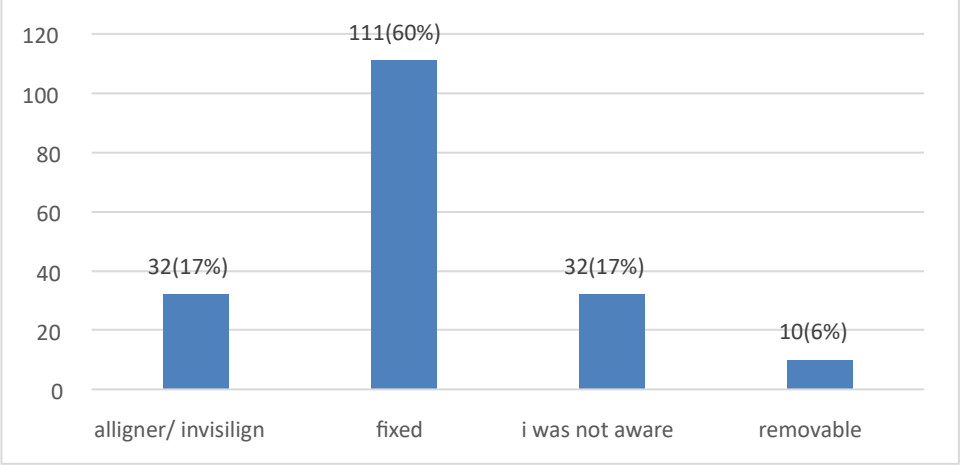

FIGURE 2- Type of orthodontic treatment preferred by patients

128 individuals desired orthodontic treatment to realign their teeth, while 24 patients desired improved function and 29 patients want improved oral cleanliness.(fig 3)

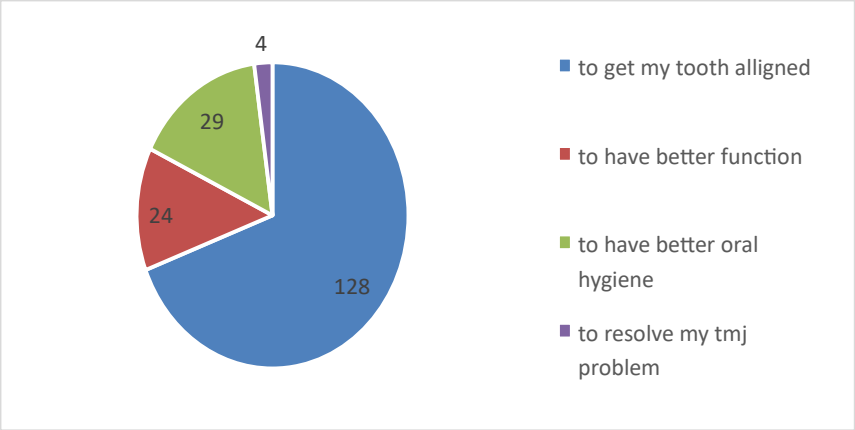

FIGURE 3- Main reason for patients opting for orthodontic treatment

When the orthodontic brackets were placed on teeth during therapy, 141 individuals did have cosmetic difficulties, while 17 patients did not.(fig 4)

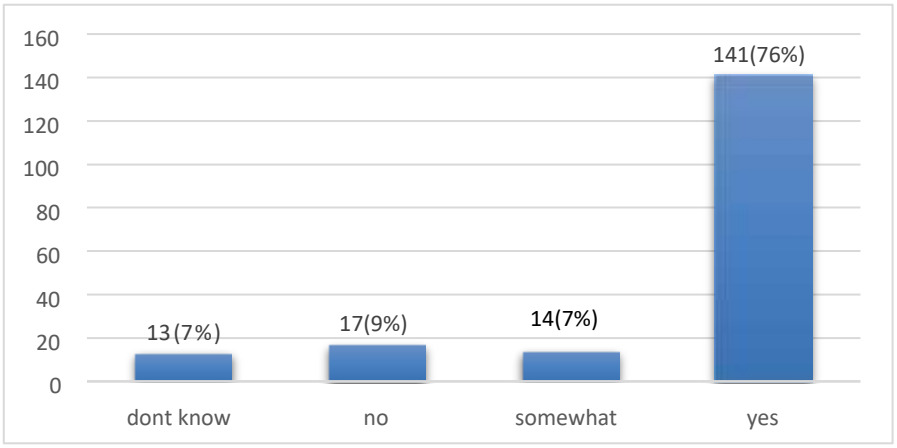

FIGURE 4- Knowledge of patients esthetics in orthodontics

125 people experienced just minor speech difficulties while undergoing therapy.While 21 patients had no trouble speaking throughout treatment, 38 patients had serious communication issues.(fig 5)

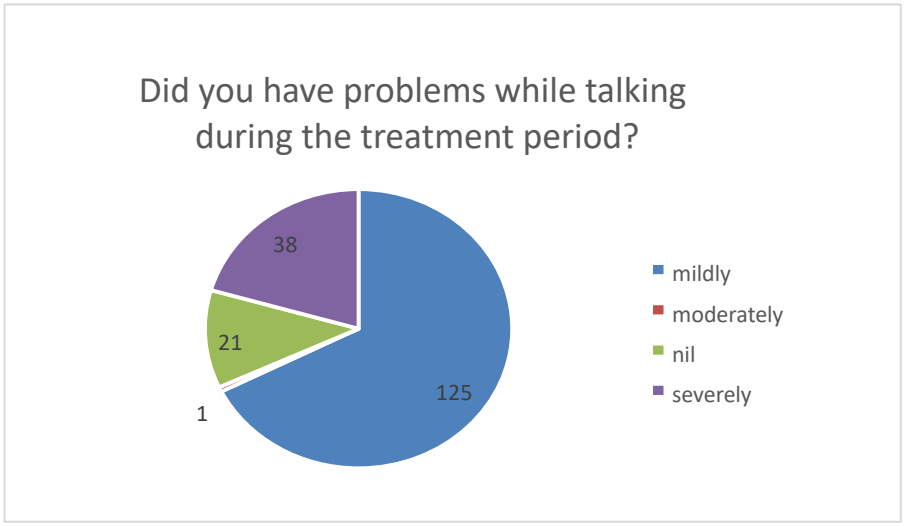

FIGURE 5- Speech problems faced by patients during orthodontic treatment

122 people did experience mild mouth ulcers while undergoing therapy. During treatment, 20 patients had no ulcers, 20 patients had severe ulcers, and 23 patients noted minor ulcers. (fig 6)

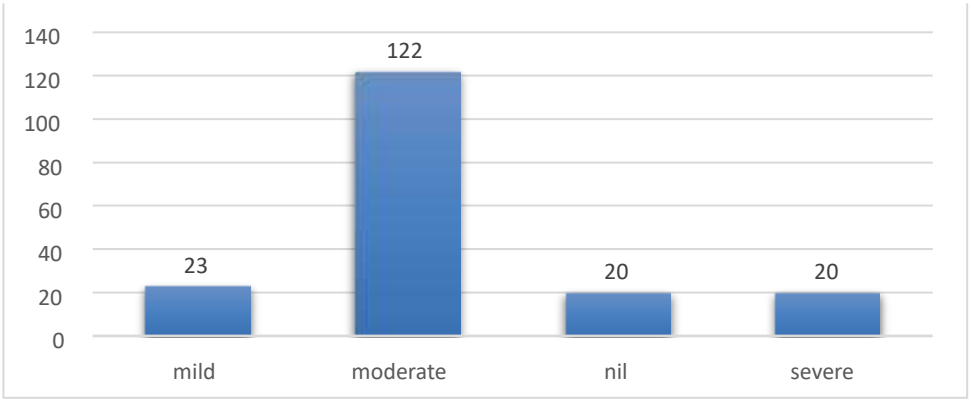

FIGURE 6- Occurrence of oral ulcers during orthodontic treatment

During the course of treatment, 12 patients experienced no trouble when eating, compared to 120 patients who had considerable difficulty, 28 patients who had severe difficulty, and 25 patients who had mild difficulty. (fig 7)

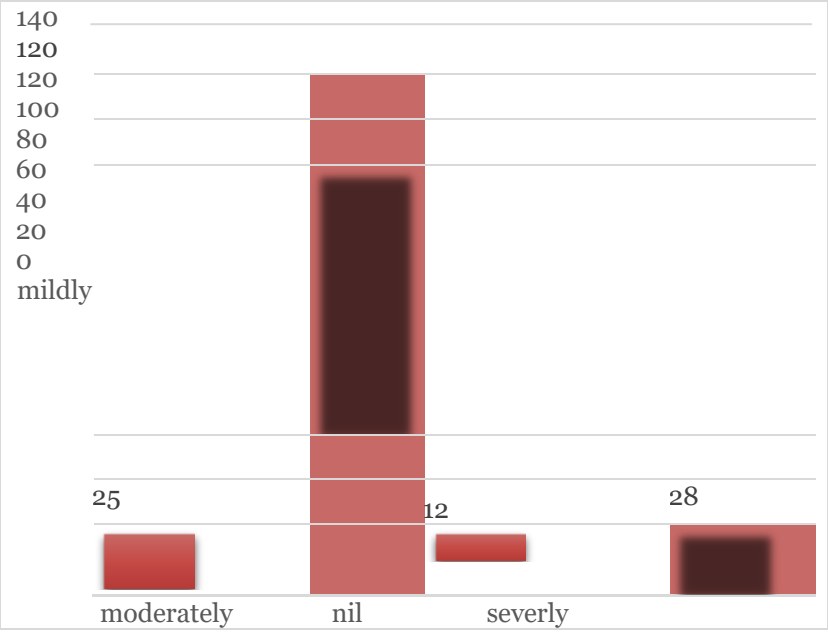

FIGURE 7- Level of difficulty during eating encountered by patients during orthodontic treatment

145 individuals reported moderate difficulty, 16 reported mild difficulty, 20 reported severe difficulty, and 4 reported no problem keeping their teeth clean during the therapy time. (fig 8)

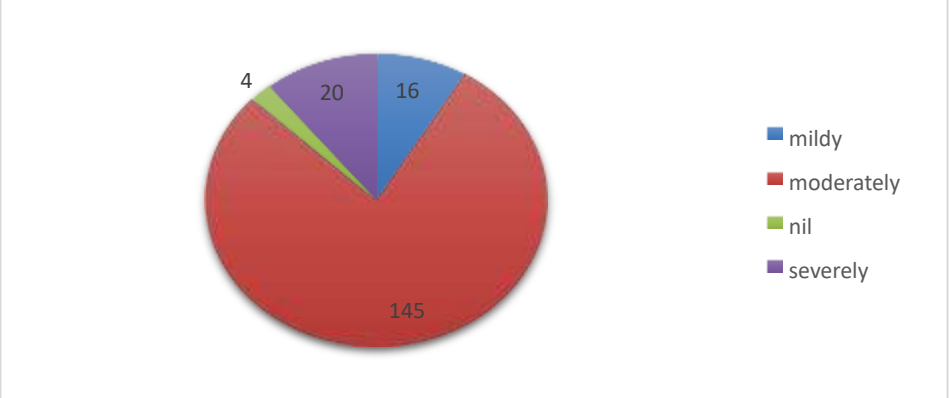

FIGURE 8- Problems faced by patients to maintain hygiene during orthodontic treatment

During orthodontic therapy, 16 patients had light pain, 160 patients had mild to moderate pain, 4 patients had mild to moderately severe pain. (fig 9)

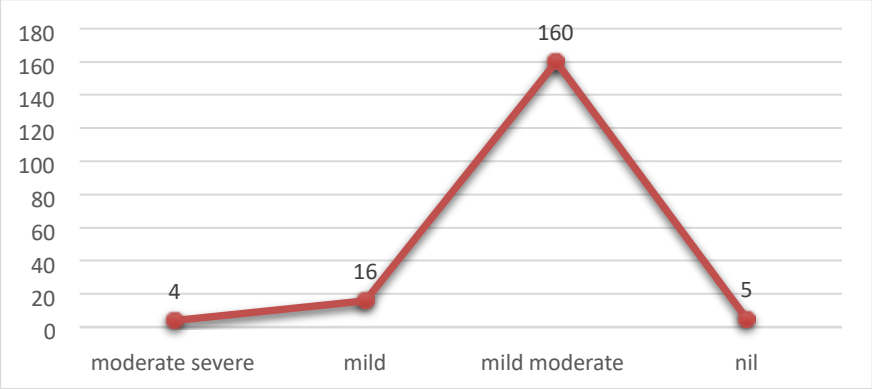

FIGURE 9- Pain experienced by patients during treatment

107 patients thought the course of therapy was challenging, 24 patients thought it was moderate, 15 patients thought it was light, and 20 patients thought it was intolerable. (fig 10)

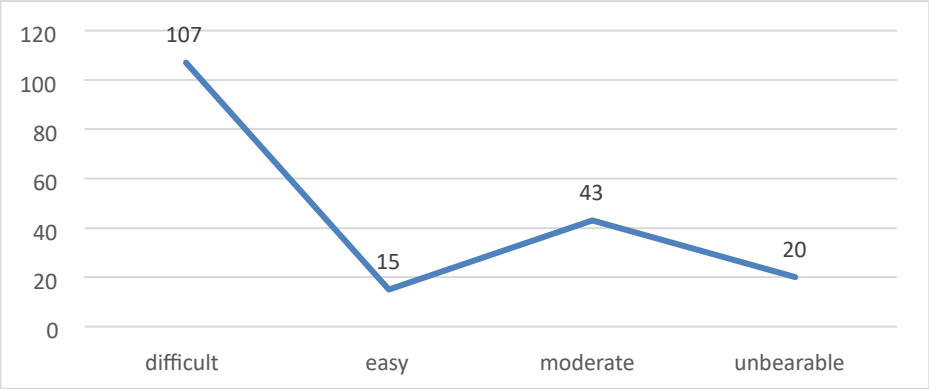

FIGURE 10- Experiences of patients during the course of treatment

During treatment, none of the 125 patients had any trouble opening their mouths. During therapy, 26 patients experienced difficulties opening their mouths, whereas the remaining 26 patients experienced no change. (fig 11)

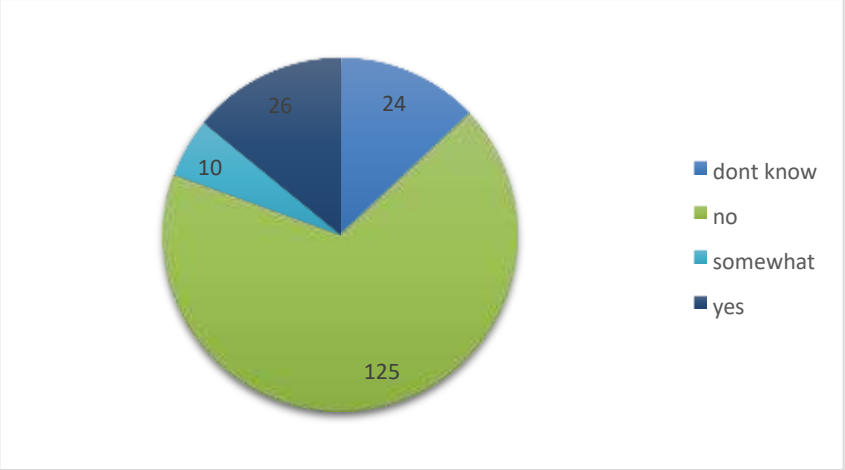

FIGURE 11- Problems in mouth opening or chewing faced by patients during treatment

At the conclusion of the orthodontic treatment period, 145 patients reported an improvement in their self-confidence, 21 patients reported a decline in confidence, 15 patients expressed uncertainty, and 4 patients said that their confidence level had not changed. (fig 12)

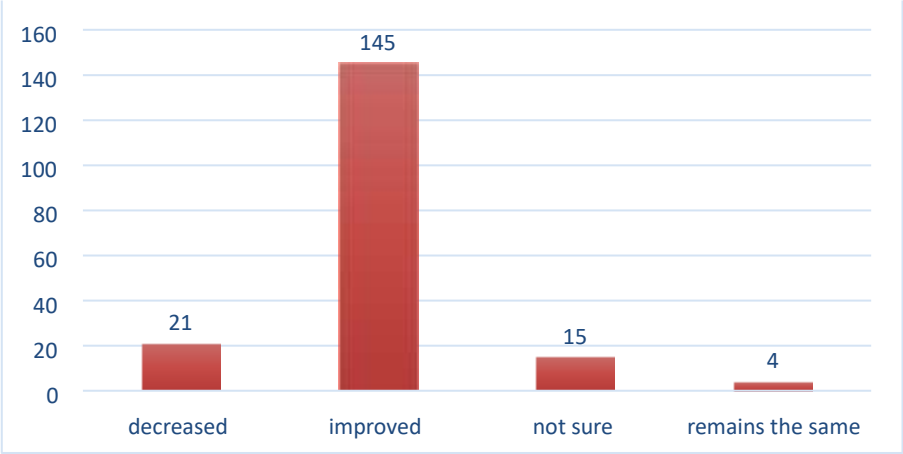

FIGURE 12- Effects of orthodontic treatment on patients confidence level

Discussion

The collaboration and success of patients are directly influenced by their attitudes and perceptions of pain, according to Singh J et al research on personality characteristics and pain perception in orthodontic treatment.

The majority of patients participating in their research expected that orthodontic treatment would result in teeth alignment, enhance their smile, and potentially improve their career prospects. In our study also, maximum patients expected to get their teeth aligned. These results demonstrate that the main factor influencing someone's decision to receive orthodontic treatment is an improvement in dentofacial aesthetics [8]. Improved occlusal function and esthetics were shown to be the main driving forces for Chinese patients. Patients with occlusal or esthetic goals showed a markedly greater need for and interest in therapy [9]. Psychosocial states had a stronger impact on patients with facial or dental esthetic goals. In order to effectively treat patients, it is important to take into account their motives as well as esthetic-related psychosocial state [9]. However, Ricardo Alves de Souza et al stated that occlusion deviation was found to be the primary factor driving patients to seek orthodontic treatment, and when the genders were dichotomized, esthetics for women and TMJ pain for men were found to be the primary drivers [9].

In this study, more than half of the patients (64%) believed that getting orthodontic treatment would hurt and would limit what they could eat and drink. This is corroborated by a previous study, as the findings indicate that patients expect to endure a significant level of discomfort during their orthodontic treatment [8]. This could have an effect on patient adherence and treatment satisfaction and could lead to tension between the patient and the practitioner [8]· Orthodontic therapy can result in pain, discomfort, and functional limitations. Feldmann I et al concluded that the variable that was correlated with satisfaction with the course of treatment was care and attention. There was a general inverse relationship between treatment satisfaction and patients' experiences of pain and discomfort during their care [10].

In this study, around 85% patients had mild to moderate pain during the course of orthodontic treatment. This is in accordance with earlier studies, as their results also show patients experiencing a fair degree of discomfort throughout orthodontic treatment [8]. Abu Alhaija et al reported that Orthodontic therapy was painful, but this was expected before starting the procedure [11].

In our study ,78% of the patients felt an improvement in their self-confidence during the course of orthodontic treatment. Similarly in study done by Singh et al, orthodontic treatment did enhance the chances of having a great profession and boost their self-confidence [8]. Ricardo Alves de Souza et al stated that the doctor-patient relationship is the key to enable the knowledge of what to expect from orthodontic treatment and is essential for a successful outcome. They found that the majority of study participants successfully finished their orthodontic treatment within the anticipated period and had improved their esthetics, social lives, and mental health [9]. According to the results of their study, young people's quality of life increased by about 50% when midline diastema was corrected.

In our study, 76 % were concerned of how other people might react if they wore braces. However, research by Renske Hiemstra et al. revealed no evidence of public disapproval of wearing braces. The utilization of fixed orthodontic appliances can present a cumbersome obstacle to patients' daily routines and negatively impact their quality of life and self-esteem. Fixed appliances require more frequent appointments and patient involvement. These factors provide a reasonable explanation for patient dissatisfaction stemming from treatment durations that exceed their initial expectations [8].

In our study, (68%) expected the orthodontic treatment to go on for 2 years. The duration of orthodontic treatment is notably influenced by the level of maternal emotional support. This could be attributed to increased maternal involvement in the orthodontic process, potentially contributing to achieving the desired treatment outcomes within a shorter timeframe, as observed in Nakhleh K's research [12].

In a separate study by Wright NS and colleagues , it was found that the inclusion of written materials alongside verbal information enhanced motivation for orthodontic treatment. However, it did not yield statistically significant effects on patient compliance, anxiety, or other negative emotions [13]. The majority of patients reported with the need orthodontic treatment for everyday living and requested treatment for cosmetic tooth alignment, according to Anuwongnukroh N et al [14]. In our study, moderate difficulties in maintaining oral hygiene was reported by 78% of the patients.

Although the majority of patients use fluoride toothpaste, it is essential for dental assistants and orthodontists to be more aware of the importance of educating their patients about maintaining good oral hygiene practices to prevent cavities and periodontal disease while undergoing orthodontic treatment. The emphasis on providing oral hygiene guidance should be a key aspect of any orthodontic treatment, with additional measures highlighted [14].

Approximately 65% patients did get mild to moderate ulcers while receiving therapy. An earlier study revealed that 47% of patients said that the most uncomfortable aspect of receiving orthodontic treatment was having ulcers. While the majority of dentists indicated that less than five patients per month complained of oral ulcers,

over 80% of patients in the Kvam E. et al study never visited the dentist for treatment of such conditions. It is possible that there are more patients with oral ulcerations than are officially documented, but they may not have followed up on their appointments [15]. Patients may develop mouth ulcers as a result of pressing their lips and cheeks against brackets, bands, or cleats. The palate or tongue may occasionally be traumatized by palatal or lingual arches. The majority of ulcerations in the Shaw WC et al study was observed during the initial appointment after bonding [16].

According to Babaee Hemmati Y et al, feeding practices and nutrition are critical for adolescent development and growth. During the initial weeks of orthodontic treatment, there was a significant drop in the intake of vitamin C, vitamin E, and fiber among teenagers [17]. By the 12th week of orthodontic treatment, the consumption of these nutrients had not returned to pretreatment levels. In our study also 66.67% patients had moderate difficulty in eating food. Hence collaboration between dietitians and orthodontists is believed to reduce the unfavourable dietary consequences of orthodontic treatment. It can be said that the orthodontic treatment has a negative, however brief, impact on the quality of life connected to oral health. Orthodontic treatment also alleviates eating disorders, which enhances the quality of life associated with dental health. Treatment success can be significantly increased by increasing physicians' understanding of this subject and educating patients about potential issues that may arise during orthodontic treatment and how to gradually resolve them [17]. One noteworthy observation was that patients believed their eating habits had improved from before therapy, despite reporting difficulties chewing and eating due to the level of pain and discomfort they were experiencing. Patients reported eating better meals, cutting back on snacking, and avoiding items with a lot of sugar [18].

Conclusion

Most of the patients expected the braces to be fitted in the first orthodontic visit. Patients were aware about the different treatment options and most of them were practical and wanted the treatment to be economic. Most of them are concerned cosmetically than functionally. The treatment process did interfere mildly with speech and moderately with eating habits, oral hygiene maintenance and did cause moderate ulcers in mouth. Most of them felt the treatment process to be cumbersome. The treatment results do have a positive impact on patients' self-confidence which was reflected in their smile and profession.

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