

# Evaluation of the Satisfaction and Expectation Levels of the Orthodontic Patients with Their Orthodontic Treatment

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## ABSTRACT

**Background:** The success of orthodontist treatment lies in the satisfaction and expectation levels of the patients. There is a need to explore factors which determine the expectation and satisfaction levels of the patients.

**Objective:** The study aimed to analyze the satisfaction level and expectations of orthodontic patients with their orthodontic treatment.

**Study design:** This cross-sectional and observational study was conducted at dentistry department of Islamic International Medical and Dental College Islamabad. The duration of the study was six months from Jan 2022 to June 2022.

**Material and Methods:** The 210 patients that visited orthodontic department of the hospital were selected for analysis. Among those 210 patients, there were 170 females and 40 males. The participants were fully aware of the study and written consent was taken from the patients. The satisfaction level was analyzed. It was observed that there were 16% participants that were unsatisfied. There were 176 patients that were satisfied with the orthodontic treatment they were given. There was no significant co-relation found between people of different age groups ( $p=0.5$ ). The study was carried out to find features like ethics, behavior and the degree of orthodontist that did the treatment. The comparisons of groups with the orthodontic treatment was carried out and the satisfaction of the patients post-treatment.

**Results:** It was observed that 16% participants were unsatisfied it included 7 males and 27 females. Among the 210 patients that participated there were 176 patients that were satisfied with the orthodontic treatment they were given. There was no significant co-relation found between people of different age groups ( $p=0.5$ ). There were 70% patients that reported that they had no problem during the treatment. And there were 30% patients that felt problems. There were many problems described by the patients.

**Conclusion:** The study reported that majority of the patients significantly met their expectations of the treatment. There was no orthodontic treatment linked factor that had significant association on the satisfaction of the patients.

**Keywords:** Orthodontic patients, satisfaction level and degree of orthodontist.

## INTRODUCTION

The success of orthodontist treatment lies in the satisfaction and expectation levels of the patients. There is a need to explore factors which determine the expectation and satisfaction levels of the patients. According to the literature the 30% of patients have malocclusions that are in urgent need of orthodontic treatment. The number of teenagers receiving orthodontic treatment has significantly increased globally<sup>1-2</sup>. According to the research, only 34% of orthodontic patients were completely satisfied with the orthodontic treatment, 62% reported relative satisfaction, and 4% reported genuine dissatisfaction. The variables, such as sex, age, treatment duration, compliance, and dentofacial improvement, are highly influenced the patient satisfaction after orthodontic treatment<sup>3-4</sup>, no correlations between treatment expectation, motivation, and treatment outcome have been discovered to date.

There is no definitive data present about the orthodontist treatment satisfaction level in the literature. The main motivations to carry out orthodontic treatment were social, esthetic and functional reasons<sup>5</sup>. The satisfaction questionnaire was made to examine a number of different factors after the patients underwent orthodontic treatment. The premature termination of the orthodontic treatment are because of lack of communication between the orthodontist and patients. Orthodontist must educate the patients in the fully comprehensive ways<sup>6-7</sup>. If the visible treatment outcome goals become met the higher satisfaction levels of patients are observed. The trends of studying about the satisfaction and expectations level of the patients receiving orthodontic treatments are emerging. However, because orthodontic treatment is lengthy and the results include intricate functional and aesthetics components, it is challenging to quantify the satisfaction levels of the patients. Patient should be informed about the status of their procedure, how well it is going and what more can be expected after the treatment. All these factors significantly relate to the satisfaction level of patient after the dental treatment. However, patient expectations and dental attitudes have

evolved throughout time. With socioeconomic advancement and shifting attitudes toward appearance, the number of patients seeking orthodontic treatment has significantly increased during the past ten years<sup>8</sup>. Do these changes have an impact on patients' satisfaction with their orthodontic treatment? A standardized instrument is required to provide a valid and trustworthy response to this inquiry.

There is need to explore the factors that are responsible for satisfaction of the patients. There is the insufficient and unlimited knowledge available on the expectation and satisfaction levels of the patients taking orthodontist treatment<sup>9-10</sup>.

## MATERIAL AND METHODS

This cross-sectional and observational study was conducted on 210 patients. The duration of the study was six months from Jan 2022 to June 2022. The ethical and review board committee of the hospital approved the study. The 210 patients that visited orthodontic department of our hospital teaching hospital were selected for analysis. Among those 210 patients, there were 170 females and 40 males. The participants were fully aware of the study and written consent was taken from the patients. The satisfaction level was analyzed. The questionnaire was provided to the patients. The patient's data confidentially was ensured.

The open and closed ended question of different types were the part of the dully checked questionnaire. The study was carried out to find features like ethics, behavior and the degree of orthodontist that did the treatment. The comparisons of groups with the orthodontic treatment was carried out and the satisfaction of the patients post-treatment. For statistical analysis of the data collected the SPSS software was used. The variables were compared by using the chi-square test.

## RESULTS

To analyze the satisfaction level and expectations of orthodontic patients with the treatment they are given, study was carried out

and 210 patients were selected for analysis. Among those 210 patients, there were 170 females and 40 males. The patients were fully aware of the study and written consent was taken from the patients.

The satisfaction level was analyzed and it came to knowledge that there were 16% participants that were unsatisfied that included 7 males and 27 females.

Table 1: Distribution of age in the samples

Percentage of participants	Age groups	No. of patients
18%	15-19	38
37%	20-25	76
16%	25-29	34
18%	30-34	38
9%	35-40	19
2%	Above 40	5

Among the 210 patients that participated there were 176 patients that were satisfied with the orthodontic treatment they were given. There was no significant co-relation found between people of different age groups (p=0.5).

Table 2: Satisfaction percentage of patients with respect to age groups

Age groups	Satisfaction percentage	P value
15-19 years	89%	0.533
20-24	60%	0.532
25-29	20%	0.512
30-34	5%	0.533
35-40	5%	0.561

The study was carried out to find features like ethics, behavior and the degree of orthodontist that did the treatment. The comparisons of groups with the orthodontic treatment was carried out and the satisfaction of the patients post treatment with other factors was described.

Table 3: The percentage of issues arising during the treatment

Problems	% of patients reported
No problem	70%
Caries	6.7%
Collapse	3.6%
Gingival inflammation	3.7%
Teeth color change	1.4%
Pain	2.4%
Caries and gingival inflammation	1%
Other problems	14%

As far as the cases are concerned where patients developed dental problems during the treatment, there were 70% patients that reported that they had no problem during the treatment. And there were 30% patients that felt problems. There were many problems described by the patients. The list of problems during the treatment were also listed in the tables.

Table 4: The questions that were asked related to post treatment factors

Questions	Yes	No	P value
Are you looking forward to braces coming off	210	0	/
Do you consider this treatment effective	135	75	0.000
Do you regret this treatment	15	195	0.000

## DISCUSSION

This study was carried out to find the satisfaction of the patient after the orthodontics treatment. No definitive result is present in the literature. The study included different level of motivations and expectations that the patient had before treatment and were the expectations met after the treatment<sup>11-12</sup>. The studies report that the main motivations to carry out orthodontic treatment were social, esthetic and functional reasons. In a study carried out by a group of scientist they found that the satisfaction questionnaire

was made to examine a number of different factors after the patients underwent orthodontic treatment.

The sufficient amount of time given by doctor to the patient also play important role in satisfying the patient<sup>13-14</sup>. Patient should be informed about the status of their procedure, how well it is going and what more can be expected after the treatment. All these factors significantly relate to the satisfaction level of patient after the dental treatment.

The factors that are seen in the study include the relationship of doctor and the patients, dentofacial improvements<sup>15</sup>, psychosocial improvements, many situational aspects, and other than that residual group was also explored. As per studies it was found that the main factor that contributed in satisfaction of patient was doctor patient relationship. Gender was playing a significant role in deciding the doctor patient relationship and other aspects of the treatment<sup>16-17</sup>.

In this study it was found that there were 83% patients overall that were satisfied with the treatment and there were 17% patients that were unsatisfied. Some of the features that contributed in satisfying the patients included the time given by the doctor. If patient was given enough time during the treatment, the patient was satisfied with the whole procedure. Some other features that were important in this aspect were clinical expertise of the doctor and personal relationship with the dentist carrying out the treatment<sup>18</sup>. Other than these significant factors there were some insignificant factors as well that played important role in determining the satisfaction level of patients after the treatment, professional degree, the openness of dentist to listen to criticism and advices by the patient.

The factors like cost of the treatment and the discomfort felt during the procedure had no significant association with the satisfaction of the patient. All the patients were looking forward to taking off their braces. There was a majority of the patients that reported that their treatment was successful, and didn't have any regrets relates to it<sup>19-20</sup>.

Another important factor that needed attention was the expectations that the patients had before starting the procedure. In this study it was found that majority of the patients met their expectations regarding the treatment<sup>21</sup>.

As per previous studies it was concluded that the satisfaction of the treatment had no association with the expectations set by the patients. Another study showed that the some of the motivations that play role in carrying out treatment were improved dental appearance and minimum future dental issues. Although it was previously informed to the patients about the length of the treatment still some of the patients especially the younger ones were surprised at the duration of treatment and need to use braces. There is need to inform the patients about each and every aspect of the treatment before starting the procedure<sup>22</sup>.

As per this study a majority of the patients reported that they had not encountered any dental issue during the treatment. But there were some patients that developed some problems during the treatment. Some of the problems that the patients reported include dental caries, and collapse of arch, discoloration of teeth and gingival inflammation. Pain and caries in combination to gingival inflammation was also reported by some of the patients<sup>23-24</sup>.

As per previous studies it was reported that some of the patients also got problems like oral ulcers and many dental diseases like TMD. There is professional efficiency required to expose the problem found during treatment. Dentists should focus on their attitude, personalities and professional competence during the treatment that proves to be majorly inked to satisfaction of the patients after the treatment. If the professionals will deal with the patient with full confidence only then the patients can have level of satisfaction after the treatment<sup>25</sup>.

## CONCLUSION

The factors that can significantly relate to the satisfaction level of the patient after the treatment include the doctor giving enough

time to their patients, the relationship of doctor and patient is important in satisfying the patient. The fact that doctor can handle the criticism and suggestions by the patient can also improve the satisfaction level of patient. The study reported that majority of the patients significantly met their expectations of the treatment. There was no orthodontic treatment linked factor that had significant association on the satisfaction of the patient

## REFERENCES

1. Bilal R. Satisfaction and expectations of orthodontic patients with their orthodontic treatment. *Pakistan Oral & Dental Journal*. 2021 Mar 12;41(1):3-6.
2. Pachêco-Pereira C, Pereira JR, Dick BD, Perez A, Flores-Mir C. Factors associated with patient and parent satisfaction after orthodontic treatment: a systematic review. *American Journal of Orthodontics and Dentofacial Orthopedics*. 2015 Oct 1;148(4):652-9.
3. Uslu O, Akcam MO. Evaluation of long-term satisfaction with orthodontic treatment for skeletal class III individuals. *Journal of oral science*. 2007;49(1):31-9.
4. Shaw WC, Gabe MJ, Jones BM. The expectations of orthodontic patients in South Wales and St Louis, Missouri. *British Journal of Orthodontics*. 1979 Oct;6(4):203-5.
5. Rasool G, Nausheen A, Hassan N, Bashir S, Raza HA. Orthodontic treatment and patient's expectations. *Pakistan Orthodontic Journal*. 2012;4(2):44-7.
6. Wong L, Ryan FS, Christensen LR, Cunningham SJ. Factors influencing satisfaction with the process of orthodontic treatment in adult patients. *American Journal of Orthodontics and Dentofacial Orthopedics*. 2018 Mar 1;153(3):362-70.
7. Hiemstra R, Bos A, Hoogstraten J. Patients' and parents' expectations of orthodontic treatment. *Journal of orthodontics*. 2009 Dec;36(4):219-28.
8. Yassir YA, McIntyre GT, Bearn DR. The impact of labial fixed appliance orthodontic treatment on patient expectation, experience, and satisfaction: an overview of systematic reviews. *European Journal of Orthodontics*. 2020 Jun 23;42(3):223-30.
9. van Wezel NA, Bos A, Prah C. Expectations of treatment and satisfaction with dentofacial appearance in patients applying for orthodontic treatment. *American Journal of Orthodontics and Dentofacial Orthopedics*. 2015 Jun 1;147(6):698-703.
10. Bos A, Hoogstraten J, Prah-Andersen B. Expectations of treatment and satisfaction with dentofacial appearance in orthodontic patients. *American journal of orthodontics and dentofacial orthopedics*. 2003 Feb 1;123(2):127-32.
11. Feldmann I. Satisfaction with orthodontic treatment outcome. *Angle Orthodontist*. 2014 Jul;84(4):581-7.
12. Souza RA, Oliveira AF, Pinheiro SM, Cardoso JP, Magnani MB. Expectations of orthodontic treatment in adults: the conduct in orthodontist/patient relationship. *Dental press journal of orthodontics*. 2013;18:88-94.
13. Becker A, Shapira J, Chaushu S. Orthodontic treatment for disabled children: motivation, expectation, and satisfaction. *The European Journal of Orthodontics*. 2000 Apr 1;22(2):151-8.
14. Souza RA, Oliveira AF, Pinheiro SM, Cardoso JP, Magnani MB. Expectations of orthodontic treatment in adults: the conduct in orthodontist/patient relationship. *Dental press journal of orthodontics*. 2013;18:88-94.
15. Abeleira MT, Pazos E, Ramos I, Outumuro M, Limeres J, Seoane-Romero J, Diniz M, Diz P. Orthodontic treatment for disabled children: a survey of parents' attitudes and overall satisfaction. *BMC Oral Health*. 2014 Dec;14(1):1-8.
16. Al Shahrani I, Tikare S, Togoo RA, Al Qahtani F, Assiri K, Al Meshari A. Patient s satisfaction with orthodontic treatment at King Khalid University, College of Dentistry, Saudi Arabia. *Bangladesh Journal of Medical Science*. 2015 Apr 18;14(2):146-50.
17. Newton JT, Cunningham SJ. Great expectations: what do patients expect and how can expectations be managed?. *Journal of orthodontics*. 2013 Jun;40(2):112-7.
18. Al-Omiri MK, Abu Alhajja ES. Factors affecting patient satisfaction after orthodontic treatment. *The Angle Orthodontist*. 2006 May;76(3):422-31.
19. Bennett ME, Camilla Tulloch JF, Vlg KW, Phillips CL. Measuring orthodontic treatment satisfaction: questionnaire development and preliminary validation. *Journal of public health dentistry*. 2001 Sep;61(3):155-60.
20. Lee R, Hwang S, Lim H, Cha JY, Kim KH, Chung CJ. Treatment satisfaction and its influencing factors among adult orthodontic patients. *American Journal of Orthodontics and Dentofacial Orthopedics*. 2018 Jun 1;153(6):808-17.
21. Chen YH, Liao YF, Chang CS, Lu TC, Chen KT. Patient satisfaction and quality of life after orthodontic treatment for cleft lip and palate deformity. *Clinical Oral Investigations*. 2021 Sep;25(9):5521-9.
22. Sinha PK, Nanda RS, McNeil DW. Perceived orthodontist behaviors that predict patient satisfaction, orthodontist-patient relationship, and patient adherence in orthodontic treatment. *American Journal of Orthodontics and Dentofacial Orthopedics*. 1996 Oct 1;110(4):370-7.
23. Pachêco-Pereira C, Abreu LG, Dick BD, De Luca Canto G, Paiva SM, Flores-Mir C. Patient satisfaction after orthodontic treatment combined with orthognathic surgery: A systematic review. *The Angle Orthodontist*. 2016 May;86(3):495-508.
24. Bradley E, Shelton A, Hodge T, Morris D, Bekker H, Fletcher S, Barber S. Patient-reported experience and outcomes from orthodontic treatment. *Journal of Orthodontics*. 2020 Jun;47(2):107-15.
25. Pahkala RH, Kellokoski JK. Surgical-orthodontic treatment and patients' functional and psychosocial well-being. *American Journal of Orthodontics and Dentofacial Orthopedics*. 2007 Aug 1;132(2):158-64.