

## SATISFACTION AND EXPECTATIONS OF ORTHODONTIC PATIENTS WITH THEIR ORTHODONTIC TREATMENT

RABIA BILAL

### ABSTRACT

*A satisfied patient at the end of orthodontic treatment is a very important criterion of success for an orthodontist. That is why it is extremely vital to explore the factors which determine the fulfillment of these expectations at a personal level so that both patient and doctor have realistic achievable goals from the treatment. These factors though difficult to quantify and varying in different parts of the world, provide a fair insight how to extrapolate satisfied patients.*

*This study was conducted in Qassim province of Saudi Arabia. A self-administered e-questionnaire was sent to 226 adult patients between the age of 15-50, who had finished orthodontic treatment. 83.6% of the patients were satisfied with their treatment while only 16.4% were unsatisfied. The general factors significantly related to satisfaction were enough time spent by the orthodontist in explaining the treatment, personal relationship and the clinical expertise of the orthodontist. Other statistically insignificant factors were professional degree, setting of dental office and orthodontist's openness to criticism and suggestions. The factors related during the treatment i.e. cost and discomfort didn't have any significant relation with the satisfaction of the treatment. The significant percentage of patients thought their treatment was a success for them and their expectations were met. A very small number of patients reported that they developed few dental problems which included dental caries followed by collapse of arch, gingival inflammation, change in the color of teeth, pain and caries combined with gingival inflammation.*

**Key Words:** *Expectations, satisfaction, orthodontic treatment, patients, orthodontists.*

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### INTRODUCTION

It behoves an orthodontist to regard patients seeking treatment for malocclusion as valued customers who should remain satisfied clients. However, without patient cooperation, few medical or dental therapies, including orthodontics, will achieve optimum results.

It has been shown that a desire for orthodontic treatment, together with a sound understanding by the patient of the nature of the malocclusion, auger well for future compliance.<sup>1</sup> Hence, compliance does not remain the sole responsibility of the patient. Rather, orthodontists need to inform and instruct their patients to such a level as to ensure their full commitment. It is of concern that patients show a very low recall rate with regard to any risks associated with orthodontic treatment. Lack of communication between the ortho-

dentist and the patient and insufficient information about orthodontist can lead to premature termination of the treatment. Orthodontists should therefore look at the way they educate patients, ensuring that full comprehension has been achieved. Measuring treatment satisfaction is a complex task. Patient satisfaction is higher when visible treatment outcome goals are met and when their expectancy with regard to psychosocial benefits is lower.<sup>2</sup>

In orthodontics, there is emerging interest in the study of patient expectations and satisfaction. However, it is difficult to quantify them due to the long-term nature of orthodontic treatment, and the results which involve complex functional and aesthetic components. What would be the patients' perceptions that would influence their satisfaction with orthodontic treatment and with the professional's performance? This is an important issue to unravel the psychological universe of the patient.<sup>3</sup>

The successful outcome of orthodontic treatment is related to discern the maneuvers that will produce the most positive response from the patient. Orthodontist

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**Corresponding Author:** Dr Rabia Bilal, Associate Professor, Department of Orthodontics, Faculty of Dentistry, Qassim University, Kingdom of Saudi Arabia E-Mail: rabia.orthodontist@gmail.com  
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should try to achieve the ideal parameters of functional occlusion but the treatment will only deem successful if the psychological parameters of the treatment are met and patient satisfaction is achieved. Orthodontist should respond to these needs of the patient, for they may be patient’s only source of positive reinforcement.<sup>2</sup>

However, dental attitudes and expectations of patients have changed over time.<sup>4</sup> Over the past decade, the number of patients seeking orthodontic treatment has increased considerably with socioeconomic development and changing opinions on appearance.<sup>5,6</sup> Do these changes affect the satisfaction of patients after orthodontic treatment? To answer this question in a valid and reliable way a standardized instrument is needed.<sup>7</sup>

The aim of this study was to identify the main factors responsible for the satisfaction of patients in relation to professional performance and to determine the outcomes of their expectations from the treatment.

**MATERIALS AND METHODS**

The study design was cross-sectional observational, which was conducted from December 2015 to February 2016. The study was approved by the Ethical Committee.

A total number of 226 adult patients both male and female between the age of 15–50, who finished and underwent their orthodontic treatment in Qassim province participated in the study. A self-administered online questionnaire was sent via email and social media. The questionnaire had both open ended and closed ended question (dichotomous, multiple choice, scaled) Confidentiality of the patient’s data was ensured and no personal identification such as the patient’s name was recorded on the questionnaire. The questionnaire was sent to 246 individuals, the dropout rate was 8% as 20 questionnaires were excluded due to insufficient or unclear information. The SPSS version 21 was used for statistical analysis. Chi square was used for comparing the variables. The statistical significance was set at  $P < 0.05$ .

**RESULTS**

Out of 226 participants, 180 were females and 46 were males. The age distribution of the sample is presented in Figure I.

The satisfaction level of the participants showed 37 individuals including 7 males and 30 females (16.40%) were unsatisfied and 189 individuals comprising of 39 males and 150 females (83.60%) were satisfied with their orthodontic treatment. The co-relation of satisfaction with different age groups was insignificant ( $p=0.533$ ). (Figure II).

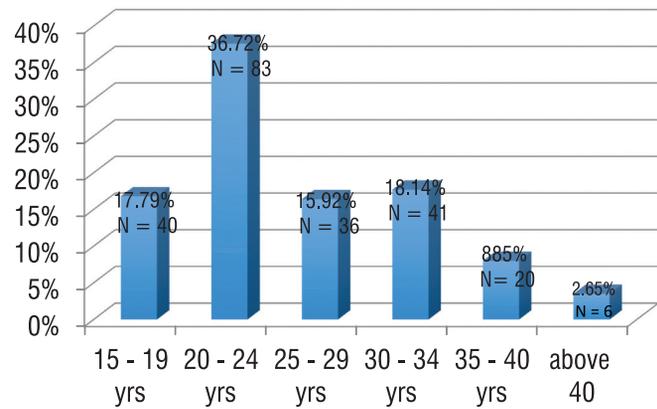


Fig 1: showing the age distribution of the sample

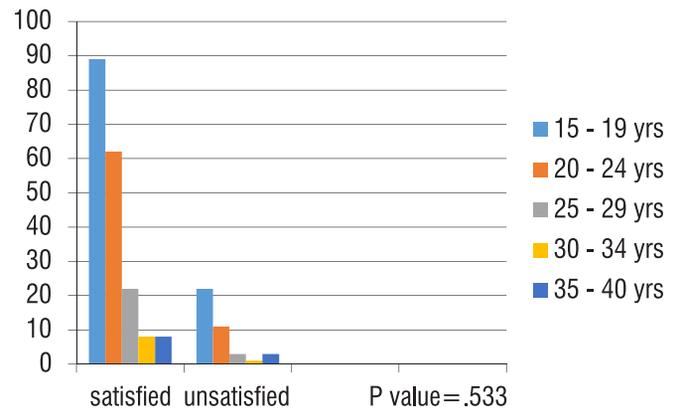


Fig 2: Satisfaction percentage of both the males and females and its relation with the age

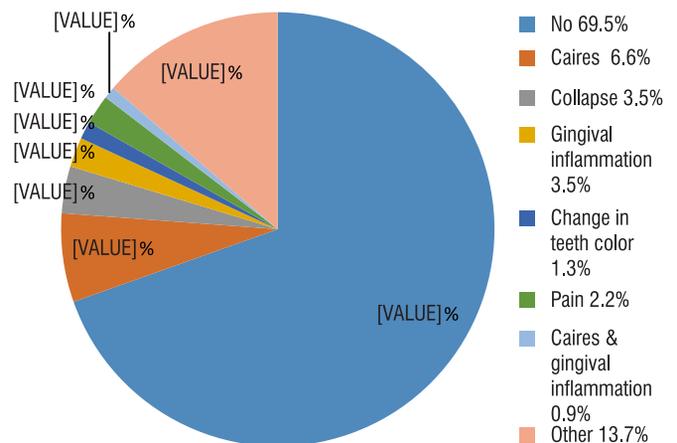


Fig 3: The % of problems which arose during the treatment.

The test results regarding the behavior, ethics and degree of the orthodontist is shown in Table 1. The comparison of the groups with respect to the orthodontic treatment itself is presented in Table 2. The post treatment satisfaction and the factors related to it are described in Table 3.

Regarding the perception of patients having dental problems arising during the treatment, 144 (69.5%)

TABLE 1: SHOWING THE SATISFACTION RELATED TO PROFESSIONAL TITLE, CARE & PERFORMANCE OF ORTHODONTIST

Question	P value
Degree / professional title	.399
Enough time spent on explaining the Rx	.000*
Your confidence remained same during Rx	.026
Setting of dental office changed your decision	.699
Would you recommend your doctor to others	.000*
Doctor was open to criticism and suggestions	.009
Personal relationship with doctor	.000*
How clinically sound your orthodontist was	.000*

TABLE 2: SHOWING THE COMPARISON WITH RESPECT TO THE ORTHODONTIC TREATMENT

Question	P value
Did cost of treatment affect your decision	.411
Did clinician or assistant did the treatment	.170
Did discomfort put you off	.026

TABLE 3: SHOWING THE POST TREATMENT FACTORS

Question	Yes	No	P value
Did you look forward to braces coming off	189	0	/
Do you feel your treatment is success for you	144	45	0.000*
Do you regret wearing braces	20	169	0.000*
Did you know what you expected from Rx	150	39	0.000*
If yes, your Rx met your expectations	122	67	0.000*

reported that there were no problems. While 45 (30.6%) encountered few problems. The list and percentage of the problems that were raised after the treatment are shown in Figure III.

## DISCUSSION

Patient satisfaction with orthodontic treatment has had no definitive outcome in the literature.<sup>8</sup> This can be explained by the different motivations and expectations of patients receiving orthodontic treatment. Most

studies report functional, esthetic, and social reasons as the main motivations to seek orthodontic treatment.<sup>9-11</sup> Almost a decade ago, in a study in the Netherlands, the patient satisfaction questionnaire developed by Bos<sup>12</sup> et al. was used to examine different factors of patient satisfaction after orthodontic treatment. The factors such as doctor-patient relationship, situational aspects, dentofacial improvement, psychosocial improvement, and dental function, as well as a residual category, were explored. It was shown that the most important factor contributing to patient satisfaction was the patient's satisfaction with the doctor-patient relationship. Gender was shown to be a significant predictor of the patient's satisfaction with the doctor-patient relationship and the situational aspects of the treatment.<sup>13</sup>

In our study 83.6% of the patients were satisfied with their treatment & only 16.4 % were unsatisfied. The general factors significantly related to satisfaction were enough time spent by the orthodontist in explaining the treatment, personal relationship with the orthodontist and the clinical expertise of the orthodontist. Other statistically insignificant factors were professional degree, setting of dental office and orthodontist's openness to criticism and suggestions.

The factors related during the treatment i.e. cost and discomfort didn't have any significant relation with the satisfaction of the treatment.

All the patients in the study looked forward to taking off their braces. The significant percentage of patients thought their treatment was a success for them. A high percentage of patients didn't regret getting the braces (the difference was statistically significant). Another very important post treatment factor to determine the post treatment success for the patients was they knew what they expected from the treatment. There was also statistically significant percentage of patients who thought their expectations were met by their treatment.

A study done by Li and Whang<sup>14</sup> concluded that motivation was correlated with satisfaction with treatment outcome. Patient's expectations had no correlation with treatment satisfaction.

A study done by Williams and Shah<sup>15</sup> showed that improving dental appearance and preventing future dental problems are major motivators for orthodontic patients. Although patients felt well informed about what to expect from their orthodontic treatment, a significant proportion, particularly younger patients and males, were surprised at the length of treatment and the need to wear retainers. This suggests that patients might benefit from better information regarding the orthodontic aspects of their care.

In this study, the significantly higher number of patients didn't think they developed any dental problem

during the course of orthodontic treatment, however a very small percentage of patients said they did develop some problems. The most frequently encountered dental problem as narrated by the patient was dental caries, followed by collapse of arch, gingival inflammation change in the color of teeth, pain, and caries combined with gingival inflammation.

Some of the studies in literature also showed that different dental problems were encountered during orthodontic treatment which includes oral ulcerations, caries, periodontal diseases and TMD.<sup>16-20</sup>

For Sinha<sup>21,22</sup> et al, the lack of professional efficiency in exposing the problems inherent to the case could lead to a mismatch of information. Professionals should focus more on the quality of care, their personalities, their attitudes and professional competency, so that at the end of orthodontic treatment, the objectives achieved would be the patient's personal and the orthodontist's professional satisfaction respectively.

## CONCLUSION

The significant factors related to the level of patient satisfaction in relation to the orthodontist, were: doctor spending enough time on patient, patient/doctor interaction and personal relationship with the patient, how well the doctor accepts criticism and suggestions, clinical efficiency of the doctor and the patient's recommendation of the orthodontist to the others.

Significant number of patients knew what they expected from their treatment and significant number reported their expectations were met from their orthodontic treatment.

None of the orthodontic treatment related factors had any significant effect on the compliance and the satisfaction of the patient with the orthodontic treatment.

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