



## Patients' Perceptions and Concerns About Orthodontic Treatment

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### ABSTRACT

Improvement in dental and facial aesthetics has always been an important goal of orthodontic treatment. This not only enhances the general well being of the patients but is also helpful in improving self-confidence and social success. Apart from this, orthodontic treatment also helps resolve a number of problems caused by protruding, irregular or maloccluded teeth such as difficulties in jaw movements, greater susceptibility to trauma, periodontal disease or tooth decay, etc. This study was undertaken to determine patients' motives for seeking orthodontic treatment, as the source of motivation is the most crucial factor in determining and predicting patients' satisfaction with treatment, and also to evaluate the patients' perceptions of problems encountered during treatment and expectations from orthodontic treatment. The sample consisted of 100 subjects (48 male and 52 female participants) aged 15 to 30 years, who were undergoing orthodontic treatment and were selected randomly from the Department of Orthodontics and Dentofacial Orthopaedics, Mahatma Gandhi Dental College & Hospital, Jaipur. Chi-square statistical analysis was performed to determine the comparison of proportions. Our study concluded that a desire to improve the overall facial appearance was the prime motivating factor, followed by a desire to attain straightened teeth. This study also suggested that the main reason for not seeking orthodontic treatment is the prolonged duration of treatment. Therefore, in order to prevent losing patients' motivation, they should be well informed about the treatment duration before initiating it.

**Key Words:** Malocclusions, Perception, Orthodontic treatment, Motivation.

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### INTRODUCTION

An important goal of orthodontic treatment is to improve the dental and facial aesthetics in order to enhance the general well being of the patient. Various studies have shown that the demand for orthodontic treatment is related not only to enhance dental and facial appearance but also to improve self confidence and social success.<sup>1-6</sup>

Other than these, protruding, irregular or maloccluded teeth may cause a number of problems such as difficulties in jaw movements (lack of muscle coordination or pain), problems of masticatory system, swallowing or speech, and greater susceptibility to trauma, periodontal

disease or tooth decay.<sup>7</sup> Orthodontic treatment also helps resolve these problems.<sup>8,9</sup>

Thus, it is important to know the patients' perceptions about their own appearance and their concerns regarding orthodontic treatment. A number of factors influence the perceptions and decision to undergo orthodontic treatment such as gender, age, previous knowledge about appliances, social, cultural, psychological and personal factors and duration, availability and cost of orthodontic treatment.<sup>1-6</sup>

Moreover, it is important to assess the level of motivation of the patient throughout treatment as poor compliance on the part of the patient may lead to compromised quality of treatment.

Therefore, it is important for the orthodontists to consider patients' perceptions and expectations from orthodontic treatment.<sup>10,11</sup>

### AIMS AND OBJECTIVES

This study was undertaken to determine the patients' motives for seeking orthodontic treatment as the source of motivation is the most crucial factor in determining and predicting patients' satisfaction with treatment.<sup>12</sup> Other aims of this study were to evaluate the patients' perceptions of problems encountered during treatment and expectations from orthodontic treatment, thereby reducing the risk of patient dissatisfaction with treatment outcomes.

### MATERIALS AND METHODS

The sample consisted of 100 subjects (48 male and 52 female participants) aged 15 to 30 years, who were undergoing orthodontic treatment and they were selected randomly from the Department of Orthodontics and Dentofacial Orthopaedics in Mahatma Gandhi Dental College & Hospital, Jaipur. Ethical clearance was obtained from the ethical committee of the institution before starting the study.

Individuals were given a questionnaire after 4-6 months (alignment and leveling stage) of starting orthodontic treatment. It consisted of 10 questions regarding the most important motivating factor for seeking orthodontic treatment, patients' views about facial aesthetics, reasons for delay in treatment, perceptions about problems encountered during treatment, their expectations and likelihood of recommending braces to other people. The patients were asked to fill the questionnaire in the department itself.

The data was analyzed using SPSS (version 16.0). Statistical analysis was performed to determine the comparison of proportions. Chi-square test was applied to evaluate any significant differences,  $p$  value  $< 0.05$  was considered statistically significant.

### RESULTS

This study used a reliable and patient centred questionnaire to assess the expectations and motivating factors of orthodontic patients. Statistically highly significant ( $p=0.000$ ) differences were found among the responses obtained from all the participants for each question. No statistically significant differences were found between responses given by male and female participants except for responses to questions concerning their perceptions about the problems that they would encounter during orthodontic treatment and the area of life that they felt would be affected after orthodontic treatment.

The first question focused on the most important motivating factor for seeking orthodontic treatment. 47% of patients considered facial appearance to be the most important factor followed by a desire to attain straight teeth. The other reasons for seeking orthodontic treatment such as improvement in function, dental health and self-confidence were not considered to be important by most of the patients (Figure 1). Next, the patients were questioned on those facial features which they considered to be the most important in determining facial aesthetics. 74% of patients considered teeth to be the most important facial feature determining facial aesthetics (Figure 2).

They were then asked for a reason why they thought that other adults with crooked teeth did not seek orthodontic treatment. Most of the subjects felt that prolonged duration of treatment was the main reason for this. Hence, the duration of orthodontic treatment should be explained to patients at the beginning of treatment in order to prevent losing their motivation (Figure 3). In the next question, the patients explained the reasons for delay in orthodontic treatment. Most common reasons given for the delay were that their lives had just started to be affected by their appearance (41.00%) and that treatment could not be afforded earlier (40.00%) (Figure 4).

Next, the patients were asked who had referred or suggested orthodontic treatment to them. It can be seen that, a high percentage of patients are self motivated. This is important because internally motivated patients are more

likely to be cooperative during their orthodontic treatment (Figure 5).

The next question focused on the patients' perceptions about the problems that they felt they would encounter during orthodontic treatment. The patients' responses indicated that discomfort from braces and speech were the most commonly perceived problems. However, significant differences were found between male and female groups. While most of the female patients felt that braces would cause discomfort during orthodontic treatment, most of the male patients considered duration of treatment to be the most commonly perceived problem (Figure 6).

The patients were asked which areas of their life would be affected after their teeth are straightened and more than half of the patients felt that their confidence would be enhanced after orthodontic treatment. But significant gender

differences were found in the second most common perception. Whereas males felt that treatment would lead to increase career opportunities, females were more concerned about their social interaction (Figure 7).

The patients were then questioned on the problems they faced after the braces were fitted. Predominantly, 44% of the patients had problems in speech (Figure 8). The patients were asked how likely they would be to undergo orthodontic treatment if they had to make the decision again. 54% patients felt that they might undergo orthodontic treatment if they had to make the decision again while for 32% the answer was a definite yes (Figure 9).

In the end, they were asked how likely they would now recommend braces to others. Majority of patients would definitely recommend braces to others (Figure 10).

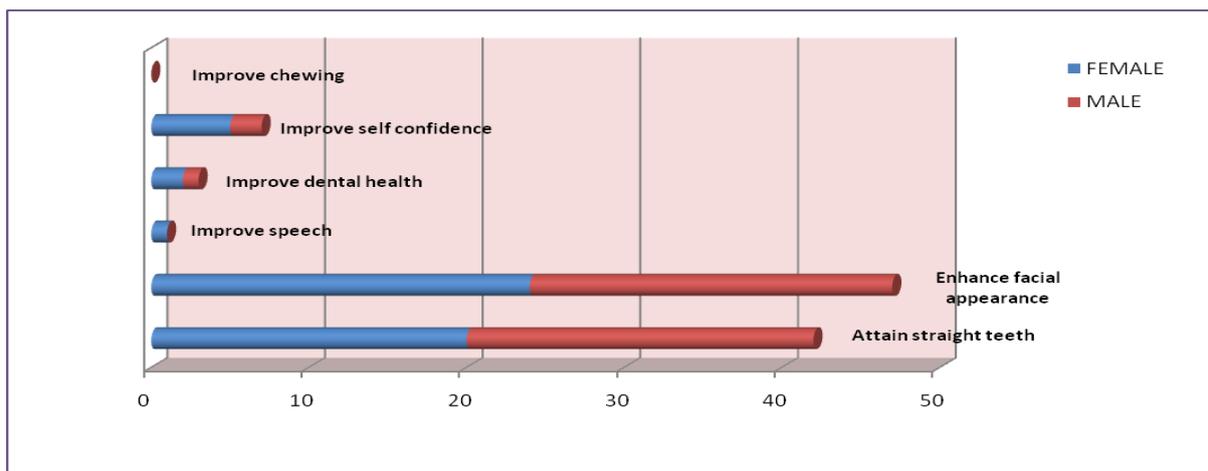


Figure 1. Most important factor for seeking orthodontic treatment

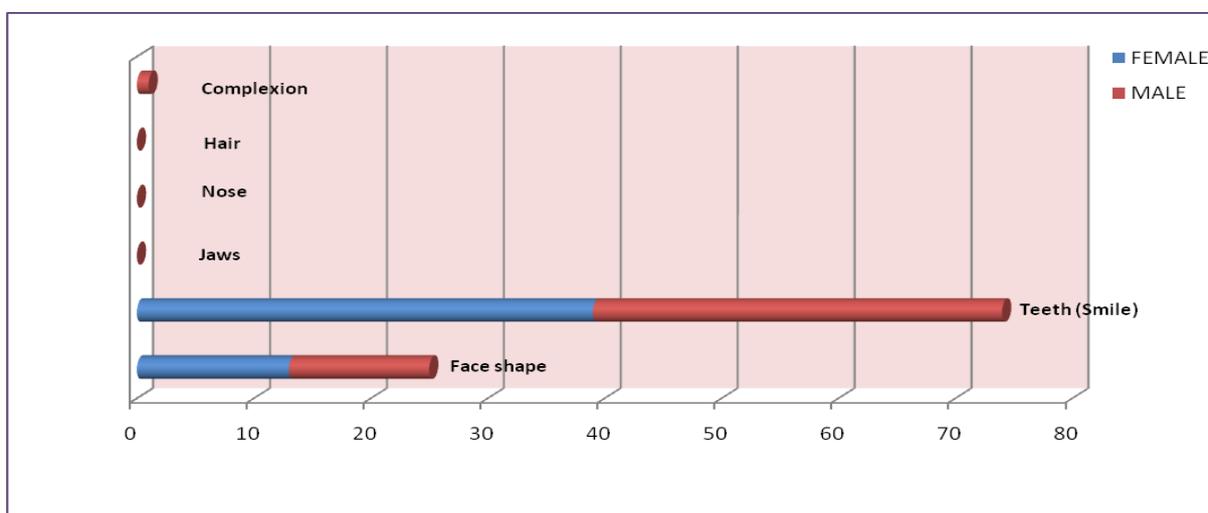


Figure 2. Facial features which are considered most important in determining facial aesthetics

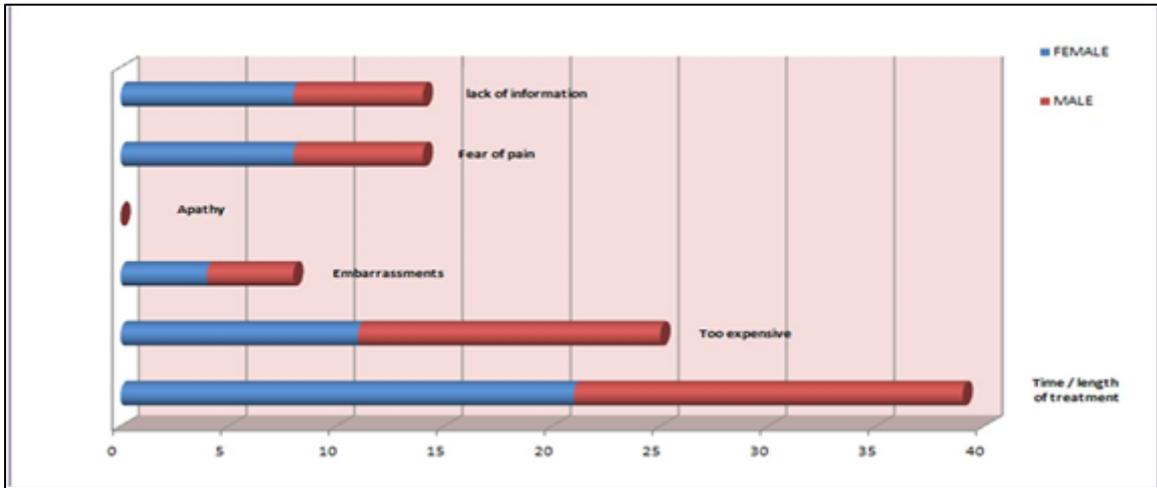


Figure 3. Reason why you thought other adults with “crooked teeth” do not seek orthodontic treatment?

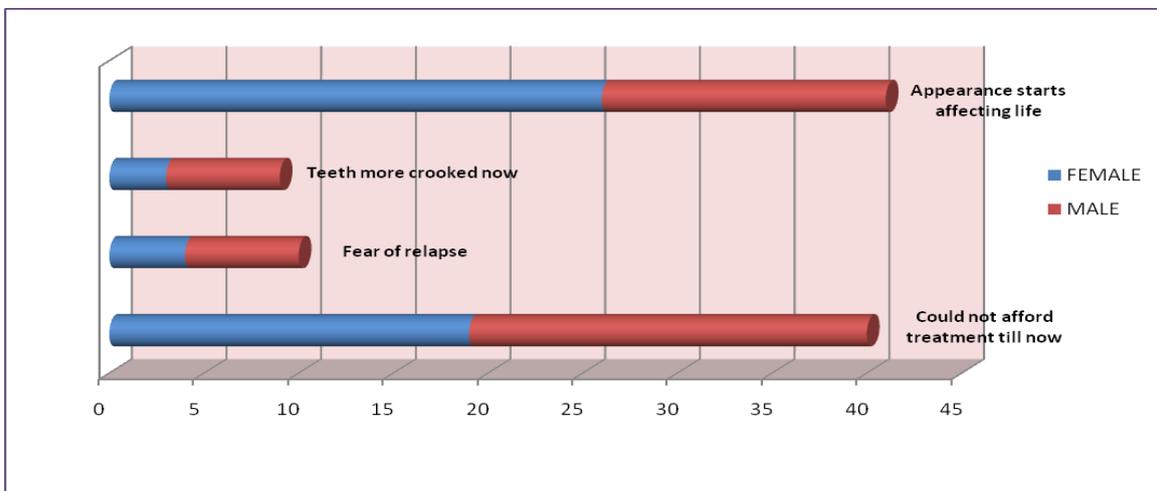


Figure 4. Reasons for delay in orthodontic treatment till now

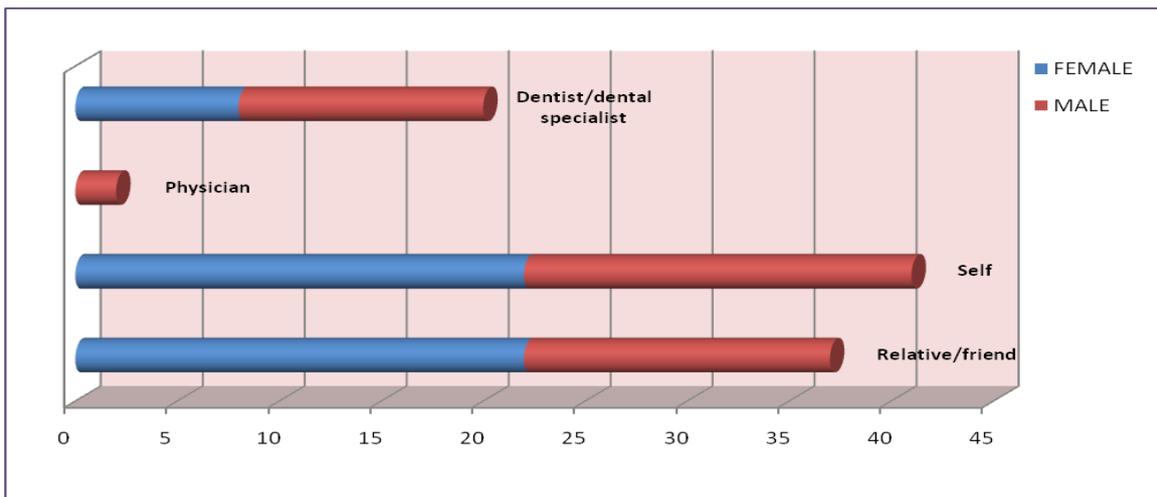
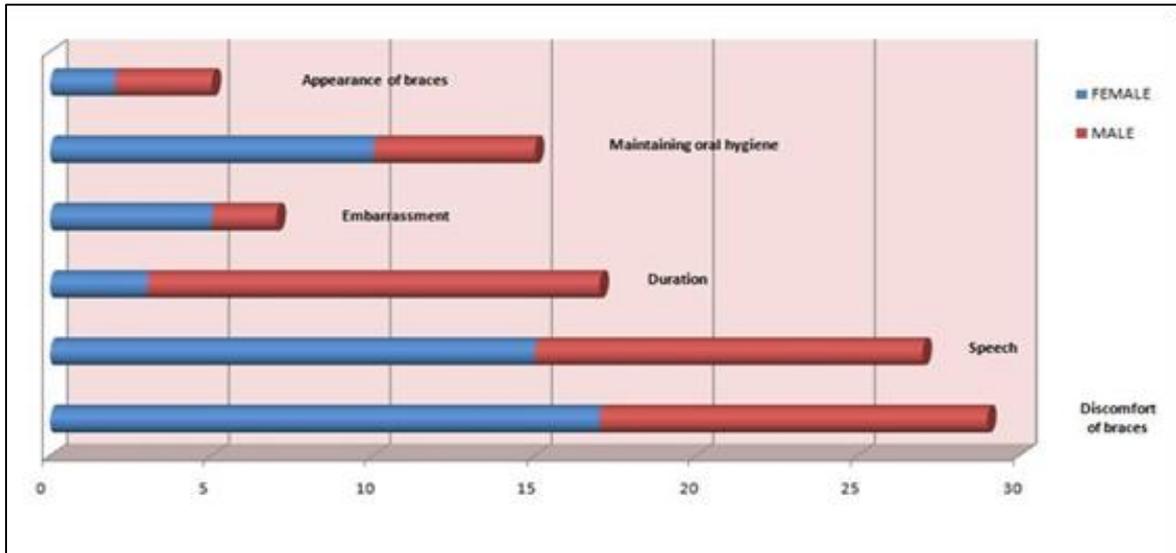
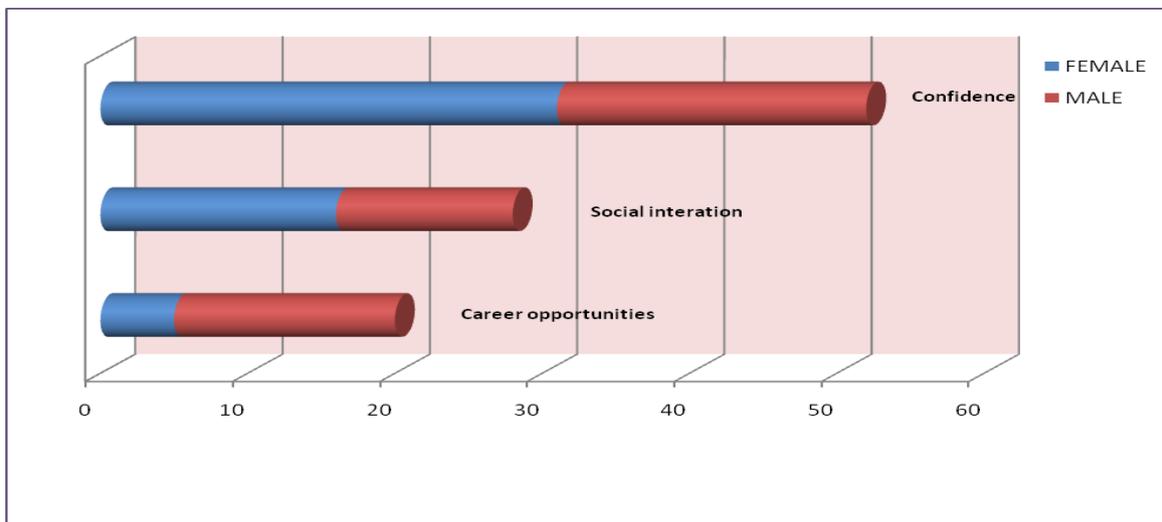


Figure 5. Who referred you to or suggested orthodontic treatment?



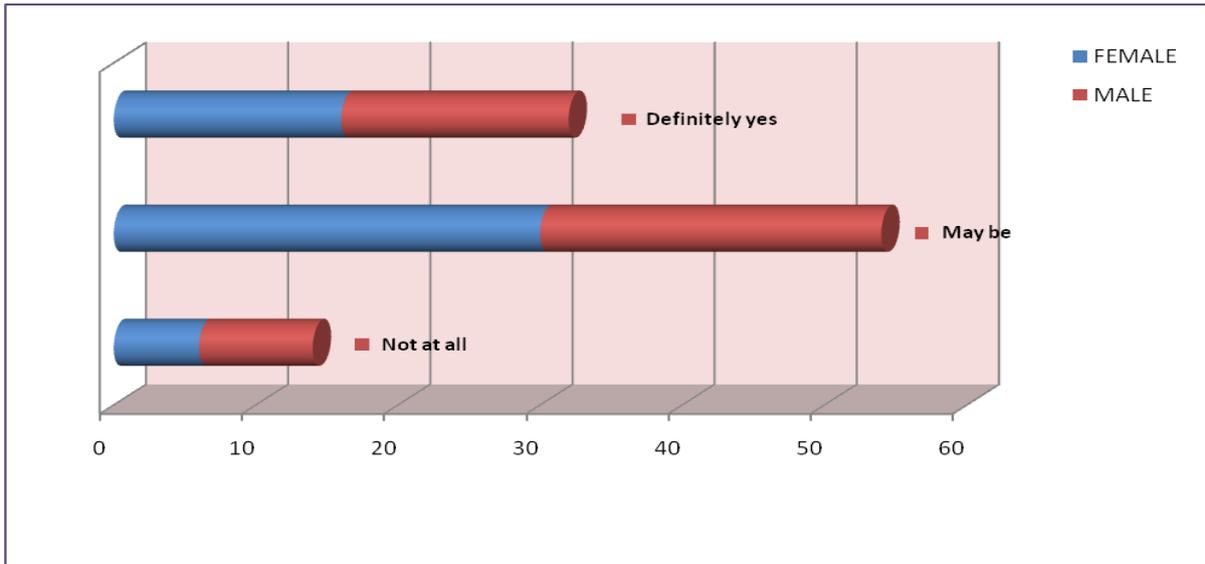
**Figure 6.** Patient's perceptions about problems encountered during orthodontics



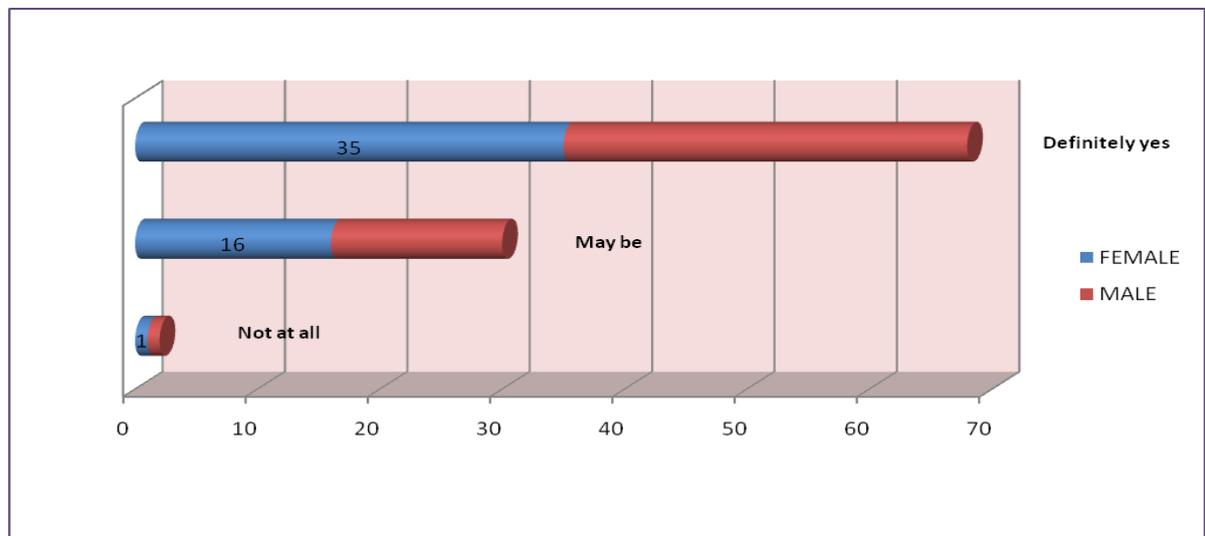
**Figure 7.** Do you think that after your teeth are straightened the following areas of your life were/will be affected?



**Figure 8.** After the braces were fitted, did you have problem in?



**Figure 9.** If you had to make the decision again, how likely would you be to undergo orthodontic treatment?



**Figure 10.** How likely would you now be to recommend braces to others?

## DISCUSSION

This questionnaire can be used by other orthodontists and researchers in order to understand their patients better. It focuses on issues related to patients and probes and explores the issues in depth.

Aesthetics is better related to feelings, whereas perception is more related to the organization of environmental stimuli.<sup>13</sup> Various physical, psychological, and social factors that affect perceptual judgments are described and related to the development and maintenance of

self-image.<sup>13</sup> The impact of these self perceptions of dentofacial attractiveness among the patients for seeking orthodontic treatment and their thoughts and concerns regarding orthodontic treatment are discussed in this study.

It was noted in the study that a desire to improve the overall facial appearance was the prime motivating factor, followed by a desire to attain straightened teeth. These findings are in disagreement with the study of Pabari et al<sup>14</sup> wherein a wish to improve dental appearance was found to be the main motivating factor, followed by a wish to improve overall facial appearance.

On the other hand, most of the patients felt that teeth are the most important facial features determining their general appearance similar to the findings of Bergstrom et al<sup>11</sup> and Sharma et al<sup>1</sup> who found in their studies that all the patients considered healthy and well arranged teeth to be important for their appearance.

The other reasons for seeking orthodontic treatment such as improvement in function, dental health or self confidence were not considered to be important by most of the patients which is in agreement with the findings of Fazwan et al.<sup>3</sup> Most of the subjects felt that prolonged duration of treatment was the main reason why other people with crooked teeth do not seek treatment. So, the duration of orthodontic treatment must be explained to patients at the beginning of treatment in order to prevent losing their motivation. This is in contrast with the findings of Sharma et al<sup>1</sup> who found peer group reaction to be the main factor responsible for declining orthodontic treatment. This may be due to the fact that their study was conducted on rural population hence there was lack of complete knowledge about treatment.

In this study, the most common reason given by the patients for the delay in treatment till presently was the inability to afford treatment. This is somewhat dissimilar to the study done by Pabari et al<sup>14</sup> who found the most common reason to be failure to recommend orthodontic treatment to them. Inability to afford treatment was the second most common reason for delay found in their study.

In the present study, approximately 41% of the subjects said that it was their own decision to seek treatment. This is in agreement with the study of Fazwan et al<sup>3</sup> and Pabari et al,<sup>14</sup> who found that about half of their sample sought treatment on their own accord. In contrast, according to the findings of Daniels et al<sup>6</sup> and Fleming et al,<sup>16</sup> the highest percentage of patients were motivated by their general dentist, the second highest percentage being of self motivated patients. Trulsson et al<sup>17</sup> noted a massive external influence on patients seeking orthodontic treatment. This could be because younger age groups were analyzed in their study. Therefore, it can be said that a high percentage of patients are self motivated. This is important because internally

motivated patients are more likely to be cooperative during their orthodontic treatment.

When the attitudes of subjects towards various aspects of treatment such as braces appearance and tolerance was assessed, results indicated that discomfort of braces and speech were the most commonly encountered problems during orthodontic treatment. However, significant differences were found between female and male groups. According to female patients, discomfort of braces was the most commonly encountered problem whereas male patients considered duration of the treatment to be the most commonly encountered problem.

Most of the patients had problems in speech, followed by eating problems. This suggests that patients should be well explained and instructed regarding initial discomfort of braces and motivated for appropriate oral hygiene and maintenance of braces. Proper dietary instructions should be given to the patients and pain control measures should be followed.

In this study, both male and female participants considered that confidence was the main element which would be affected after orthodontic treatment, similar to the findings of Fazwan et al.<sup>3</sup> However, significant gender differences were found in their opinion. 31.25% male patients felt career opportunities would be improved after orthodontic treatment while only 9.61% female patients agreed with that. Rather, the female patients were found to be more concerned about social interaction.

In the present study, about 32% patients displayed high levels of motivation and desire to undergo orthodontic treatment if they had to make the decision again. Patients appeared to have a realistic impression of time and treatment charges involved in this decision. Majority of patients showed likelihood of recommending braces to others. This reveals that they were highly motivated. Study done by Oliveira et al,<sup>18</sup> showed that patients stood out for attention to detail, high interest in the aesthetic improvements provided by treatment and also for a greater perception of their initial malocclusion. In this study also, patients revealed good perception of facial and dental aesthetics and strong motivation. These new insights into perceptions and concerns of

orthodontic patients' can aid orthodontists in enhancing their communication with patients.

## CONCLUSION

The questionnaire used in the present study can be used to assess motivation and co-operation of patients during orthodontic treatment. Patients should be asked how they feel about their facial and dental appearance and their concerns regarding orthodontic treatment. It can also be used as an adjunct for consent and treatment planning thus improving the quality of treatment provided to the patient.

In conclusion, this study lays the basic framework for future research that can determine the influence of various types of motivation and personality traits or characteristics on patients' motivation and co-operation before and during orthodontic treatment, since the ultimate goal of orthodontists is to bridge the gap between patients' expectations and their experience in treating the patients successfully.

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